Key Findings in 2009 Texas Type 2 Diabetes Report

(Reporting on 2008 data)

Prevalence

In 2008, the number of patients diagnosed with Type 2 diabetes rose sharply across Texas, perhaps suggesting a worsening epidemic, but also greater awareness of diabetes risks and more aggressive diagnosing. For example,

- The highest increase in prevalence was in El Paso, where 74% more individuals were diagnosed with Type 2 diabetes in 2008 than the year before.
- Other communities that also had relatively large increases in type 2 diabetes prevalence include Houston: 41%; Austin: 34%; and Dallas: 31%.

In 2008, the percentage of working age Texans (age 18-64) with Type 2 diabetes was higher than the national average for this age group (59.9% vs. 54.8%), but in the "over 65" age group, the percentage of Texans with this condition (39.6%) was lower than the national average of 48.1%.

- Of the Texas markets profiled, Austin had the highest share (73.7%) of working age Type 2 diabetes patients in 2008, but the lowest percentage in the over 65 age group (25.9%).

Severity:

Severity of diabetes in Texas is higher than the nation as a whole, as measured by the number of Type 2 diabetes patient with 2 or more complications caused by diabetes or 2 or more co-morbidities, which are conditions indirectly related to diabetes, such as congestive heart failure, coronary artery disease, hypertension, hyperlipidemia and obesity.

- For example, a greater percentage of Texans with Type 2 diabetes suffer from 2 or more co-morbidities (38.1%) than the national average of 29.5%.
- 13.1% of Texans with Type 2 diabetes have 2 or more complications, compared to the national average of 9.9%.

Diabetes Care Management

Texas continued to lag the nation in 2008 in use of evidence-based medical care for Type 2 diabetes patients, such as A1c tests, cholesterol tests and eye exams.

For example:

- 70% of Type 2 diabetes patient s received at least one A1c test in 2008, compared to 73.8% nationally;
- 80% were tested for cholesterol in 2008, compared to 84% nationally, and
- 63.4% of Type 2 diabetes patient sin Texas received eye exams compared to the national average of 69.4%.

Only Austin exceeded the national average, with 78.9% of Type 2 diabetes patients receiving an A1C test in 2008.

San Antonio had the lowest rate of A1C testing in 2008, with only 62.7% of Type 2 diabetes patients receiving this test, which is considerably lower than the year before when 67.7% were tested.

However, despite the lower diabetes-related testing in Texas, 63.5% of type 2 diabetes patients had A1C levels that are considered "in control" (=/< 7.0%) in 2008, compared to a national average of 61.4%.

Patient Compliance and Persistence

Patient compliance and persistence in filling their insulin and anti-diabetes prescriptions in 2008 declined consistently month over month across all the Texas markets profiled in this report.

- Type 2 diabetes patients in Fort Worth were least likely to continue filling their insulin prescriptions over the 12 month period, with the rate of refills dropping to about 55% at Month 12, compared to El Paso where the refill rate only fell to 74% for long-acting insulin and 63% for short-acting insulin by the 12th month.
- However, persistence was the lowest in El Paso (56%) for non-insulin anti-diabetic medications at Month 12, compared to San Antonio where persistence was highest at Month 12 (65%) among the 6 markets profiled.

Cost of Diabetes Care:

Hospital Charges

In 2008, Texas hospitals charged an average of $63,175 per patient for Type 2 diabetes inpatient care. This is 20% higher than the national average of $52,730 and an 11% increase over Texas hospitals' 2007 inpatient Type 2 diabetes charges of $56,765 per patient. Nationally, such charges increased at a more modest rate of 6%.

- Among the profiled Texas markets, Houston had the highest hospital inpatient Type 2 diabetes charges of $62,816 per patient, which is a 13% increase over the year before.
- The lowest cost market was Ft. Worth/Arlington where Type 2 diabetes inpatient charges were $52,243, which is a surprising 10% drop from the year before (2007).
- Hospital inpatient charges for Type 2 diabetes in Dallas came in at $54,502 per patient--almost no change from the year before ($54,061).

Physician Charges:

- Professional charges for hospital inpatient care for Type 2 diabetes in 2008 were also highest in Houston, rising a whopping 48% to $10,982 from $7,434 in 2007. This is 70% higher than the 2008 state average of $6,442 and 67% more than the national average of $6,570.

- Austin had the lowest professional charges for hospital inpatient care for Type 2 diabetes, at $2,375 per patient, which is over four and a half times lower than in Houston.

- In other profiled Texas markets, such professional charges were less than half of Houston's: Dallas: $4,858; El Paso: $4,822; Ft. Worth/Arlington: $4,618.

- In Fort Worth/Arlington, professional charges for hospital inpatient Type 2 diabetes care actually declined 13%, to $4,618 from $5,282 in 2007.

- Among the 8 markets profiled, physician charges for office or clinic-based Type 2 diabetes care was highest in Dallas, at $6,992 per patient, nearly double the Texas average of $3,871 and twice the national average of $3,399.

- The average charge for such Office/clinic-based care was lowest) in Ft. Worth/Arlington, at $1,578 in 2008.

2009 TEXAS TYPE 2 DIABETES REPORT

NEW THIS YEAR!
Compliance & Persistency data

Featuring Demographic, Charges, Utilization, and Pharmacotherapy Data

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Introduction

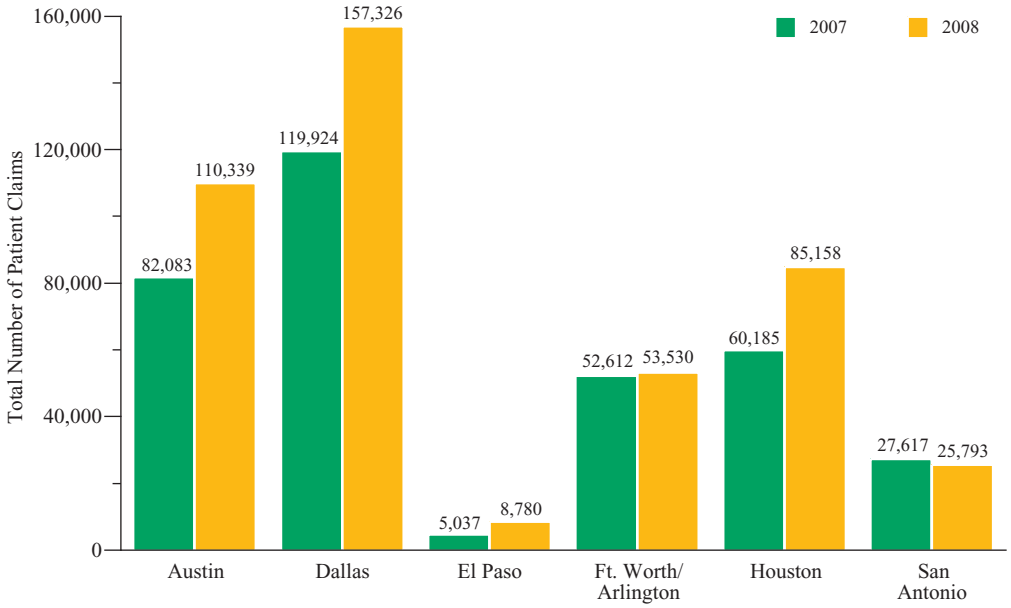
The Texas Business Group on Health (TBGH) is pleased to present the **Texas Type 2 Diabetes Report** for 2009, an overview of demographic, financial, utilization and pharmacotherapy measures for Type 2 diabetes patients in key local markets in the state of Texas. The Report, intended to help providers and employers identify better opportunities to serve the needs of their patients, organizes Type 2 diabetes benchmarks into six local Texas markets and across Texas as a whole. All data are drawn from the **Managed Care Digest Series®**.

The **Texas Type 2 Diabetes Report** helps TBGH fulfill its mission to help Texas employers play an active and enthusiastic role in collaboration with health plans, providers and purchasers; and to be a catalyst in promoting cost-effective delivery of quality health care to the benefit of the community.

This fourth edition features examples of the kinds of patient-level, disease-specific data on Type 2 diabetes that can be provided by TBGH using the **Managed Care Digest Series®** as a resource. Its focus on Texas locales allows for heightened scrutiny of community progress with Type 2 diabetes patient populations. TBGH chose Type 2 diabetes (high blood glucose levels caused by either a lack of insulin or the body's inability to use insulin efficiently) as the focus of this resource because the Centers for Disease Control estimate that 90% to 95% of all Americans with diabetes—translating to 5% to 7% of the U.S. population—have the Type 2 variety.

The data (covering 2006 through 2008) were gathered by SDI, Plymouth Meeting, Pa., a leading provider of innovative health care data products and analytic services. The data provide employers with independent, third-party information against which they can benchmark their own data. Please see the back page for information on the data methodology.

A1: TOTAL NUMBER OF TYPE 2 DIABETES PATIENT CLAIMS, BY MSA



Data source: SDI © 2009

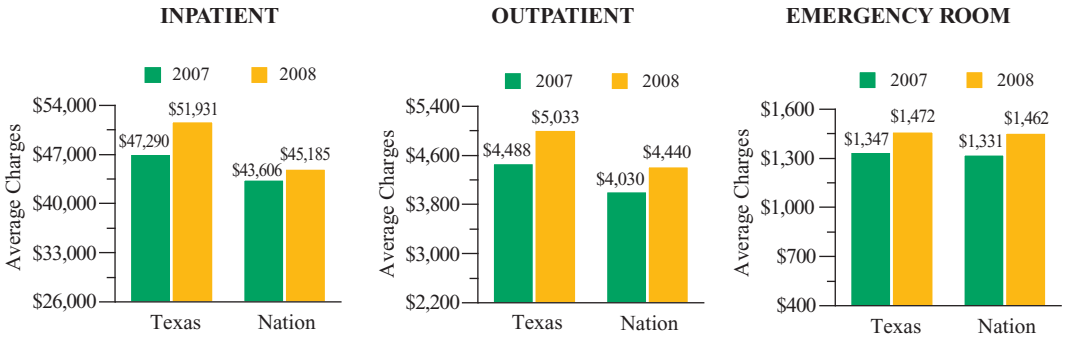
B1: DEMOGRAPHICS: AGE AND GENDER[1]

	Percentage of Patients					
	Texas			Nation		
AGE GROUP	2006	2007	2008	2006	2007	2008
0–17	0.5%	0.4%	0.5%	0.4%	0.4%	0.4%
18–35	4.7	4.4	4.2	3.6	3.4	3.2
36–64	57.9	56.0	55.7	50.6	49.5	48.4
65–79	28.8	30.2	30.4	33.3	34.1	34.7
80+	8.1	9.0	9.2	12.1	12.7	13.4
GENDER						
Male	40.1%	40.1%	40.5%	45.1%	44.9%	45.2%
Female	59.9	60.0	59.5	54.9	55.1	54.8

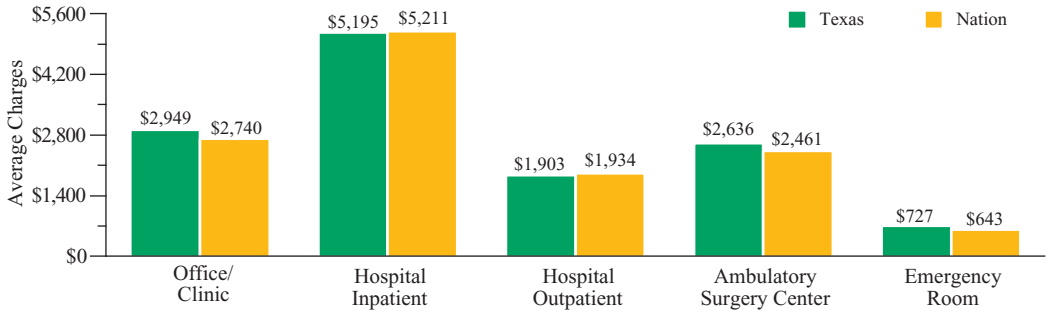
B2: DEMOGRAPHICS: COMORBIDITIES AND COMPLICATIONS[2, 3]

	Percentage of Patients					
	Texas			Nation		
COMORBIDITIES	2006	2007	2008	2006	2007	2008
0	35.9%	37.5%	37.9%	45.4%	46.7%	47.6%
1	24.0	23.6	24.0	24.0	23.4	22.9
2	31.0	29.9	30.3	25.0	24.3	24.8
>2	9.1	9.0	7.8	5.6	5.5	4.7
COMPLICATIONS						
0	61.6%	59.1%	58.5%	64.2%	62.5%	61.6%
1	27.4	28.3	28.5	27.5	28.2	28.6
2	8.4	9.6	9.9	6.7	7.3	7.8
>2	2.6	3.0	3.2	1.7	2.0	2.1

B3: HOSPITAL CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS, COMMERCIAL INSURANCE PAYERS[4, 5]



B4: PROFESSIONAL CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS, COMMERCIAL INSURANCE PAYERS[5, 6]



Data source: SDI © 2009

[1] On all pages, the percentages are representative of the universe of Type 2 diabetes patients on whom claims data have been collected in a given year.

[2] A complication is defined as a patient condition caused by the Type 2 diabetes of the patient. These conditions are a direct result of having Type 2 diabetes. Complications of Type 2 diabetes include, but are not limited to, coronary artery disease, hypoglycemia, nephropathy, neuropathy and retinopathy.

[3] A comorbidity is a condition a Type 2 diabetes patient may also have, which is not directly related to the diabetes. Comorbidities were narrowed down to a subset of conditions which are typically present in patients with Type 2 diabetes. Comorbidities of Type 2 diabetes include, but are not limited to, congestive heart failure, coronary artery disease, dysmetabolic syndrome, hyperlipidemia, hypertension and obesity.

[4] Figures reflect the charges generated for Type 2 diabetes patients by the facilities that delivered care.

[5] Includes Blue Cross/Blue Shield, HMOs, PPOs, point-of-service plans and exclusive provider organizations.

[6] Professional charges are those generated by the providers delivering care to Type 2 diabetes patients in various settings.

WORKING AGE TEXAS TYPE 2 DIABETES PATIENT PART IS HIGH

The share of patients diagnosed with Type 2 diabetes in the state of Texas in calendar year 2008 who were between the ages of 18 and 64 was 59.9%, down fractionally from 60.4% in 2007, but notably higher than the national share (51.6%) (see table B1). In the three-year period from 2006 (62.6%) to 2008, the overall portion of Texas working age Type 2 diabetes patients declined nearly three percentage points. Meanwhile, females accounted for a substantial 59.5% of the state of Texas Type 2 diabetes patient population in 2008, compared with just 54.8% for the nation as a whole.

