

Nevada

Type 2 Diabetes *and Stroke* Report 2009

Featuring Demographic, Charges,
Utilization, and Pharmacotherapy Data

MANAGED CARE DIGEST SERIES®

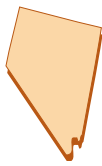
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Managed Care Digest Series® 2009

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Introduction

The Nevada Health Care Coalition (NHCC), Health Innovations and the Southern Nevada Medical Industry Coalition (SNMIC) are pleased to present the third edition of the **Nevada Type 2 Diabetes and Stroke Report**, featuring demographic, financial, utilization and pharmacotherapy measures for Type 2 diabetes and stroke patients in key local markets across Nevada. The report also provides state and national benchmarks that can help providers and employers identify opportunities to serve the needs of their patients. Phoenix, Ariz., data are included in this report, as the geographical proximity of that metropolitan statistical area (MSA) to Las Vegas allows for useful comparisons. All data are drawn from the sanofi-aventis **Managed Care Digest Series®**, which, as sponsor of this report, maintains an arm's length relationship with these organizations. The desire of sanofi-aventis is for the data in this report to be completely independent and objective.

The **Nevada Type 2 Diabetes and Stroke Report 2009** helps NHCC, Health Innovations and SNMIC to fulfill their purpose of improving the total community's understanding and acceptance of cost-effective delivery and utilization of medical services through educational programs and seminars.

This third edition features examples of the kinds of patient-level, disease-specific data on Type 2 diabetes and stroke that can be provided using the **Managed Care Digest Series®**. NHCC, Health Innovations and SNMIC chose Type 2 diabetes (high blood glucose levels caused by either a lack of insulin or the body's inability to use insulin efficiently) and stroke as the focus of this resource, as 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 in this report (covering 2007 and 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 they can use to benchmark their own data on patient demographics, professional (provider) and facility (hospital) charges, service utilization and pharmacotherapy.

Methodology

SDI generated data for this **Managed Care Digest Series®** database using health care professional and institutional insurance claims, representing nearly 6.5 million unique patients nationally in 2008 with a range of Type 2 diabetes diagnoses (250.00–250.92), and more than 230,000 unique patients nationally with a stroke diagnosis. 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). These data 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.

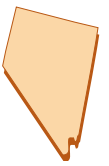
DATA INTEGRITY

Patient-level, disease-specific 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.

PATIENT DEMOGRAPHICS



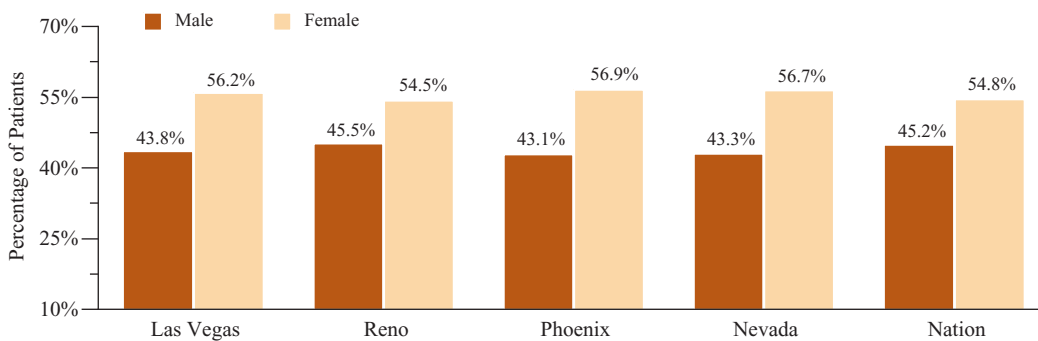
PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY AGE*