TEXAS DIABETES PATIENT SERVICES SHARES LAG NATION

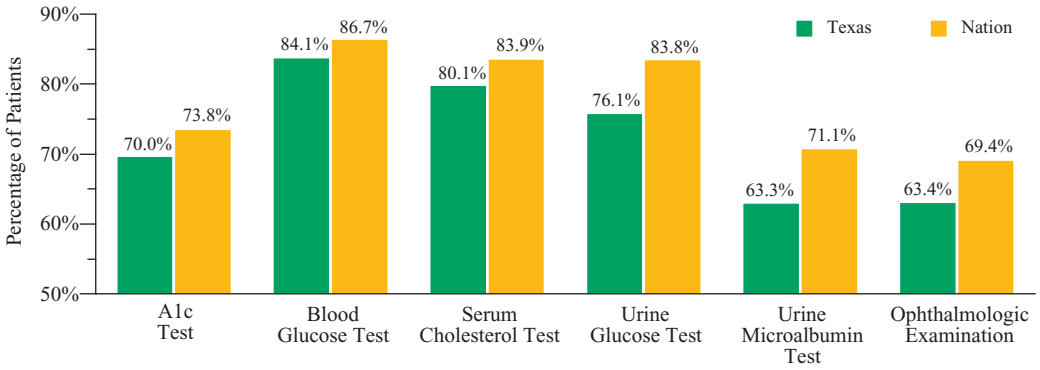
In 2008, the shares of Type 2 diabetes patients in the state of Texas continued to trail their counterparts nationally in all six utilization service categories profiled (see graph B5). For example, in spite of the fact that the overall share of Texas Type 2 diabetes patients who were administered at least one A1c test in calendar year 2008 held virtually steady at 70.0% in 2008, it continued to lag behind the national average (73.8%) for this measure.

PHARMACOTHERAPY PAYMENT AVERAGES ARE LOW IN TEXAS

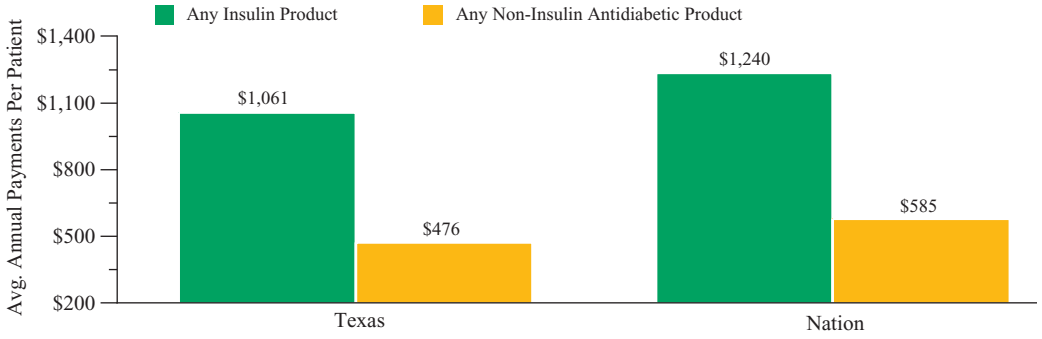
In 2008, overall average payments per year continued to be substantially lower for Type 2 diabetes patients in Texas than their counterparts nationally for any non-insulin antidiabetic product and any insulin product alike (see graph B6). For example, the 83.2% of Texas Type 2 diabetes patients who filled a prescription for any non-insulin antidiabetic product in 2008 spent 18.6% less per patient per year ($476) than the national average ($585) (see table B8).

NOTE: The A1c test measures how much glucose has been in the blood during the past 2–3 months. Figures reflect the percentage of Type 2 diabetes patients who have had at least one A1c test in a given year.

B5: UTILIZATION: PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY SERVICE, 2008



B6: PHARMACOTHERAPY: AVERAGE ANNUAL PAYMENTS, BY TYPE OF DRUG THERAPY, 2008



B7: % OF AND AVG. PAYMENTS FOR TYPE 2 DIABETES PATIENTS USING INSULIN THERAPIES, 2008

	Any Insulin Product		Intermediate-Acting Insulin		Long-Acting Insulin		Short-Acting Insulin		Mixed Insulin	
	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs
Texas	35.0%	$1,061	3.5%	$384	19.1%	$746	13.6%	$670	8.5%	$841
NATION	36.4%	$1,240	4.0%	$435	21.2%	$814	16.1%	$791	8.5%	$923

B8: % OF AND AVG. PAYMENTS FOR TYPE 2 DIABETES PATIENTS USING NON-INSULIN THERAPIES, 2008

	Any Non-Insulin Antidiabetic Product		Biguanides		Sulfonylureas		Insulin Sensitizing Agents	
	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs
Texas	83.2%	$476	48.2%	$79	32.6%	$78	16.6%	$1,000
NATION	84.5%	$585	54.2%	$101	39.0%	$95	19.4%	$1,160

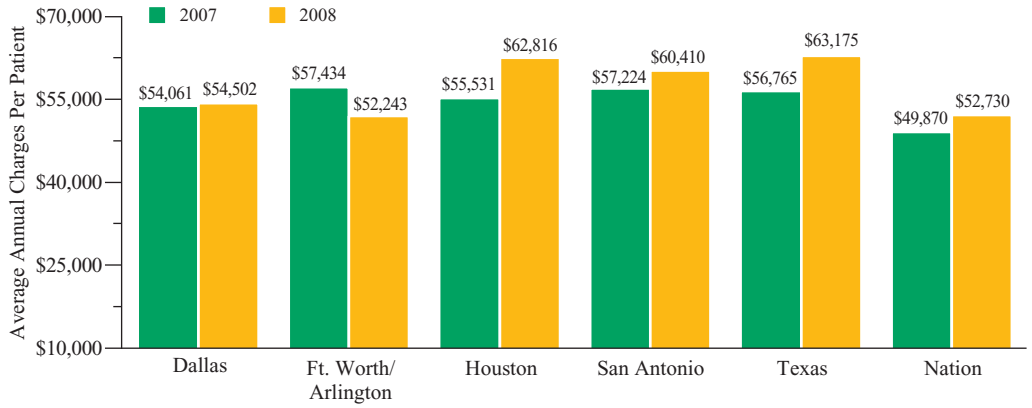
Data source: SDI © 2009

Biguanides
Improve insulin sensitivity; reduce the production of glucose by the liver, decrease intestinal absorption of glucose, and increase the peripheral uptake and use of circulating glucose.

Sulfonylureas
Stimulate the release of insulin in the pancreas.

Insulin Sensitizing Agents
Improve response to insulin in liver, adipose tissue, and skeletal muscle, resulting in decreased production of glucose by the liver and increased peripheral uptake and use of circulating glucose.

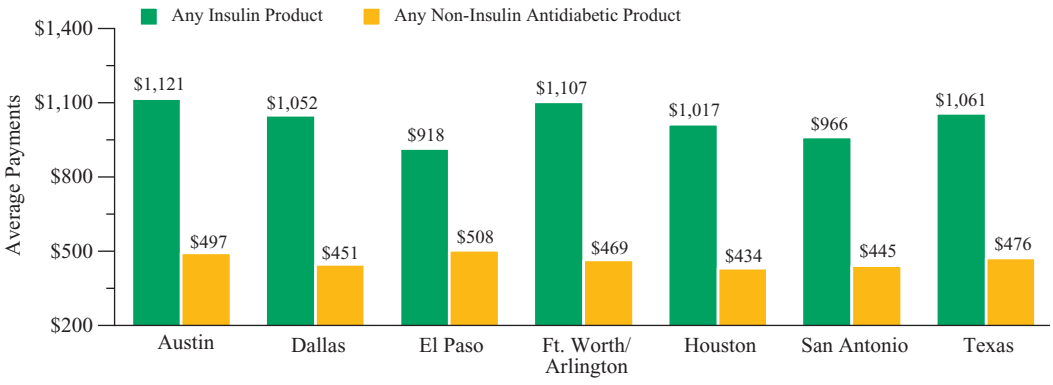
C1: HOSPITAL INPATIENT CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS[1]



C2: PROFESSIONAL CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS[2]

MARKET	Hospital Inpatient		Hospital Outpatient		Ambulatory Surgery Center		Emergency Room		Office/ Clinic	
	2007	2008	2007	2008	2007	2008	2007	2008	2007	2008
Austin	$2,335	$2,375	$1,285	$1,575	$3,145	$4,488	—	$249	$1,452	$2,079
Dallas	4,750	4,858	2,325	2,183	2,998	2,589	$905	1,188	6,750	6,992
El Paso	4,137	4,822	1,640	1,605	2,021	2,816	—	210	—	3,067
Ft. Worth/ Arlington	5,282	4,618	1,998	1,638	1,362	1,502	818	733	1,022	1,578
Houston	7,434	10,982	2,668	2,209	4,779	4,553	732	847	1,751	2,226
San Antonio	4,293	5,508	1,094	1,592	4,251	4,010	596	774	1,298	1,955
Texas	5,276	6,442	1,856	2,036	3,272	3,061	741	926	3,198	3,871
NATION	**$6,070**	**$6,570**	**$1,919**	**$2,042**	**$3,055**	**$3,077**	**$647**	**$722**	**$2,818**	**$3,399**

C3: PHARMACOTHERAPY: AVERAGE ANNUAL PAYMENTS, BY TYPE OF DRUG THERAPY, 2008[3]



Data source: SDI © 2009

NOTE: Some hospital and professional charge data were unavailable for the El Paso and Austin MSAs.

HOUSTON ANNUAL INPATIENT FACILITY CHARGES CLIMB

Of the local markets profiled, Houston reported the largest annual increase in inpatient facility charges (up 13%, to $62,816 in 2008 from $55,531 in 2007) per Type 2 diabetes patient per year (see graph C1). Meanwhile, the annual increase in inpatient facility charges nationally (up 6%, to $52,730 from $49,870 the year before) was comparatively slight.

HOUSTON INPATIENT PROVIDER CHARGES TOP STATE/NATION

Professional charges per year for treatment of Houston inpatients diagnosed with Type 2 diabetes climbed in 2008, to $10,982 from $7,434 in 2007, notably higher than the state ($6,442) and national ($6,570) averages (see table C2). Between 2007 and 2008, such charges increased in seven of the eight markets profiled. The exception was the Fort Worth/Arlington market, in which professional charges declined nearly 13%, to $4,618 from $5,282 in 2007.

[1] Hospital charges reflect the charges generated for Type 2 diabetes patients by the facilities that delivered care.

[2] Professional charges are those generated by the providers delivering care to Type 2 diabetes patients in various settings.

[3] Figures reflect the per-patient yearly payments for Type 2 diabetes patients receiving a particular type of therapy.

TEXAS MSA COMPARISONS: A1c LEVELS

EL PASO/SAN ANTONIO HIGH A1c LEVEL PATIENT SHARES DROP

The percentages of El Paso (to 12.9% in 2008 from 14.5% in 2007) and San Antonio (to 12.1% from 13.6%) Type 2 diabetes patients whose A1c test results were greater than 9.0% fell, even as the percentages of these locales' patients with "in control" test results (≤7.0%) rose, to 62.8% from 60.3% and to 62.4% from 61.0%, respectively (see table D1). In spite of its improvement, El Paso still had the highest percentage of "out of control" (>9.0%) A1c test result patients of the eight markets profiled in 2008.

LOW TEXAS A1c TEST RESULT PATIENT SHARE EDGES DOWN

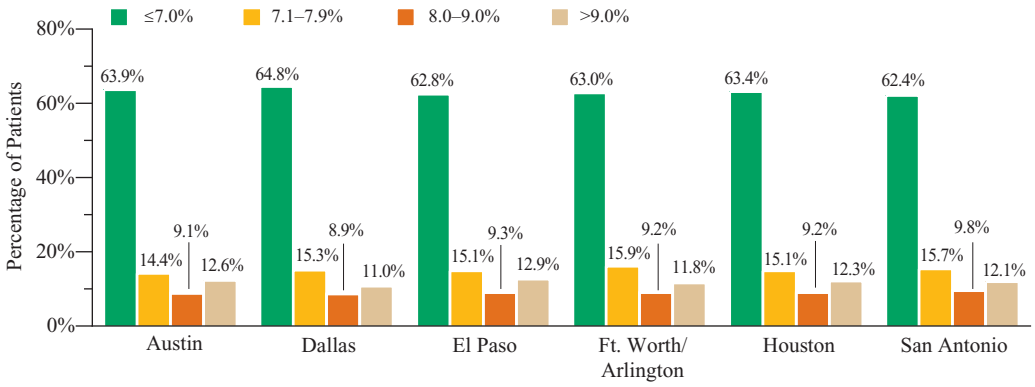
The share of patients diagnosed with Type 2 diabetes in the state of Texas whose A1c test results were greater than 9.0% held steady in 2008, at 11.8% (see graph D3). The share of Texas Type 2 diabetes patients grouped into this lowest A1c test level range continued to trail the national average (11.5%) by a slight margin.

NOTE: The A1c test measures how much glucose has been in the blood during the past 2–3 months.

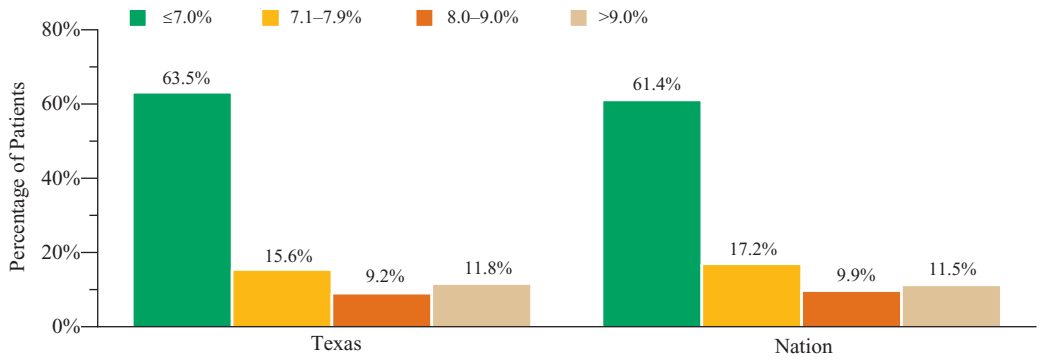
D1: PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY A1c LEVEL RANGE

	≤7.0%		7.1–7.9%		8.0–9.0%		>9.0%	
MARKET	2007	2008	2007	2008	2007	2008	2007	2008
Austin	63.9%	63.9%	14.4%	14.4%	9.1%	9.1%	12.6%	12.6%
Dallas	64.9	64.8	15.4	15.3	8.7	8.9	11.0	11.0
El Paso	60.3	62.8	15.3	15.1	9.8	9.3	14.5	12.9
Ft. Worth/ Arlington	63.4	63.0	15.9	15.9	9.0	9.2	11.7	11.8
Houston	64.0	63.4	14.8	15.1	9.0	9.2	12.2	12.3
San Antonio	61.0	62.4	15.5	15.7	9.9	9.8	13.6	12.1
Texas	63.7	63.5	15.5	15.6	9.1	9.2	11.8	11.8
NATION	**61.1%**	**61.4%**	**17.4%**	**17.2%**	**9.8%**	**9.9%**	**11.7%**	**11.5%**

D2: PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY A1c LEVEL RANGE, 2008

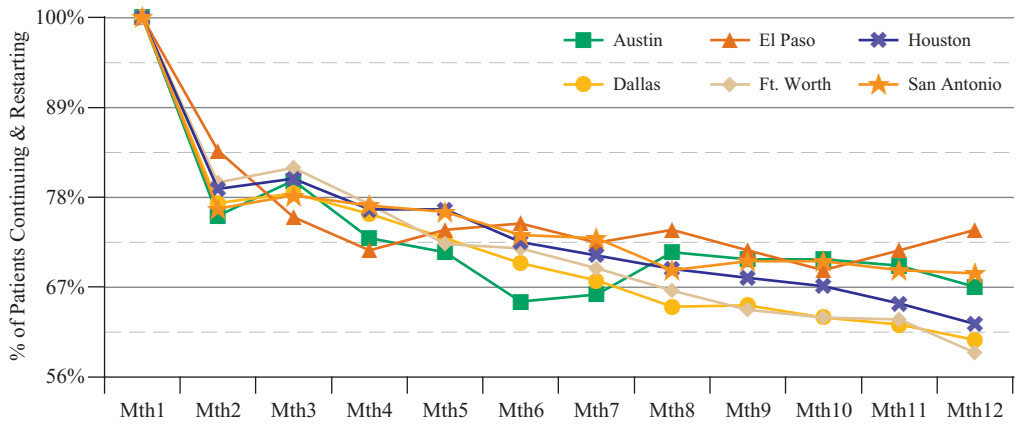


D3: PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY A1c LEVEL RANGE, 2008

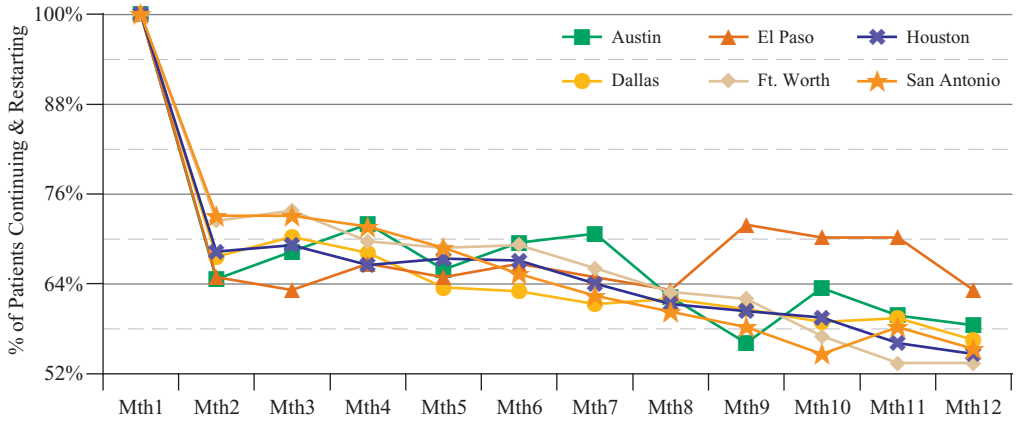


Data source: SDI © 2009

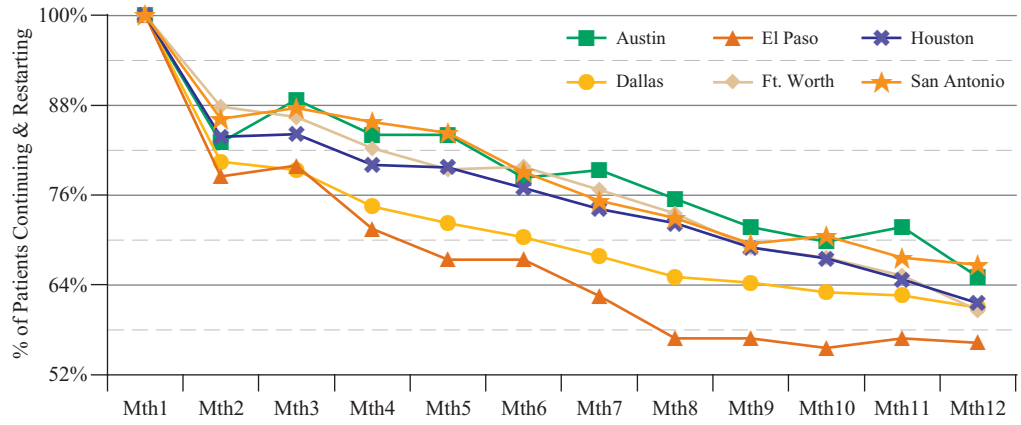
D4: COMPLIANCE & PERSISTENCY: LONG-ACTING INSULIN, 2008



D5: COMPLIANCE & PERSISTENCY: SHORT-ACTING INSULIN, 2008



D6: COMPLIANCE & PERSISTENCY: NON-INSULIN ANTIDIABETIC COMBINATIONS, 2008



Data source: SDI © 2009

EL PASO PATIENTS USING INSULIN ARE MORE PERSISTENT

At month 12, the percentages of Type 2 diabetes patients in El Paso who filled a prescription in either the long-acting (74.0%) or short-acting (63.2%) insulin product categories in 2008 were each more likely to have maintained their prescribed therapy than their counterparts in the other five markets profiled (see graphs D4 and D5). Conversely, Fort Worth Type 2 diabetes patients using these drug products were least likely to be persistent in either insulin category.

EL PASO NON-INSULIN COMBINATION USERS ARE LESS PERSISTENT

In 2008, Type 2 diabetes patients in El Paso who filled a prescription in the non-insulin antidiabetic combination category were less likely than their Texas market counterparts (see graph D6) to have maintained their prescribed therapy. In fact, the percentages of El Paso patients using drugs in this category who were persistent were lowest, by market, every month from month 4 to month 12. By comparison, Type 2 diabetes in San Antonio who were prescribed drugs in this category were most likely to be persistent at month 12.

DALLAS PATIENT UTILIZATION TRAILS OTHER MARKETS

Although the overall shares of Type 2 diabetes patients diagnosed in Dallas who received three of four services profiled increased fractionally between 2007 and 2008, they nevertheless continued to trail those of the other five U.S. markets profiled by sizable margins (see table E1). For example, 63.3% of Dallas Type 2 diabetes patients had at least one ophthalmologic examination in 2008, up from 62.9% in 2007, yet at least eight percentage points lower than any other market listed.

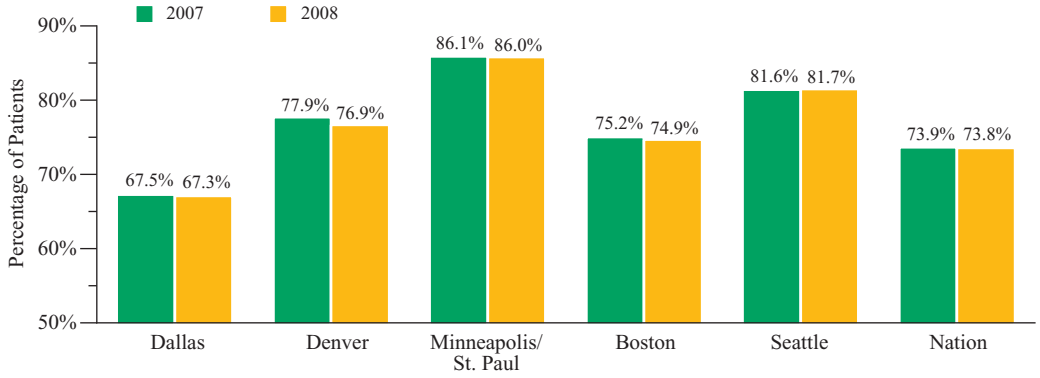
SHARE OF DALLAS PATIENTS RECEIVING A1c TEST IN 2008 DIPS

Of patients who were diagnosed with Type 2 diabetes in the Dallas MSA, just 67.3% were administered at least one A1c test in calendar year 2008, down fractionally from 67.5% in 2007 (see table E1). With this decline, the Dallas market A1c test patient share was a notable 6.5 percentage points lower than the national A1c test average (73.8%), and at least 7.6 percentage points lower than the corresponding patient shares in the other four U.S. markets profiled.

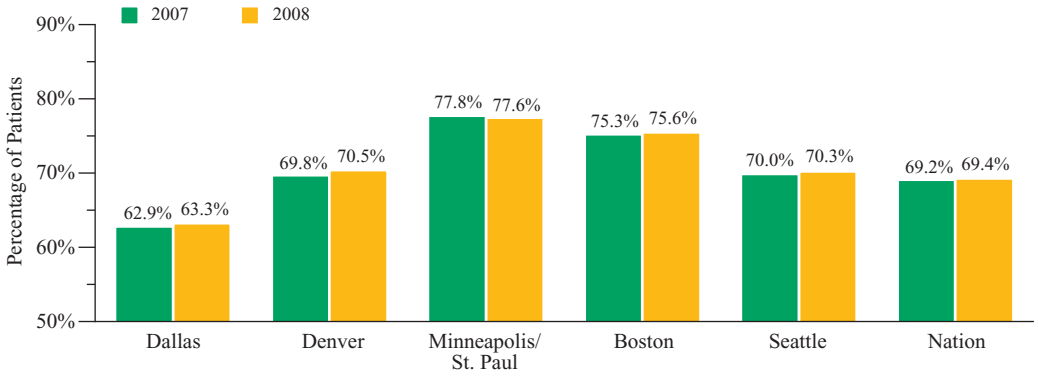
E1: UTILIZATION: PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY SERVICE

	A1c Test*		Serum Cholesterol Test		Ophthalmologic Exam		Urine Microalbumin Test	
MARKET	2007	2008	2007	2008	2007	2008	2007	2008
Dallas	67.5%	67.3%	78.5%	79.1%	62.9%	63.3%	62.6%	62.8%
Denver	78.7	76.9	83.7	84.3	69.8	70.5	71.4	72.7
Minneapolis/ St. Paul	85.9	86.0	88.3	87.5	77.8	77.6	82.5	82.3
Boston	75.2	74.9	89.2	89.8	75.3	75.6	82.5	82.6
Seattle	81.7	81.7	84.4	84.4	70.0	70.3	75.5	76.2
NATION	**73.8%**	**73.8%**	**83.8%**	**83.9%**	**69.2%**	**69.4%**	**71.1%**	**71.1%**

E2: PERCENTAGE OF TYPE 2 DIABETES PATIENTS RECEIVING A1c TESTS*



E3: PERCENTAGE OF TYPE 2 DIABETES PATIENTS RECEIVING OPHTHALMOLOGIC EXAMS



Data source: SDI © 2009

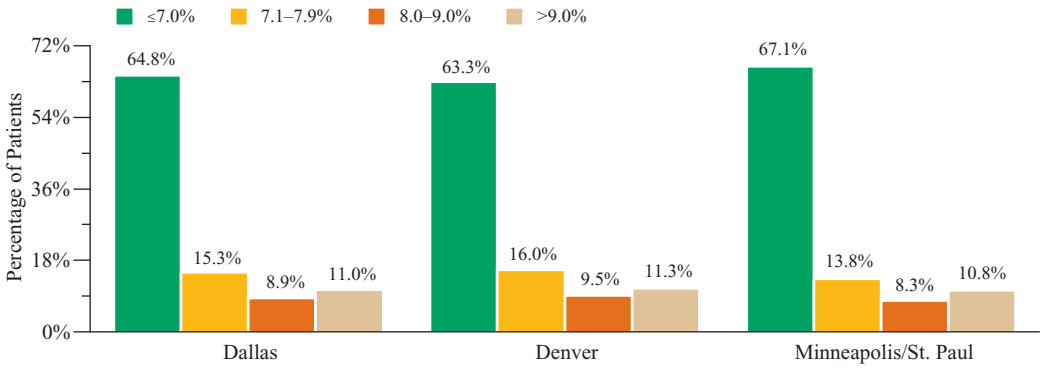
* The A1c test measures how much glucose has been in the blood during the past 2–3 months. Figures reflect the percentage of Type 2 diabetes patients who have had at least one A1c test in a given year.

NOTE: The Seattle MSA also includes Bellevue and Everett, WA.

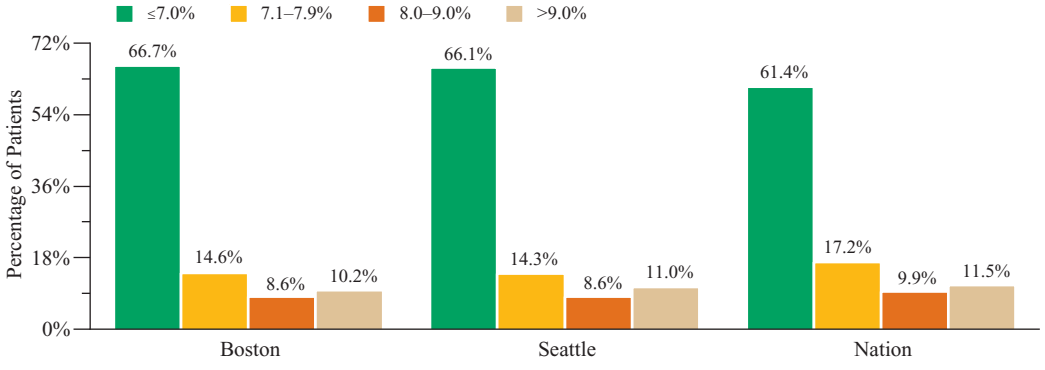
E4: PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY A1c LEVEL RANGE

	≤7.0%		7.1–7.9%		8.0–9.0%		>9.0%	
MARKET	2007	2008	2007	2008	2007	2008	2007	2008
Dallas	64.9%	64.8%	15.4%	15.3%	8.7%	8.9%	11.0%	11.0%
Denver	63.4	63.3	16.5	16.0	9.6	9.5	10.5	11.3
Minneapolis/ St. Paul	67.8	67.1	13.5	13.8	8.4	8.3	10.3	10.8
Boston	66.3	66.7	14.6	14.6	8.3	8.6	10.9	10.2
Seattle	66.6	66.1	14.6	14.3	8.1	8.6	10.7	11.0
NATION	**61.1%**	**61.4%**	**17.4%**	**17.2%**	**9.8%**	**9.9%**	**11.7%**	**11.5%**

E5: PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY A1c LEVEL RANGE, 2008



E6: PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY A1c LEVEL RANGE, 2008



Data source: SDI © 2009

LESS THAN 65% OF DALLAS PATIENTS ARE IN CONTROL AGAIN

The percentage of observed Dallas Type 2 diabetes patients whose final A1c test results in calendar year 2008 were in the less than or equal to 7.0% range edged down, to 64.8% from 64.9% in 2007 (see table E4). Of the five markets against whom these Dallas patients are compared, only Denver (63.3%) and the nation (61.4%) reported lower percentages of Type 2 diabetes patients with test results in this lowest range.

A1c TEST RESULTS TEND TOWARD LOWER RANGES

Of observed Type 2 diabetes patients who had at least one A1c test in calendar year 2008, 63.3% in the Denver local market, on average, reported results in the less than or equal to 7.0% range, virtually unchanged from 63.4% in 2007, and the lowest share of the six markets profiled (see table E4). Meanwhile, just 10.2% of Type 2 diabetes patients in the Boston market, on average, reported their latest A1c test results in the >9.0% range, down from 10.9% the year before, and the lowest share by market.

NOTE: The A1c test measures how much glucose has been in the blood during the past 2–3 months.

DALLAS OUTPATIENT FACILITY CHARGES OUTPACE NATION'S

The average annual facility charges billed per Dallas Type 2 diabetes patient for services received in an outpatient setting were $5,689 per year in 2008, up from $5,406 in 2007, the highest average of the six markets profiled (see table F1). Conversely, the average charges billed for services rendered to such patients in the outpatient setting in the Denver market were less than half, at $2,816, down from $3,350 the previous year, and the lowest average by market.