MARKET	0-17		18-35		36-64		65-79		80+	
	2007	2008	2007	2008	2007	2008	2007	2008	2007	2008
Las Vegas	0.4%	0.3%	3.8%	3.6%	55.1%	53.5%	32.3%	33.8%	8.4%	8.7%
Reno	0.4	0.5	2.5	2.8	47.4	47.5	38.6	38.0	11.1	11.3
Phoenix	0.4	0.4	4.2	3.8	55.1	50.9	30.6	34.2	9.7	10.7
Nevada	0.4	0.4	3.7	3.6	55.8	54.9	31.7	32.4	8.4	8.8
NATION	0.4%	0.4%	3.4%	3.2%	49.5%	48.4%	34.1%	34.7%	12.7%	13.4%

LARGE SHARE OF RENO TYPE 2 PATIENTS IS 65+ YEARS OF AGE

Although the percentage of Type 2 diabetes patients in Reno who were at least 65 years of age fell fractionally in 2008, to 49.3% from 49.7% in 2007, it remained the greatest share of the five markets profiled. A comparatively slight 42.5% of Type 2 diabetes patients in Las Vegas were in this oldest age category, up from 40.7% the year before. Statewide, 41.2% of Type 2 diabetes patients were 65 years of age or older in 2008, up slightly from 40.1% the previous year.

PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY GENDER, 2008*



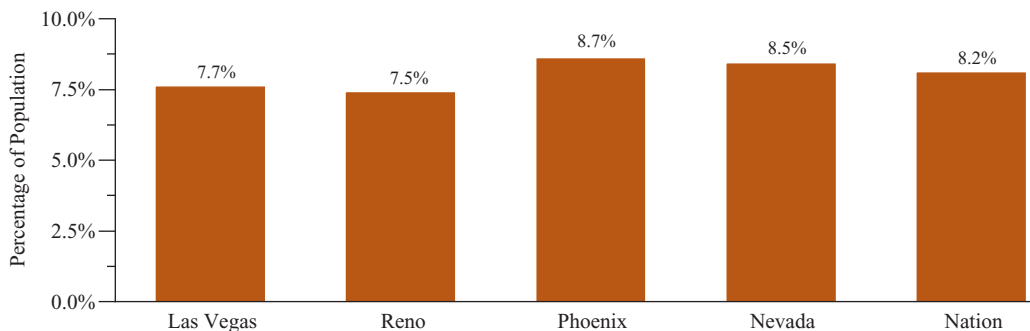
PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY LOCATION OF DIAGNOSIS*

MARKET	Primary Care**		Internal Medicine		Endocrinology		Cardiology	
	2007	2008	2007	2008	2007	2008	2007	2008
Las Vegas	38.3%	25.3%	11.5%	13.1%	0.2%	0.3%	1.5%	2.2%
Reno	17.8	15.8	2.1	2.1	1.1	1.1	25.7	18.6
Phoenix	16.8	17.9	5.3	5.6	2.3	1.6	1.6	2.2
Nevada	32.5	22.0	6.2	7.6	0.5	0.5	6.9	5.4
NATION	26.3%	23.2%	9.3%	8.9%	1.3%	1.3%	7.2%	6.6%

SMALLER SHARE OF NEVADA PATIENTS IS DIAGNOSED BY PCPS

The share of Type 2 diabetes patients in the state of Nevada who received their diagnosis from a primary care physician (PCP) fell sharply in 2008, to 22.0% from 32.5% in 2007, and was modestly lower than the national average of 23.2%. Of the five markets profiled, only Las Vegas had a higher share of Type 2 diabetes patients diagnosed by a PCP, at 25.3%, although down considerably from 38.3% the previous year.

PREVALENCE OF TYPE 2 DIABETES PATIENTS, 2008*

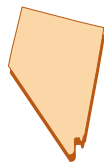


* On pages 3-11, the percentages are representative of the universe of Type 2 diabetes patients on whom claims data have been collected in a given year.

** "Primary care" consists of both general and family practitioners.

Data source: SDI © 2009; Centers for Disease Control Behavioral Risk Factor Surveillance System © 2009

NOTE: Throughout this report, the Reno MSA includes Sparks, Washoe and Storey counties.