DALLAS ER CHARGES REMAIN BELOW THE NATIONAL AVERAGE

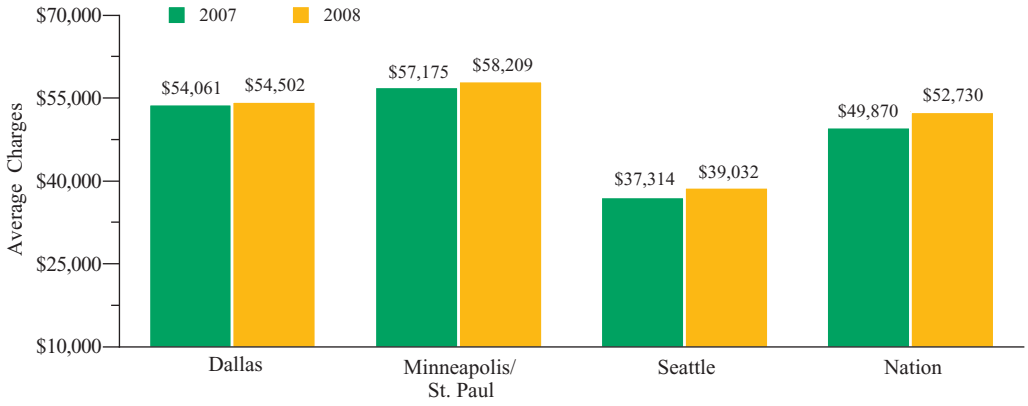
Although facility charges per Dallas Type 2 diabetes patient per year for services rendered in a hospital emergency room (ER) setting rose in the Dallas market between 2007 ($1,448) and 2008 ($1,581), they remained notably below the national average ($1,854) (see table F1). Of the markets shown, Type 2 diabetes patients receiving such care in the Seattle market posted the highest charges per year ($2,798) for claims billed through a hospital ER setting.

* Figures reflect the charges generated for Type 2 diabetes patients by the facilities that delivered care.

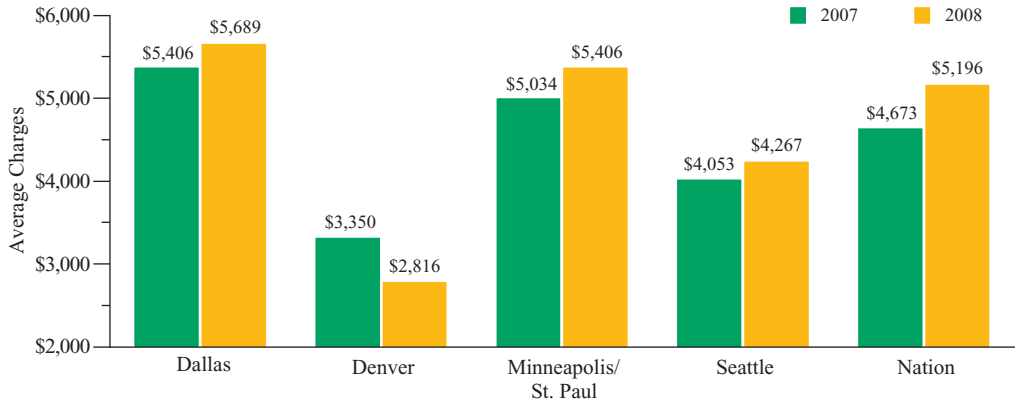
F1: HOSPITAL CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS*

	Hospital Inpatient		Hospital Outpatient		Emergency Room	
MARKET	2007	2008	2007	2008	2007	2008
Dallas	$54,061	$54,502	$5,406	$5,689	$1,448	$1,581
Denver	—	—	3,350	2,816	951	714
Minneapolis/ St. Paul	57,175	58,209	5,034	5,406	1,958	2,120
Seattle	37,314	39,032	4,053	4,267	2,398	2,798
NATION	**$49,870**	**$52,730**	**$4,673**	**$5,196**	**$1,651**	**$1,854**

F2: HOSPITAL INPATIENT CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS*



F3: HOSPITAL OUTPATIENT CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS*



NOTE: Hospital charge data were unavailable for the Boston MSA. Some hospital charge data were unavailable for the Denver MSA.

Data source: SDI © 2009

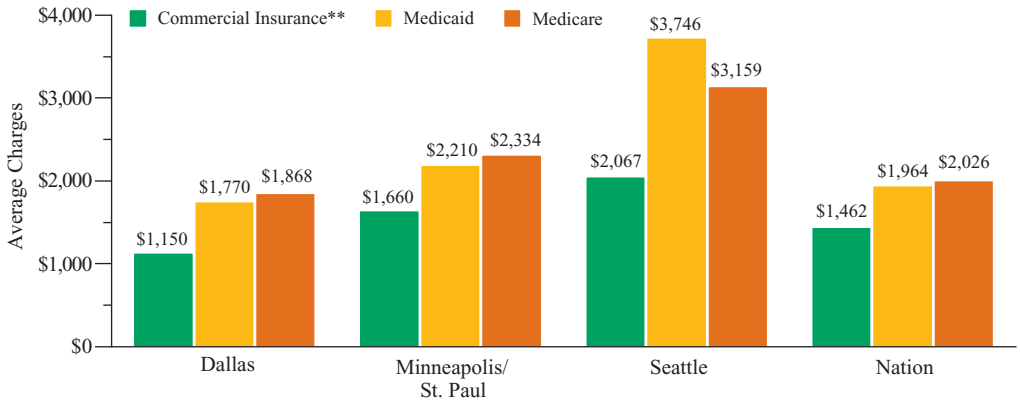
F4: HOSPITAL INPATIENT CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS, BY PAYER*

	Commercial Insurance**		Medicaid		Medicare	
MARKET	2007	2008	2007	2008	2007	2008
Dallas	$42,746	$46,356	$55,165	$50,829	$58,997	$56,559
Minneapolis/ St. Paul	48,666	46,420	60,267	56,366	58,665	58,050
Seattle	32,530	32,759	42,124	39,709	37,292	38,193
NATION	**$43,606**	**$45,185**	**$47,039**	**$49,015**	**$48,839**	**$50,420**

F5: HOSPITAL OUTPATIENT CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS, BY PAYER*

	Commercial Insurance**		Medicaid		Medicare	
MARKET	2007	2008	2007	2008	2007	2008
Dallas	$4,162	$4,369	$4,449	$5,470	$7,169	$7,472
Denver	2,981	1,627	4,181	5,312	2,752	—
Minneapolis/ St. Paul	4,590	4,888	3,894	3,823	5,270	5,750
Seattle	3,305	3,609	4,911	4,897	5,004	5,002
NATION	**$4,030**	**$4,440**	**$4,317**	**$4,711**	**$5,103**	**$5,804**

F6: HOSPITAL EMERGENCY ROOM CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS, BY PAYER, 2008*



Data source: SDI © 2009

NOTE: Some hospital charge data were unavailable for the Denver MSA.

DALLAS MEDICARE INPATIENT CHARGES PER YEAR DECLINE

Average charges billed to Type 2 diabetes patients with Medicare coverage for services rendered in the hospital inpatient setting dropped in 2008, to $56,559 per year from $58,997 in 2007 (see table F4). In spite of this annual decline, these charges remained notably higher than those nationally ($50,420) and, especially, those in Seattle (which rose to $38,193 per year from $37,292 the previous year).

DALLAS MEDICAID INPATIENT CHARGES NEAR NATIONAL MEAN

Inpatient facility charges per year for services rendered to Dallas Type 2 diabetes patients who were covered by Medicaid declined between 2007 ($55,165) and 2008 ($50,829), and approached the national average ($49,015) (see table F4). Conversely, facility charges for services rendered to Dallas Type 2 diabetes patients with Medicaid coverage in an outpatient setting jumped, to $5,470 from $4,449 the year before, substantially higher than the national average ($4,711) for this measure (see table F5).

* Figures reflect the charges generated for Type 2 diabetes patients by the facilities that delivered care.

** Includes Blue Cross/Blue Shield, HMOs, PPOs, point-of-service plans and exclusive provider organizations.

AUSTIN

G1: DEMOGRAPHICS: AGE AND GENDER[1]

	Percentage of Patients			
	Austin			Texas
AGE GROUP	2006	2007	2008	2008
0–17	0.5%	0.3%	0.3%	0.5%
18–35	6.5	6.1	5.6	4.2
36–64	71.4	68.9	68.1	55.7
65–79	17.9	20.3	21.1	30.4
80+	3.7	4.5	4.8	9.2
GENDER				
Male	37.4%	36.9%	37.1%	40.5%
Female	62.6	63.1	62.9	59.5

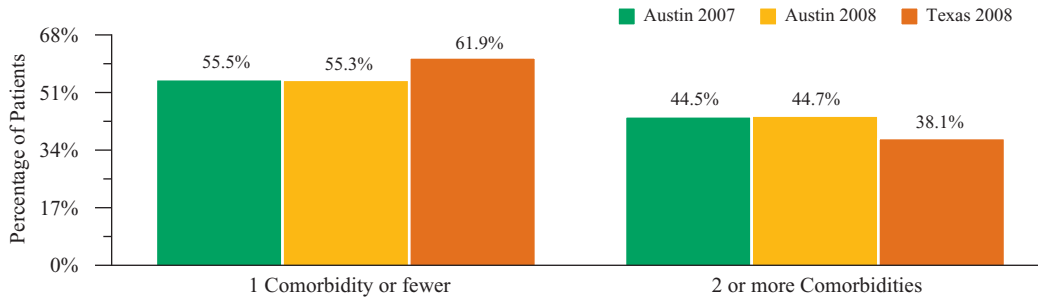
G2: DEMOGRAPHICS: COMORBIDITIES AND COMPLICATIONS[2,3]

	Percentage of Patients			
	Austin			Texas
COMORBIDITIES	2006	2007	2008	2008
0	27.3%	28.8%	28.8%	37.9%
1	27.1	26.7	26.5	24.0
2	36.3	35.2	36.1	30.3
>2	9.2	9.3	8.6	7.8
COMPLICATIONS				
0	65.1%	62.7%	62.1%	58.5%
1	25.5	26.5	26.6	28.5
2	7.3	8.3	8.6	9.9
>2	2.2	2.5	2.7	3.2

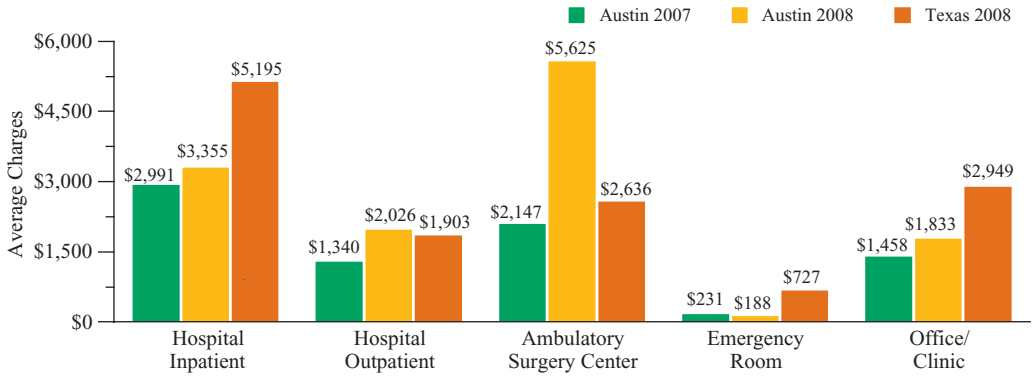
AUSTIN WORKING AGE PATIENT SHARE BEGINS TO DWINDLE

The share of Austin Type 2 diabetes patients who were between 18 and 64 years of age declined from 2006 (77.9%) to 2008 (73.7%) (see table G1). In spite of this gradual dcline, the share of Austin patients in this age category remained sharply higher than that of their counterparts across the state of Texas (59.9%).

G3: DEMOGRAPHICS: COMORBIDITIES[3]



G4: PROFESSIONAL CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS, COMMERCIAL INSURANCE PAYERS[4,5]



Data source: SDI © 2009

ASC PROVIDER CHARGES CLIMB IN AUSTIN MARKET

Average ambulatory surgery center (ASC) provider charges billed for treatment of Type 2 diabetes patients in Austin more than doubled in 2008, to $5,625 from $2,147 in 2007 (see graph G4). By comparison, such charges for services rendered to Type 2 diabetes patients statewide declined, to $2,636 from $2,795 the year before.

[1] On all pages, the percentages are representative of the universe of Type 2 diabetes patients on whom claims data have been collected in a given year.

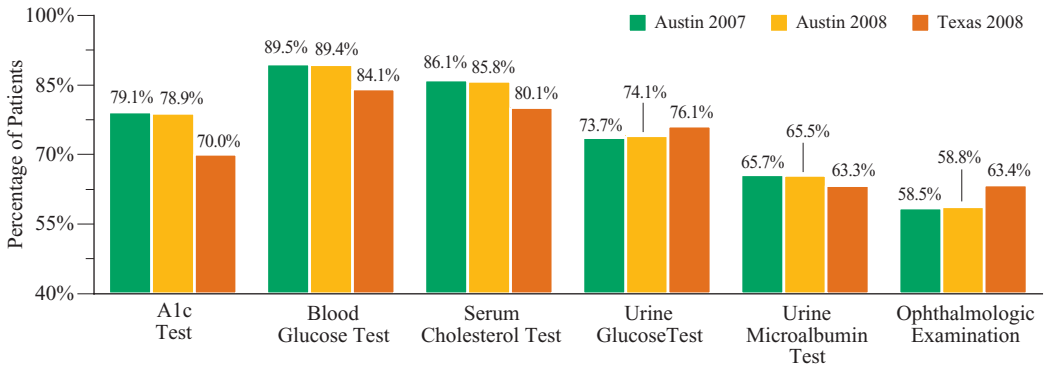
[2] A complication is defined as a patient condition caused by the Type 2 diabetes of the patient. These conditions are a direct result of having Type 2 diabetes. Complications of Type 2 diabetes include, but are not limited to, coronary artery disease, hypoglycemia, nephropathy, neuropathy and retinopathy.

[3] A comorbidity is a condition a Type 2 diabetes patient may also have, which is not directly related to the diabetes. Comorbidities were narrowed down to a subset of conditions which are typically present in patients with Type 2 diabetes. Comorbidities of Type 2 diabetes include, but are not limited to, congestive heart failure, coronary artery disease, dysmetabolic syndrome, hyperlipidemia, hypertension and obesity.

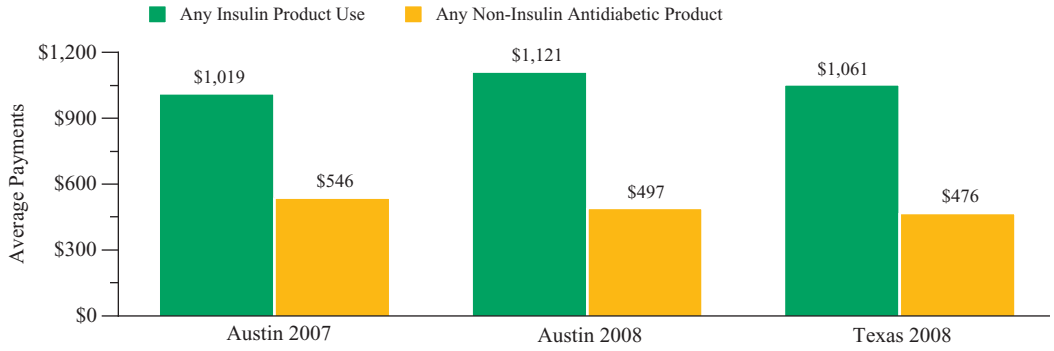
[4] Includes Blue Cross/Blue Shield, HMOs, PPOs, point-of-service plans and exclusive provider organizations.

[5] Professional charges are those generated by the providers delivering care to Type 2 diabetes patients in various settings.

G5: UTILIZATION: PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY SERVICE



G6: PHARMACOTHERAPY: AVERAGE ANNUAL PAYMENTS, BY TYPE OF DRUG THERAPY



G7: % OF AND AVG. PAYMENTS FOR TYPE 2 DIABETES PATIENTS USING INSULIN THERAPIES

	Any Insulin Product		Intermediate-Acting Insulin		Long-Acting Insulin		Short-Acting Insulin		Mixed Insulin	
	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs
Austin 2007	34.3%	$1,019	2.1%	$264	19.4%	$641	14.8%	$683	5.4%	$665
Austin 2008	35.1	1,121	2.2	318	20.8	738	15.2	759	5.5	753
Texas 2008	35.0	1,061	3.5	384	19.1	746	13.6	670	8.5	841

G8: % OF AND AVG. PAYMENTS FOR TYPE 2 DIABETES PATIENTS USING NON-INSULIN THERAPIES

	Any Non-Insulin Antidiabetic Product		Biguanides		Sulfonylureas		Insulin Sensitizing Agents	
	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs
Austin 2007	83.7%	$546	44.7%	$99	29.8%	$87	26.2%	$927
Austin 2008	82.1	497	45.5	79	28.2	81	19.2	972
Texas 2008	83.2	476	48.2	79	32.6	78	16.6	1,000

Data source: SDI © 2009

AUSTIN PATIENT SHARE RECEIVING EYE EXAMS TRAILS STATE

Of patients diagnosed with Type 2 diabetes in Austin, just 58.8% received an eye examination in calendar year 2008, up from 58.5% in 2007 (see graph G5). By comparison, a notably higher 63.4% of Type 2 diabetes patients statewide were administered an eye examination, up fractionally from 63.1% the previous year.

AUSTIN INSULIN PAYMENTS SURPASS TEXAS AVERAGE

Average payments per Type 2 diabetes patient in Austin for any insulin product were $1,121 per year in 2008, up from $1,019 in 2007, and moderately higher than the statewide average ($1,061) (see graph G6). In 2008, Austin Type 2 diabetes patients likewise averaged more per year for any non-insulin antidiabetic product ($497) than their counterparts statewide ($476).

NOTE: The A1c test measures how much glucose has been in the blood during the past 2–3 months. Figures reflect the percentage of Type 2 diabetes patients who have had at least one A1c test in a given year.

Biguanides
Improve insulin sensitivity; reduce the production of glucose by the liver, decrease intestinal absorption of glucose, and increase the peripheral uptake and use of circulating glucose.

Sulfonylureas
Stimulate the release of insulin in the pancreas.

Insulin Sensitizing Agents
Improve response to insulin in liver, adipose tissue, and skeletal muscle, resulting in decreased production of glucose by the liver and increased peripheral uptake and use of circulating glucose.

DALLAS

H1: DEMOGRAPHICS: AGE AND GENDER[1]

	Percentage of Patients			
	Dallas			Texas
AGE GROUP	2006	2007	2008	2008
0–17	0.5%	0.4%	0.5%	0.5%
18–35	4.6	4.2	4.1	4.2
36–64	56.8	54.2	53.8	55.7
65–79	29.9	31.8	32.3	30.4
80+	8.2	9.4	9.3	9.2
GENDER				
Male	38.6%	38.5%	39.5%	40.5%
Female	61.4	61.5	60.6	59.5

H2: DEMOGRAPHICS: COMORBIDITIES AND COMPLICATIONS[2, 3]

	Percentage of Patients			
	Dallas			Texas
COMORBIDITIES	2006	2007	2008	2008
0	35.8%	39.6%	38.4%	37.9%
1	23.6	22.6	23.5	24.0
2	30.5	28.0	29.2	30.3
>2	10.1	9.8	8.9	7.8
COMPLICATIONS				
0	60.3%	57.7%	56.7%	58.5%
1	27.6	28.4	28.8	28.5
2	9.2	10.4	10.9	9.9
>2	2.9	3.5	3.6	3.2

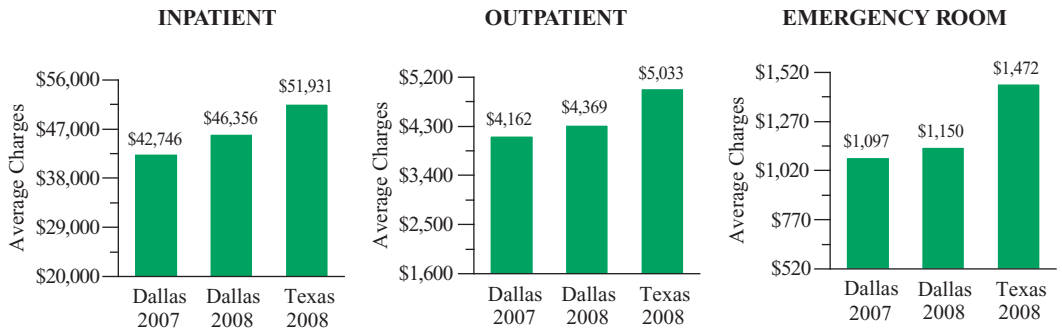
DALLAS PATIENT 2+ COMPLICATION SHARE INCREASES

Over the three years from 2006 (12.1%) to 2008 (14.5%), the percentage of patients in Dallas with Type 2 diabetes and two or more complications from the disease in the Dallas local market grew notably (see table H2). By comparison, the percentage of patients statewide with two or more complications increased less substantially in the period between 2006 (11.0%) and 2008 (13.1%).

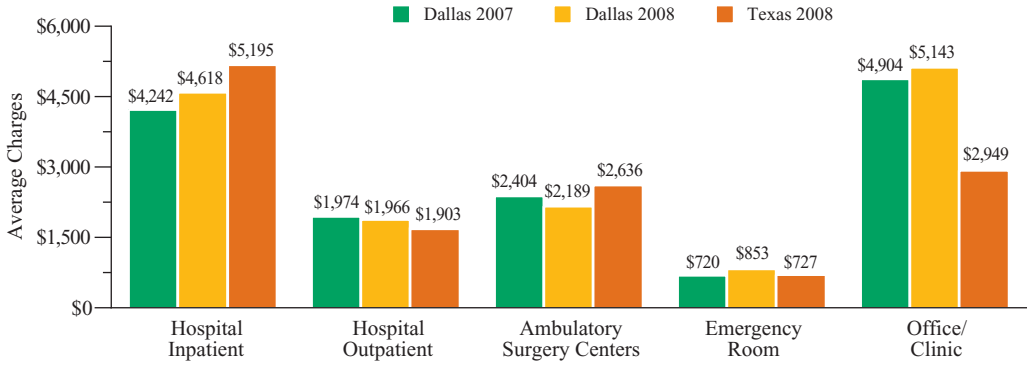
STATE COMMERCIAL INSURANCE FACILITY CHARGES ARE HIGH

Hospital charges per Type 2 diabetes patient per year with commercial insurance coverage were higher across the state of Texas in 2008 than they were in Dallas in all three hospital settings profiled (see graph H3). For example, hospital inpatient charges statewide were $51,931 per patient in 2008, moderately higher than their counterparts in the Dallas local market ($46,356).

H3: HOSPITAL CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS, COMMERCIAL INSURANCE PAYERS[4, 5]



H4: PROFESSIONAL CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS, COMMERCIAL INSURANCE PAYERS[5, 6]



Data source: SDI © 2009

[1] On all pages, the percentages are representative of the universe of Type 2 diabetes patients on whom claims data have been collected in a given year.

[2] A complication is defined as a patient condition caused by the Type 2 diabetes of the patient. These conditions are a direct result of having Type 2 diabetes. Complications of Type 2 diabetes include, but are not limited to, coronary artery disease, hypoglycemia, nephropathy, neuropathy and retinopathy.

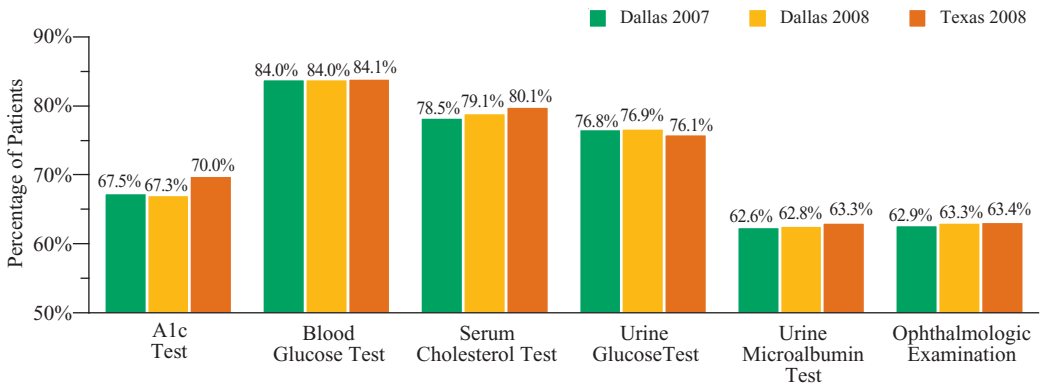
[3] A comorbidity is a condition a Type 2 diabetes patient may also have, which is not directly related to the diabetes. Comorbidities were narrowed down to a subset of conditions which are typically present in patients with Type 2 diabetes. Comorbidities of Type 2 diabetes include, but are not limited to, congestive heart failure, coronary artery disease, dysmetabolic syndrome, hyperlipidemia, hypertension and obesity.

[4] Figures reflect the charges generated for Type 2 diabetes patients by the facilities that delivered care.

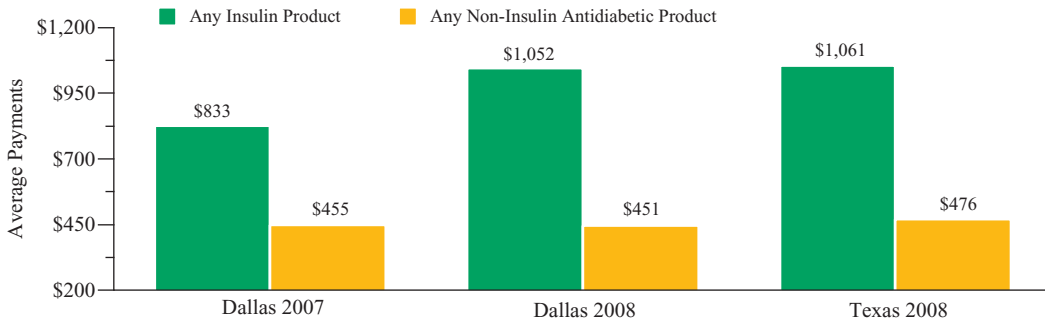
[5] Includes Blue Cross/Blue Shield, HMOs, PPOs, point-of-service plans and exclusive provider organizations.

[6] Professional charges are those generated by the providers delivering care to Type 2 diabetes patients in various settings.

H5: UTILIZATION: PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY SERVICE



H6: PHARMACOTHERAPY: AVERAGE ANNUAL PAYMENTS, BY TYPE OF DRUG THERAPY



H7: % OF AND AVG. PAYMENTS FOR TYPE 2 DIABETES PATIENTS USING INSULIN THERAPIES

	Any Insulin Product		Intermediate-Acting Insulin		Long-Acting Insulin		Short-Acting Insulin		Mixed Insulin	
	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs
Dallas 2007	34.4%	$833	4.0%	$333	15.7%	$584	13.1%	$535	10.1%	$670
Dallas 2008	33.8	1,052	3.5	397	16.6	758	13.6	657	9.6	839
Texas 2008	35.0	1,061	3.5	384	19.1	746	13.6	670	8.5	841

H8: % OF AND AVG. PAYMENTS FOR TYPE 2 DIABETES PATIENTS USING NON-INSULIN THERAPIES

	Any Non-Insulin Antidiabetic Product		Biguanides		Sulfonylureas		Insulin Sensitizing Agents	
	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs
Dallas 2007	82.3%	$455	47.9%	$93	33.1%	$84	21.9%	$845
Dallas 2008	82.7	451	51.4	73	32.8	75	15.4	1,017
Texas 2008	83.2	476	48.2	79	32.6	78	16.6	1,000

Data source: SDI © 2009

TEXAS A1c TESTING RATE EXCEEDS THAT OF DALLAS

In Dallas, the percentage of Type 2 diabetes patients who were administered at least one A1c test in 2008 (67.3%) was less than the statewide average (70.0%). However, Dallas utilization rates for other recommended treatments for Type 2 diabetes were not much different from the statewide rates for these services.

SHARE OF DALLAS PATIENTS USING INSULIN DECLINES

The share of patients with Type 2 diabetes in the Dallas local market who filled a prescription for any insulin product fell in 2008, to 33.8% from 34.4% in 2007 (see table H7). Statewide, by comparison, the share of such patients using any insulin product grew, to 35.0% from 34.0% the year before.

NOTE: The A1c test measures how much glucose has been in the blood during the past 2–3 months. Figures reflect the percentage of Type 2 diabetes patients who have had at least one A1c test in a given year.

Biguanides
Improve insulin sensitivity; reduce the production of glucose by the liver, decrease intestinal absorption of glucose, and increase the peripheral uptake and use of circulating glucose.

Sulfonylureas
Stimulate the release of insulin in the pancreas.

Insulin Sensitizing Agents
Improve response to insulin in liver, adipose tissue, and skeletal muscle, resulting in decreased production of glucose by the liver and increased peripheral uptake and use of circulating glucose.

EL PASO

I1: DEMOGRAPHICS: AGE AND GENDER[1]

	Percentage of Patients			
	El Paso			Texas
AGE GROUP	2006	2007	2008	2008
0–17	0.5%	0.6%	0.5%	0.5%
18–35	5.1	5.9	5.2	4.2
36–64	53.9	54.5	57.7	55.7
65–79	31.7	29.5	28.5	30.4
80	8.9	9.5	8.2	9.2
GENDER				
Male	41.3%	41.8%	39.2%	40.5%
Female	58.7	58.2	60.8	59.5

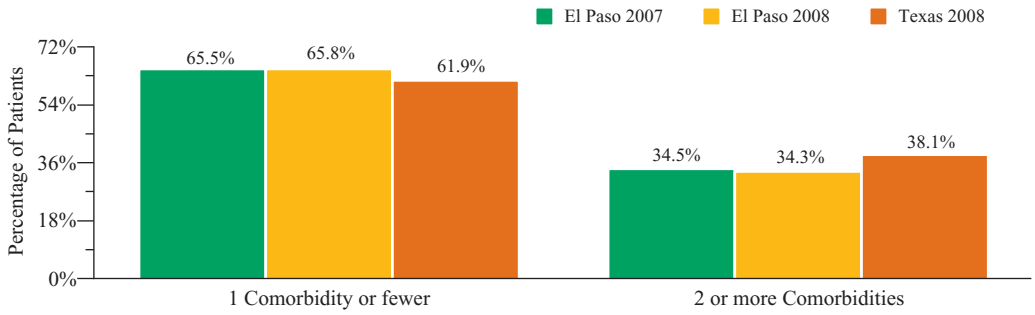
I2: DEMOGRAPHICS: COMORBIDITIES AND COMPLICATIONS[2, 3]

	Percentage of Patients			
	El Paso			Texas
COMORBIDITIES	2006	2007	2008	2008
0	44.2%	39.4%	40.8%	37.9%
1	25.2	26.1	25.0	24.0
2	24.9	27.7	28.4	30.3
>2	5.7	6.8	5.9	7.8
COMPLICATIONS				
0	69.8%	65.2%	63.2%	58.5%
1	21.5	24.9	25.7	28.5
2	7.0	7.9	8.3	9.9
>2	1.7	2.0	2.8	3.2

RATIO OF MALE EL PASO PATIENTS TO ALL PATIENTS FALLS

The ratio of male Type 2 diabetes patients in El Paso to all patients in that local market dropped in 2008, to 39.2% from 41.8% in 2007 (see table I1). By comparison, males made up 40.5% of all Type 2 diabetes patients statewide and a notably higher 45.2% nationally.

I3: DEMOGRAPHICS: COMORBIDITIES[3]

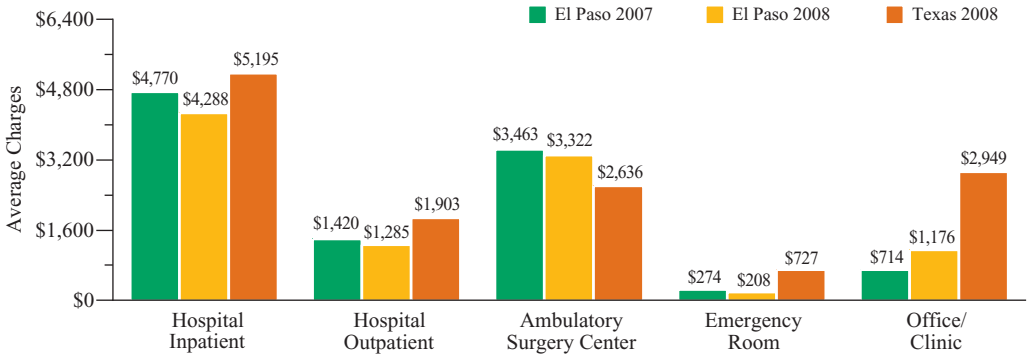


EL PASO PROVIDER CHARGES ARE LOW FOR INSURED

In 2008, provider charges per commercially insured Type 2 diabetes patient per year were lower in El Paso than statewide, in four of five settings profiled (ambulatory surgery centers excepted) (see graph I4). For example, provider charges for care delivered to such patients in an inpatient setting were $4,288 per year in El Paso, lower than their counterparts statewide ($5,195).

NOTE: Hospital charge data were unavailable for the El Paso MSA in 2007 and 2008.

I4: PROFESSIONAL CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS, COMMERCIAL INSURANCE PAYERS[4, 5]



Data source: SDI © 2009

[1] On all pages, the percentages are representative of the universe of Type 2 diabetes patients on whom claims data have been collected in a given year.

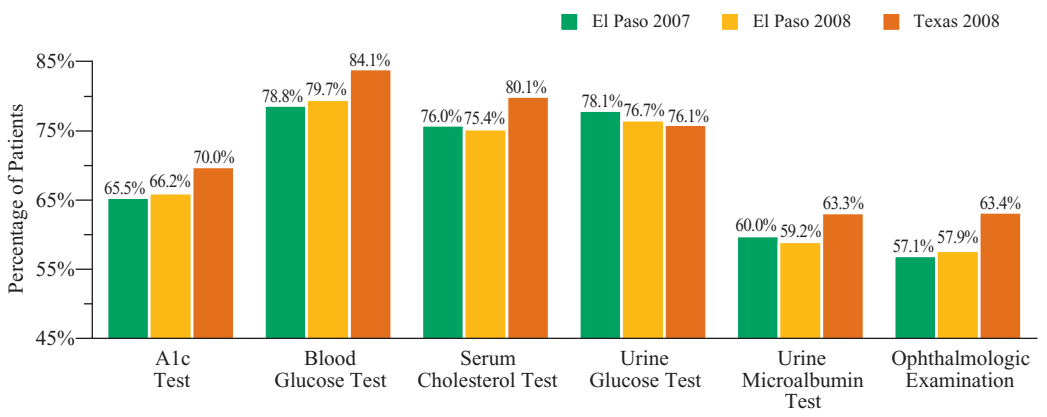
[2] A complication is defined as a patient condition caused by the Type 2 diabetes of the patient. These conditions are a direct result of having Type 2 diabetes. Complications of Type 2 diabetes include, but are not limited to, coronary artery disease, hypoglycemia, nephropathy, neuropathy and retinopathy.

[3] A comorbidity is a condition a Type 2 diabetes patient may also have, which is not directly related to the diabetes. Comorbidities were narrowed down to a subset of conditions which are typically present in patients with Type 2 diabetes. Comorbidities of Type 2 diabetes include, but are not limited to, congestive heart failure, coronary artery disease, dysmetabolic syndrome, hyperlipidemia, hypertension and obesity.

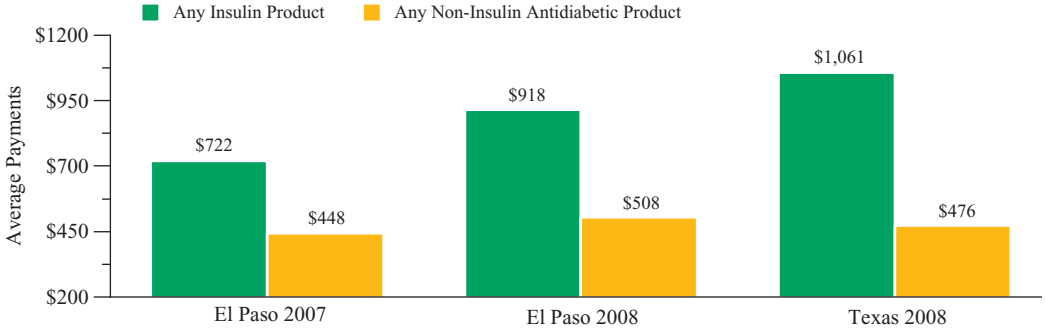
[4] Includes Blue Cross/Blue Shield, HMOs, PPOs, point-of-service plans and exclusive provider organizations.

[5] Professional charges are those generated by the providers delivering care to Type 2 diabetes patients in various settings.

I5: UTILIZATION: PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY SERVICE



I6: PHARMACOTHERAPY: AVERAGE ANNUAL PAYMENTS, BY TYPE OF DRUG THERAPY



I7: % OF AND AVG. PAYMENTS FOR TYPE 2 DIABETES PATIENTS USING INSULIN THERAPIES

	Any Insulin Product		Intermediate-Acting Insulin		Long-Acting Insulin		Short-Acting Insulin		Mixed Insulin	
	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs
El Paso 2007	29.1%	$722	2.7%	$254	16.2%	$512	8.7%	$535	9.8%	$580
El Paso 2008	32.7	918	2.2	344	19.5	710	10.1	596	9.7	709
Texas 2008	35.0	1,061	3.5	384	19.1	746	13.6	670	8.5	841

I8: % OF AND AVG. PAYMENTS FOR TYPE 2 DIABETES PATIENTS USING NON-INSULIN THERAPIES

	Any Non-Insulin Antidiabetic Product		Biguanides		Sulfonylureas		Insulin Sensitizing Agents	
	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs
El Paso 2007	88.1%	$448	49.3%	$80	34.4%	$82	24.4%	$756
El Paso 2008	85.9	508	50.4	86	33.3	82	17.8	939
Texas 2008	83.2	476	48.2	79	32.6	78	16.6	1,000

Data source: SDI © 2009

SHARE OF EL PASO PATIENTS RECEIVING A1c TEST IS LOW

Although the share of patients diagnosed with Type 2 diabetes in El Paso who received at least one A1c test in 2008 edged up, to 66.2% from 65.5% in 2007, it nevertheless trailed the statewide average (70.0%) (see graph I5). In 2008, the share of Type 2 diabetes patients in El Paso who received at least one A1c test was notably lower than the national rate (73.8%).

INSULIN PAYMENTS PER PATIENT RISE FOR EL PASO PATIENTS

Average payments for any insulin product per El Paso Type 2 diabetes patient per year grew substantially between 2007 ($722) and 2008 ($918) (see graph I6). In spite of this notable increase, these annual payments continued to lag behind the statewide ($1,061) and, especially, national ($1,240) rates by a considerable margin in 2008.

NOTE: The A1c test measures how much glucose has been in the blood during the past 2–3 months. Figures reflect the percentage of Type 2 diabetes patients who have had at least one A1c test in a given year.

Biguanides
Improve insulin sensitivity; reduce the production of glucose by the liver, decrease intestinal absorption of glucose, and increase the peripheral uptake and use of circulating glucose.

Sulfonylureas
Stimulate the release of insulin in the pancreas.

Insulin Sensitizing Agents
Improve response to insulin in liver, adipose tissue, and skeletal muscle, resulting in decreased production of glucose by the liver and increased peripheral uptake and use of circulating glucose.

FT. WORTH/ARLINGTON

J1: DEMOGRAPHICS: AGE AND GENDER[1]

	Percentage of Patients			
	Ft. Worth/Arlington			Texas
AGE GROUP	2006	2007	2008	2008
0–17	0.8%	0.4%	0.6%	0.5%
18–35	5.1	4.9	5.0	4.2
36–64	60.4	59.3	60.8	55.7
65–79	26.5	27.5	26.0	30.4
80+	7.3	7.9	7.7	9.2
GENDER				
Male	41.5%	41.1%	41.7%	40.5%
Female	58.5	58.9	58.3	59.5

J2: DEMOGRAPHICS: COMORBIDITIES AND COMPLICATIONS[2, 3]

	Percentage of Patients			
	Ft. Worth/Arlington			Texas
COMORBIDITIES	2006	2007	2008	2008
0	27.6%	29.2%	30.9%	37.9%
1	24.9	25.2	25.1	24.0
2	36.5	35.0	34.6	30.3
>2	11.1	10.7	9.4	7.8
COMPLICATIONS				
0	57.4%	55.2%	56.3%	58.5%
1	28.8	29.1	28.2	28.5
2	10.0	11.5	11.5	9.9
>2	3.8	4.2	4.1	3.2

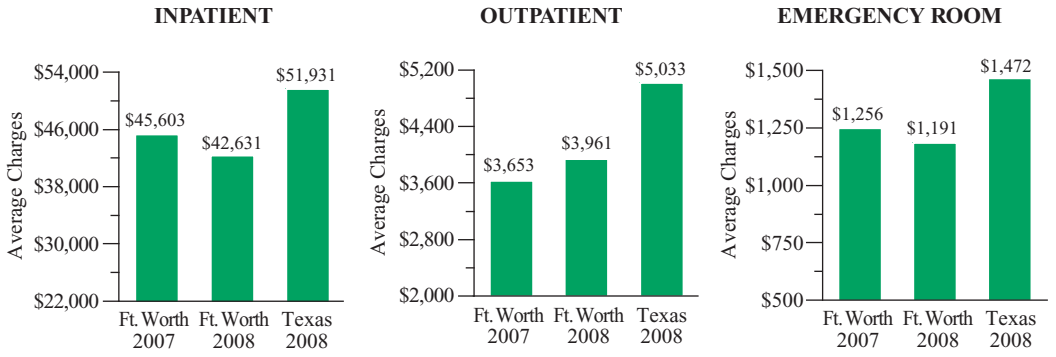
FORT WORTH MSA WORKING AGE PATIENT SHARE RISES

The share of Fort Worth/Arlington Type 2 diabetes patients who were between the ages of 18 and 64 grew in 2008, to 65.8% from 64.2% in 2007 (see table J1). By comparison, the shares of patients statewide (59.9%) and, particularly, nationwide (51.6%) who fell into this age category in 2008 were substantially lower.

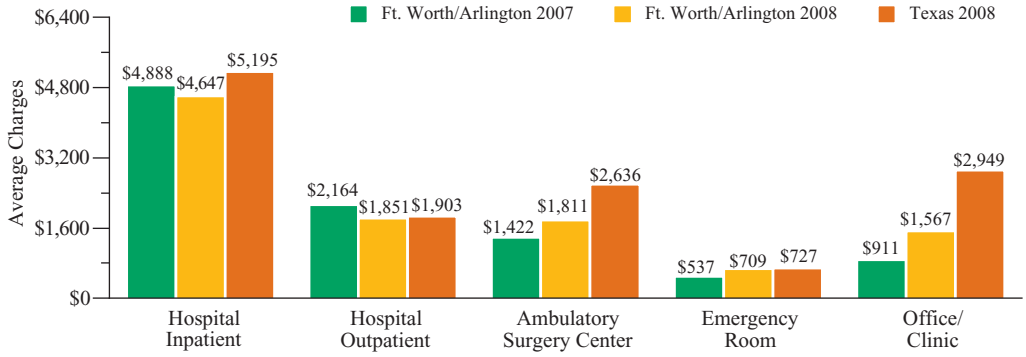
TEXAS INSURED PATIENT CHARGES TOP FORT WORTH'S

In 2008, hospital and professional charges per Type 2 diabetes patient per year for commercially insured patients were lower in Fort Worth/Arlington than statewide (see graph J4), regardless of setting. For example, professional charges for Type 2 diabetes patients with such coverage receiving care in an office or clinic were $2,949 per year statewide, nearly twice the average for Fort Worth/Arlington patients ($1,567).

J3: HOSPITAL CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS, COMMERCIAL INSURANCE PAYERS[4, 5]



J4: PROFESSIONAL CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS, COMMERCIAL INSURANCE PAYERS[5, 6]



Data source: SDI © 2009

[1] On all pages, the percentages are representative of the universe of Type 2 diabetes patients on whom claims data have been collected in a given year.

[2] A complication is defined as a patient condition caused by the Type 2 diabetes of the patient. These conditions are a direct result of having Type 2 diabetes. Complications of Type 2 diabetes include, but are not limited to, coronary artery disease, hypoglycemia, nephropathy, neuropathy and retinopathy.

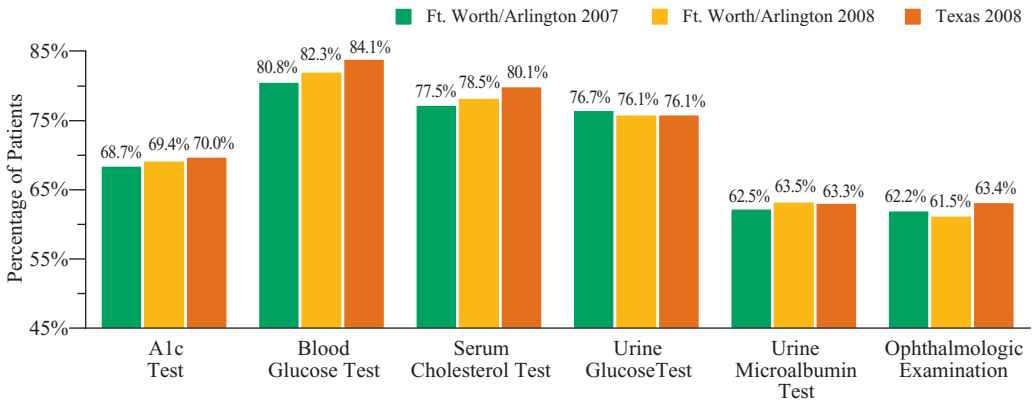
[3] A comorbidity is a condition a Type 2 diabetes patient may also have, which is not directly related to the diabetes. Comorbidities were narrowed down to a subset of conditions which are typically present in patients with Type 2 diabetes. Comorbidities of Type 2 diabetes include, but are not limited to, congestive heart failure, coronary artery disease, dysmetabolic syndrome, hyperlipidemia, hypertension and obesity.

[4] Figures reflect the charges generated for Type 2 diabetes patients by the facilities that delivered care.

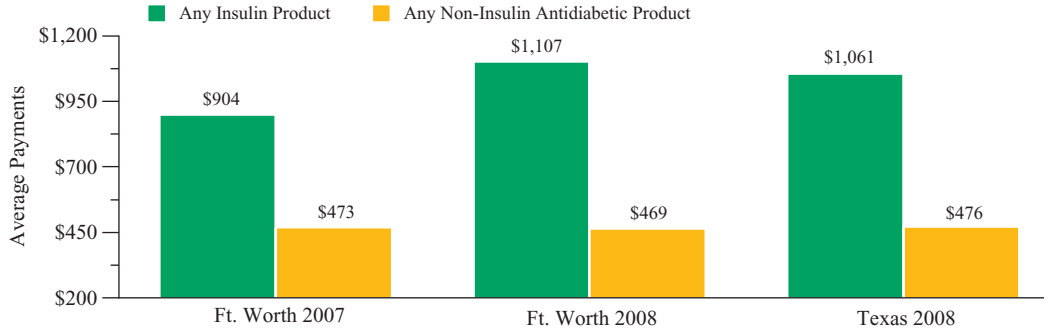
[5] Includes Blue Cross/Blue Shield, HMOs, PPOs, point-of-service plans and exclusive provider organizations.

[6] Professional charges are those generated by the providers delivering care to Type 2 diabetes patients in various settings.

J5: UTILIZATION: PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY SERVICE



J6: PHARMACOTHERAPY: AVERAGE ANNUAL PAYMENTS, BY TYPE OF DRUG THERAPY



J7: % OF AND AVG. PAYMENTS FOR TYPE 2 DIABETES PATIENTS USING INSULIN THERAPIES

	Any Insulin Product		Intermediate-Acting Insulin		Long-Acting Insulin		Short-Acting Insulin		Mixed Insulin	
	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs
Ft. Worth 2007	33.3%	$904	3.2%	$327	17.3%	$628	13.6%	$612	7.5%	$662
Ft. Worth 2008	33.4	1,107	2.6	397	19.2	785	14.2	754	7.1	788
Texas 2008	35.0	1,061	3.5	384	19.1	746	13.6	670	8.5	841

J8: % OF AND AVG. PAYMENTS FOR TYPE 2 DIABETES PATIENTS USING NON-INSULIN THERAPIES

	Any Non-Insulin Antidiabetic Product		Biguanides		Sulfonylureas		Insulin Sensitizing Agents	
	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs
Ft. Worth 2007	83.3%	$473	47.2%	$91	32.3%	$84	22.2%	$887
Ft. Worth 2008	82.8	469	49.5	76	32.7	74	16.1	1,019
Texas 2008	83.2	476	48.2	79	32.6	78	16.6	1,000

Data source: SDI © 2009

FORT WORTH PATIENT SHARE RECEIVING EYE EXAMS SLIPS

The share of patients diagnosed with Type 2 diabetes in the Fort Worth local market who received at least one eye examination in 2008 edged down, to 61.5% from 62.2% in 2007 (see graph J5). By comparison, the shares of Type 2 diabetes patients statewide (63.4%) and nationwide (69.4%) who received eye examinations in 2008 were each higher.

FT. WORTH PATIENT PAYMENTS GROW FOR EVERY INSULIN TYPE

Between 2007 and 2008, average payments per Fort Worth/Arlington Type 2 diabetes patient per year increased overall and in every insulin therapy category profiled (see table J7). For example, on average these Type 2 diabetes patients paid $788 per year for mixed insulin products, up from $622 the previous year.

NOTE: The A1c test measures how much glucose has been in the blood during the past 2–3 months. Figures reflect the percentage of Type 2 diabetes patients who have had at least one A1c test in a given year.

Biguanides
Improve insulin sensitivity; reduce the production of glucose by the liver, decrease intestinal absorption of glucose, and increase the peripheral uptake and use of circulating glucose.

Sulfonylureas
Stimulate the release of insulin in the pancreas.

Insulin Sensitizing Agents
Improve response to insulin in liver, adipose tissue, and skeletal muscle, resulting in decreased production of glucose by the liver and increased peripheral uptake and use of circulating glucose.

HOUSTON

K1: DEMOGRAPHICS: AGE AND GENDER[1]

	Percentage of Patients			
	Houston			Texas
AGE GROUP	2006	2007	2008	2008
0–17	0.4%	0.4%	0.4%	0.5%
18–35	5.5	5.0	4.7	4.2
36–64	63.8	59.6	59.0	55.7
65–79	24.0	26.6	26.9	30.4
80+	6.3	8.5	9.0	9.2
GENDER				
Male	37.3%	37.6%	38.1%	40.5%
Female	62.7	62.5	61.9	59.5

K2: DEMOGRAPHICS: COMORBIDITIES AND COMPLICATIONS[2,3]

	Percentage of Patients			
	Houston			Texas
COMORBIDITIES	2006	2007	2008	2008
0	36.6%	38.2%	37.5%	37.9%
1	23.1	23.3	23.9	24.0
2	30.1	28.6	29.4	30.3
>2	10.2	10.0	9.2	7.8
COMPLICATIONS				
0	60.0%	57.5%	55.9%	58.5%
1	28.2	29.3	30.1	28.5
2	9.0	10.2	10.6	9.9
>2	2.7	3.1	3.4	3.2

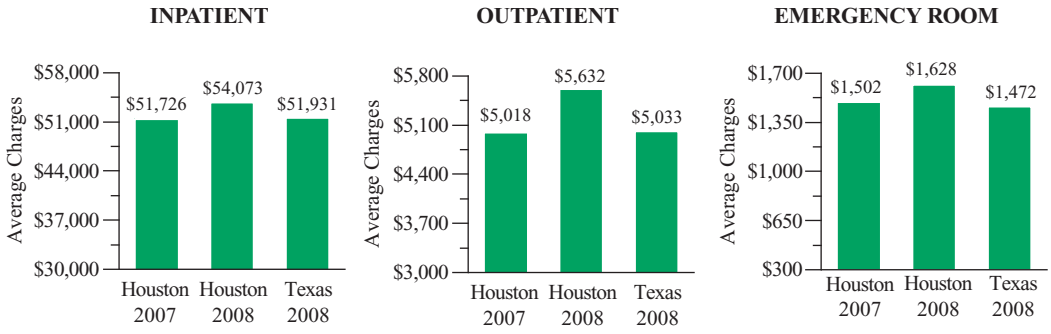
HOUSTON SHARE OF 2+ COMORBIDITY PATIENTS DECLINES

In 2008, 9.2% of patients with Type 2 diabetes in the Houston MSA were also diagnosed with more than two comorbidities, down from 10.0% in 2007, but still notably higher than the statewide share of 7.8% (see table K2 above). Meanwhile, 14.0% of Houston Type 2 diabetes patients had two or more complications from the disease, compared with the statewide average of 13.1%.

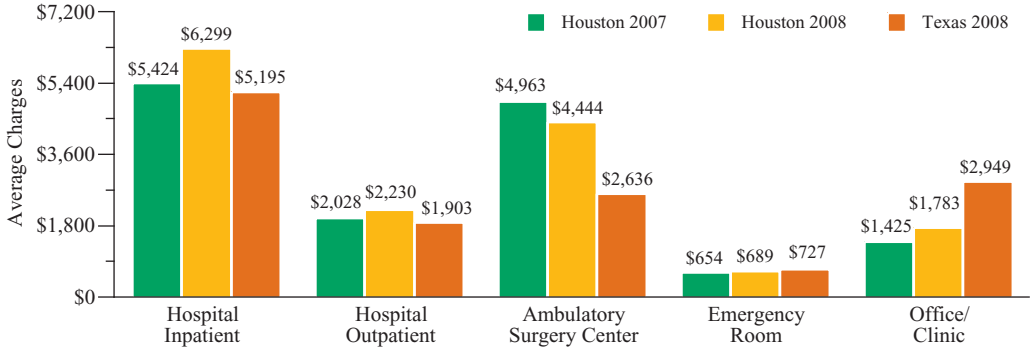
ASC PROFESSIONAL CHARGES FALL FOR HOUSTON PATIENTS

Professional charges per year for Houston Type 2 diabetes patients with commercial insurance who received treatment in an ambulatory surgery center (ASC) setting fell in 2008, to $4,444 from $4,963 in 2007 (see graph K4), but remained well above the statewide mark ($2,636). However, hospital inpatient professional charges for such patients in Houston rose 16%, to $6,299 from $5,424, topping the Texas average.

K3: HOSPITAL CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS, COMMERCIAL INSURANCE PAYERS[4,5]



K4: PROFESSIONAL CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS, COMMERCIAL INSURANCE PAYERS[5,6]



Data source: SDI © 2009

[1] On all pages, the percentages are representative of the universe of Type 2 diabetes patients on whom claims data have been collected in a given year.

[2] A complication is defined as a patient condition caused by the Type 2 diabetes of the patient. These conditions are a direct result of having Type 2 diabetes. Complications of Type 2 diabetes include, but are not limited to, coronary artery disease, hypoglycemia, nephropathy, neuropathy and retinopathy.

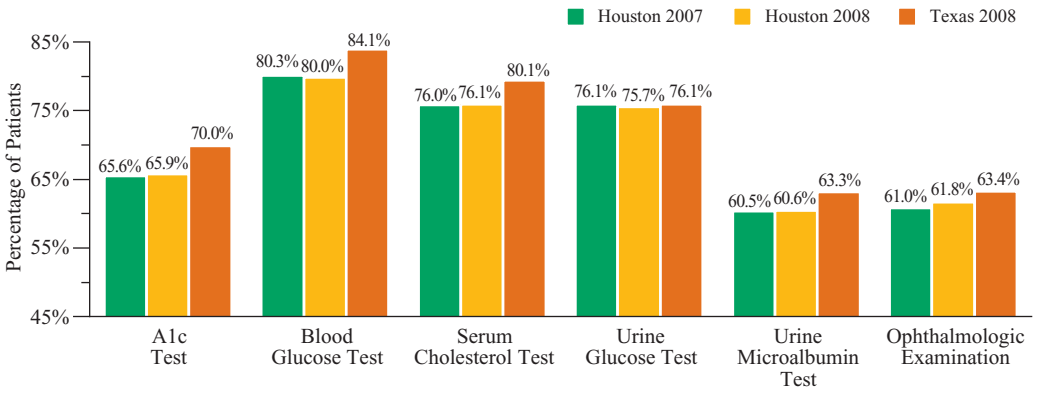
[3] A comorbidity is a condition a Type 2 diabetes patient may also have, which is not directly related to the diabetes. Comorbidities were narrowed down to a subset of conditions which are typically present in patients with Type 2 diabetes. Comorbidities of Type 2 diabetes include, but are not limited to, congestive heart failure, coronary artery disease, dysmetabolic syndrome, hyperlipidemia, hypertension and obesity.

[4] Figures reflect the charges generated for Type 2 diabetes patients by the facilities that delivered care.

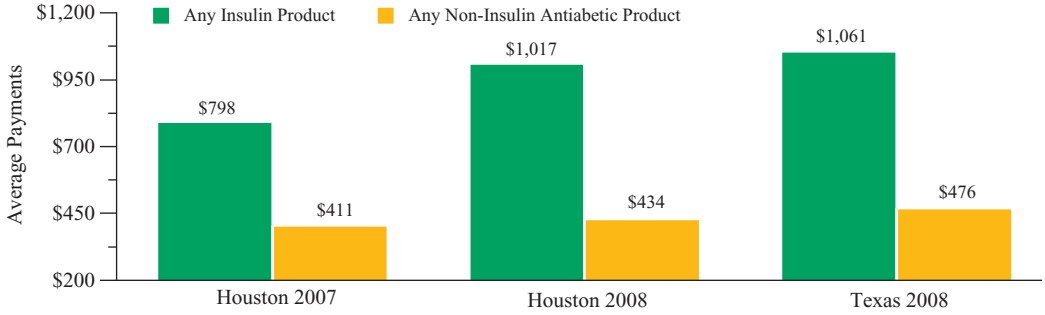
[5] Includes Blue Cross/Blue Shield, HMOs, PPOs, point-of-service plans and exclusive provider organizations.

[6] Professional charges are those generated by the providers delivering care to Type 2 diabetes patients in various settings.

K5: UTILIZATION: PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY SERVICE



K6: PHARMACOTHERAPY: AVERAGE ANNUAL PAYMENTS, BY TYPE OF DRUG THERAPY



K7: % OF AND AVG. PAYMENTS FOR TYPE 2 DIABETES PATIENTS USING INSULIN THERAPIES

	Any Insulin Product		Intermediate-Acting Insulin		Long-Acting Insulin		Short-Acting Insulin		Mixed Insulin	
	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs
Houston 2007	33.1%	$798	4.2%	$276	16.6%	$553	11.8%	$567	7.1%	$579
Houston 2008	33.8	1,017	3.8	353	18.7	710	12.9	664	6.9	788
Texas 2008	35.0	1,061	3.5	384	19.1	746	13.6	670	8.5	841

K8: % OF AND AVG. PAYMENTS FOR TYPE 2 DIABETES PATIENTS USING NON-INSULIN THERAPIES

	Any Non-Insulin Antidiabetic Product		Biguanides		Sulfonylureas		Insulin Sensitizing Agents	
	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs
Houston 2007	84.4%	$411	47.4%	$94	33.3%	$81	20.3%	$759
Houston 2008	84.4	434	50.5	80	33.0	77	15.4	920
Texas 2008	83.2	476	48.2	79	32.6	78	16.6	1,000

Data source: SDI © 2009

HOUSTON PATIENT UTILIZATION RATES TRAIL THAT OF STATE

The shares of Type 2 diabetes patients in Houston who received any of the six services profiled trailed the shares of their statewide counterparts in 2008 (see table K5). For example, 65.9% of Houston patients received an A1c test, up from 61.8% in 2007, but below the statewide average of 70.0%.

LONG-ACTING INSULIN PATIENT SHARE RISES IN HOUSTON AREA

In 2008, 18.7% of Type 2 diabetes patients in the Houston market were prescribed long-acting insulin therapy, up moderately from 16.6% in 2007, but still fractionally below the Texas average of 19.1% (see table K7). Conversely, 84.4% of Houston patients used non-insulin antidiabetic products in 2008, slightly higher than the state average (83.2%).

NOTE: The A1c test measures how much glucose has been in the blood during the past 2–3 months. Figures reflect the percentage of Type 2 diabetes patients who have had at least one A1c test in a given year.

Biguanides
Improve insulin sensitivity; reduce the production of glucose by the liver, decrease intestinal absorption of glucose, and increase the peripheral uptake and use of circulating glucose.

Sulfonylureas
Stimulate the release of insulin in the pancreas.

Insulin Sensitizing Agents
Improve response to insulin in liver, adipose tissue, and skeletal muscle, resulting in decreased production of glucose by the liver and increased peripheral uptake and use of circulating glucose.

SAN ANTONIO

L1: DEMOGRAPHICS: AGE AND GENDER[1]

	Percentage of Patients			
	San Antonio			Texas
AGE GROUP	2006	2007	2008	2008
0–17	0.5%	0.5%	0.3%	0.5%
18–35	4.6	4.1	3.0	4.2
36–64	57.0	51.3	50.6	55.7
65–79	31.8	32.9	34.2	30.4
80+	11.0	11.3	11.9	9.2
GENDER				
Male	38.9%	39.0%	40.8%	40.5%
Female	61.1	61.1	59.2	59.5

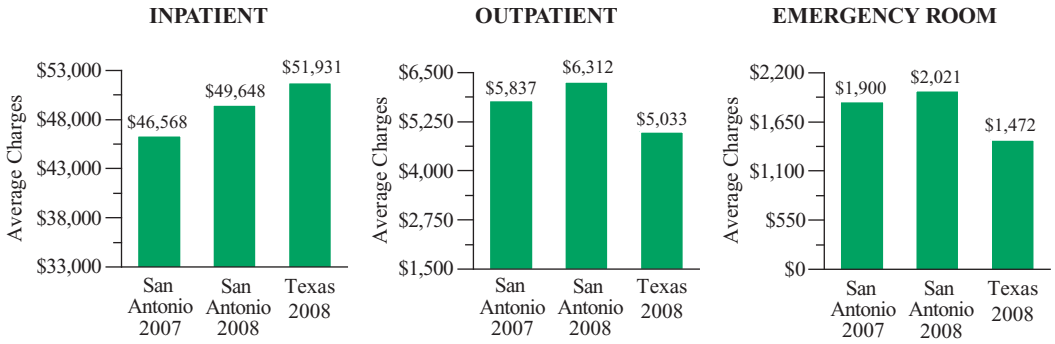
L2: DEMOGRAPHICS: COMORBIDITIES AND COMPLICATIONS[2, 3]

	Percentage of Patients			
	San Antonio			Texas
COMORBIDITIES	2006	2007	2008	2008
0	36.6%	38.7%	42.1%	37.9%
1	22.9	23.7	24.0	24.0
2	31.2	29.0	26.5	30.3
>2	9.4	8.6	7.4	7.8
COMPLICATIONS				
0	56.3%	54.5%	51.2%	58.5%
1	30.5	30.9	32.9	28.5
2	10.3	11.3	12.2	9.9
>2	3.0	3.3	3.8	3.2

WORKING AGE PATIENT SHARE FALLS AGAIN IN S.A.

After falling to 55.4% in 2007 from 61.6% in 2006, the share of Type 2 diabetes patients in the San Antonio market who were 18 to 64 years of age declined again, to 53.6% in 2008 (see table L1 above). The San Antonio patient share in this age category was notably below the Texas share (59.9%).

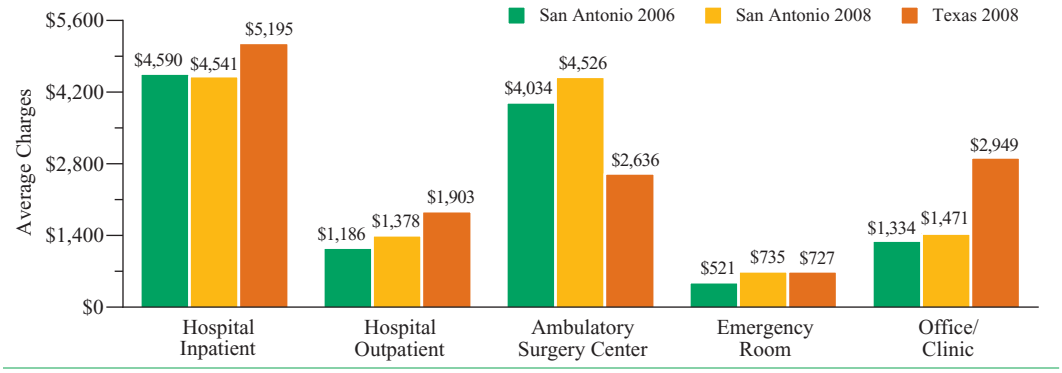
L3: HOSPITAL CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS, COMMERCIAL INSURANCE PAYERS[4, 5]



INPATIENT CHARGES DECLINE FOR SAN ANTONIO PATIENTS

Average professional charges generated by inpatient facilities that delivered care to Type 2 diabetes patients in San Antonio who had commercial insurance coverage declined slightly in 2008, to $4,541 from $4,590 in 2007 (see graph L4). Inpatient provider charges per Type 2 diabetes patient per year were notably lower for San Antonio patients than for their statewide counterparts ($5,195).

L4: PROFESSIONAL CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS, COMMERCIAL INSURANCE PAYERS[5,6]



Data source: SDI © 2009

[1] On all pages, the percentages are representative of the universe of Type 2 diabetes patients on whom claims data have been collected in a given year.

[2] A complication is defined as a patient condition caused by the Type 2 diabetes of the patient. These conditions are a direct result of having Type 2 diabetes. Complications of Type 2 diabetes include, but are not limited to, coronary artery disease, hypoglycemia, nephropathy, neuropathy and retinopathy.

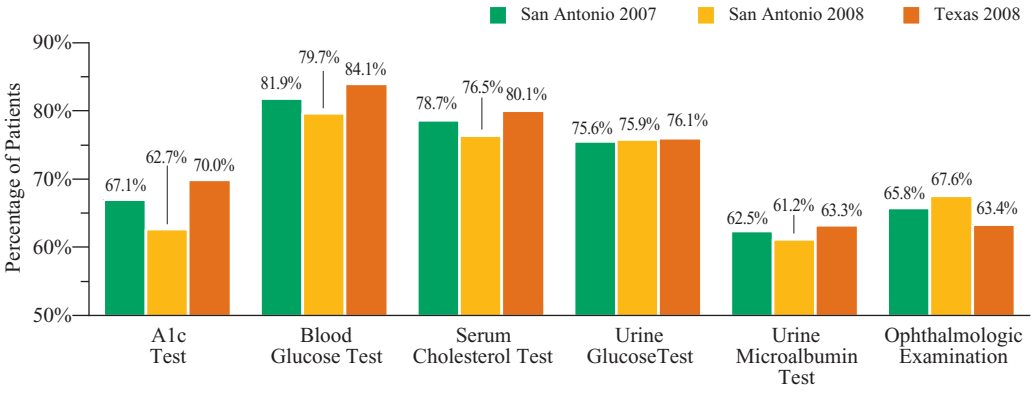
[3] A comorbidity is a condition a Type 2 diabetes patient may also have, which is not directly related to the diabetes. Comorbidities were narrowed down to a subset of conditions which are typically present in patients with Type 2 diabetes. Comorbidities of Type 2 diabetes include, but are not limited to, congestive heart failure, coronary artery disease, dysmetabolic syndrome, hyperlipidemia, hypertension and obesity.

[4] Figures reflect the charges generated for Type 2 diabetes patients by the facilities that delivered care.

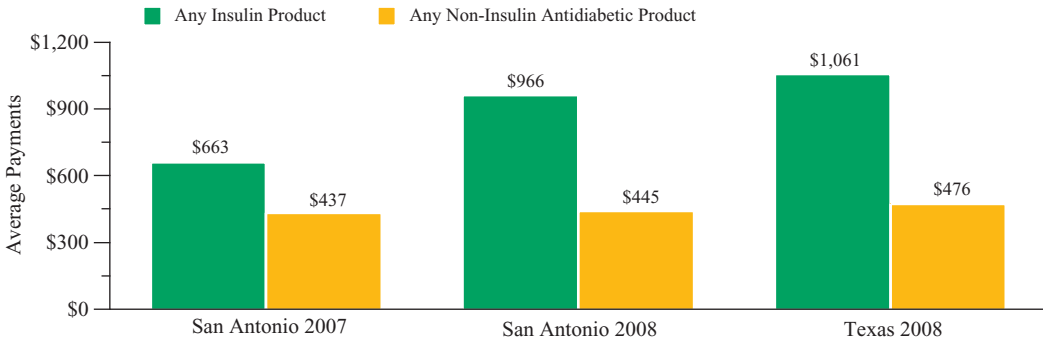
[5] Includes Blue Cross/Blue Shield, HMOs, PPOs, point-of-service plans and exclusive provider organizations.

[6] Professional charges are those generated by the providers delivering care to Type 2 diabetes patients in various settings.

L5: UTILIZATION: PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY SERVICE



L6: PHARMACOTHERAPY: AVERAGE ANNUAL PAYMENTS, BY TYPE OF DRUG THERAPY



L7: % OF AND AVG. PAYMENTS FOR TYPE 2 DIABETES PATIENTS USING INSULIN THERAPIES

	Any Insulin Product		Intermediate-Acting Insulin		Long-Acting Insulin		Short-Acting Insulin		Mixed Insulin	
	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs
S.A. 2007	34.6%	$838	4.5%	$302	18.8%	$577	13.1%	$553	8.6%	$664
S.A. 2008	36.6	966	3.7	351	21.3	671	12.9	627	9.1	809
Texas 2008	35.0	1,061	3.5	384	19.1	746	13.6	670	8.5	841

L8: % OF AND AVG. PAYMENTS FOR TYPE 2 DIABETES PATIENTS USING NON-INSULIN THERAPIES

	Any Non-Insulin Antidiabetic Product		Biguanides		Sulfonylureas		Insulin Sensitizing Agents	
	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs	% of Pat.	Avg. Costs
S.A. 2007	83.9%	$435	47.3%	$96	35.9%	$78	24.1%	$802
S.A. 2008	82.3	445	46.0	86	34.0	72	18.8	891
Texas 2008	83.2	476	48.2	79	32.6	78	16.6	1,000

Data source: SDI © 2009

SAN ANTONIO A1c TEST PATIENT PERCENTAGE DECLINES NOTABLY

In 2008, 62.7% of patients diagnosed with Type 2 diabetes in San Antonio received at least one A1c test, down markedly from 67.1% in 2007 (see graph L5), the lowest of the eight markets profiled. A notably higher 70.0% of Type 2 patients across the state of Texas received an A1c test in 2008.

S.A. INSULIN PAYMENTS REMAIN BELOW THE STATEWIDE AVERAGE

Average payments for Type 2 diabetes patients in San Antonio using any insulin product rose in 2008, to $966 from $838 the year before (see table L7 below), but were still lower than such payments for Type 2 diabetes patients across the state of Texas ($1,061). Meanwhile, 36.6% of patients in San Antonio were prescribed any insulin product, slightly higher than the statewide share of 35.0%.

NOTE: The A1c test measures how much glucose has been in the blood during the past 2–3 months. Figures reflect the percentage of Type 2 diabetes patients who have had at least one A1c test in a given year.

Biguanides
Improve insulin sensitivity; reduce the production of glucose by the liver, decrease intestinal absorption of glucose, and increase the peripheral uptake and use of circulating glucose.

Sulfonylureas
Stimulate the release of insulin in the pancreas.

Insulin Sensitizing Agents
Improve response to insulin in liver, adipose tissue, and skeletal muscle, resulting in decreased production of glucose by the liver and increased peripheral uptake and use of circulating glucose.

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2009 ADA/EASD RECOMMENDATIONS FOR TIMELY INSULIN USE

Consensus Statement: Strategies for the Management of Type 2 Diabetes Mellitus

STEP 1	**At diagnosis: Lifestyle + Metformin**	**Reinforce lifestyle interventions at every visit and check A1c every 3 months until A1c is <7% and then at least every 6 months.**	
STEP 2	**Tier 1: Well-validated core therapies**	**Lifestyle + Metformin + Basal Insulin** **Lifestyle + Metformin + Sulfonylurea**	
	Tier 2: Less well-validated therapies	**Lifestyle + Metformin + Pioglitazone** **Lifestyle + Metformin + GLP-1 agonist**	**Lifestyle + Metformin + Pioglitazone + Sulfonylurea** **Lifestyle + Metformin + Basal Insulin**
STEP 3	**Lifestyle + Metformin + Intensive Insulin**		

The 2009 American Diabetes Association (ADA)/European Association for the Study of Diabetes (EASD) consensus statement recommends timely use of insulin, as one approach, for patients who are not at their A1c goal. The ADA and EASD also recommend, as one approach, earlier addition of insulin in patients who do not meet glycemic goals after lifestyle intervention and metformin for 2 to 3 months.[1] To access the ADA's website for the latest ADA/EASD consensus statement and information on diabetes management, visit www.diabetes.org.

[1] *Nathan DM, Buse JB, Ferrannini E, et al. Medical management of hyperglycemia in type 2 diabetes: a consensus algorithm for the initiation and adjustment of therapy. Diabetes Care. 2009;32(1): 193–203.*

DATA METHODOLOGY

SDI generates data for this **Managed Care Digest Series®** newsletter using health care professional and institutional insurance claims, representing more than 6.5 million unique patients nationally in 2008 with a range of Type 2 diabetes diagnoses (250.00–250.92). Data from physicians of all specialties and from all hospital types are included.

SDI also gathers data on prescription activity from the National Council for Prescription Drug Programs (NCPDP). Data for all disease states collected account for some 8 billion prescription claims annually, or more than 50% of the prescription universe. These prescription data represent the sampling of prescription activity from a variety of sources, including retail chains, mass merchandisers and pharmacy benefit managers, and come from a near census of more than 59,000 pharmacies in the U.S. Cash, mail-order, Medicaid, and third-party transactions are tracked.

DATA INTEGRITY

Data arriving into SDI are put through a rigorous process to ensure that data elements match to valid references, such as product codes, ICD-9 (diagnosis) and CPT-4 (procedure) codes, and provider and facility data.

Claims undergo a careful de-duplication process to ensure that when multiple, voided, or adjusted claims are assigned to a patient encounter, they are applied to the database, but only for a single, unique patient.

Through its patient encryption methods, SDI creates a unique, random numerical identifier for every patient, and then strips away all patient-specific health information that is protected under the Health Insurance Portability and Accountability Act (HIPAA). The identifier allows SDI to track disease-specific diagnosis and procedure activity across the various settings where patient care is provided (hospital inpatient, hospital outpatient, emergency rooms, clinics, doctors' offices and pharmacies), while protecting the privacy of each patient.