PATIENT DEMOGRAPHICS

ZERO COMPLICATION PATIENT SHARE IN NV TRAILS THE NATION

In 2008, 53.4% of Type 2 diabetes patients in the state of Nevada had no diagnosed complications from the disease, down from 54.2% in 2007 and notably lower than the national average of 61.6%. The shares of such patients in each of the local Nevada markets trailed the national average in 2008, by wide margins. The most notable difference was in Reno, in which only 50.3% of Type 2 diabetes patients had no complications, even though the share grew from 49.2% the previous year.

CV IS MOST COMMON COMPLICATION TYPE FOR RENO PATIENTS

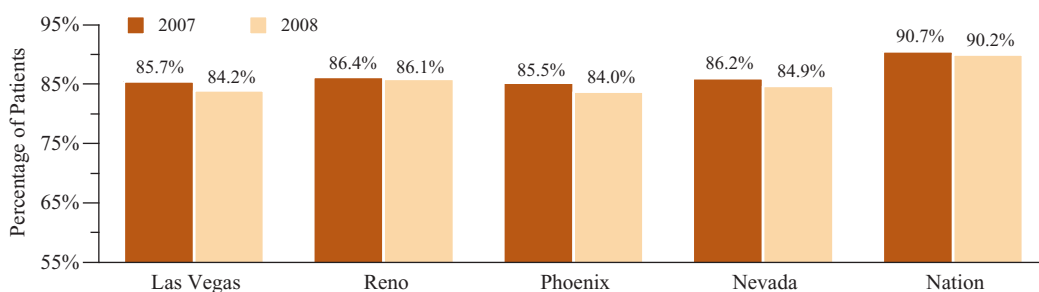
More than half (52.4%) of Type 2 diabetes patients in Reno were diagnosed with cardiovascular disease (CV) as a complication of their diabetes in 2008, the greatest share among the five markets profiled. By comparison, 46.2% patients nationwide were also diagnosed with CV. Reno patients were less likely to be diagnosed with three of the four remaining complications than their nationwide counterparts (retinopathy excepted).

* 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.

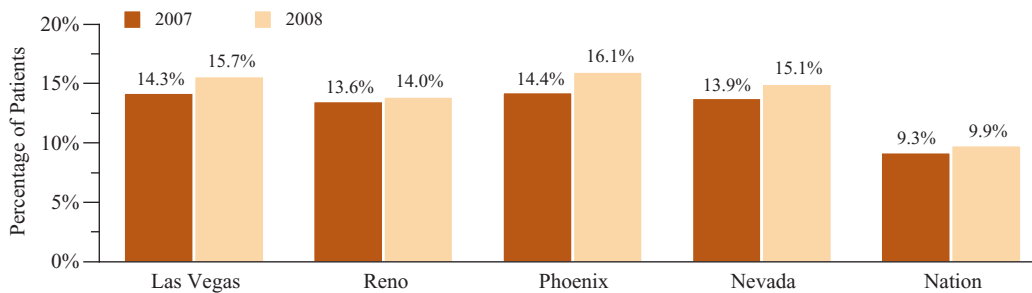
PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY NUMBER OF COMPLICATIONS*

MARKET	0		1		2		>2	
	2007	2008	2007	2008	2007	2008	2007	2008
Las Vegas	54.4%	52.8%	31.3%	31.4%	11.0%	11.9%	3.3%	3.8%
Reno	49.2	50.3	37.2	35.8	10.4	10.8	3.2	3.2
Phoenix	54.5	52.0	31.0	32.0	10.9	12.1	3.5	4.0
Nevada	54.2	53.4	32.0	31.5	10.6	11.5	3.3	3.6
NATION	62.5%	61.6%	28.2%	28.6%	7.3%	7.8%	2.0%	2.1%

PERCENTAGE OF TYPE 2 DIABETES PATIENTS WITH ONE COMPLICATION OR FEWER*



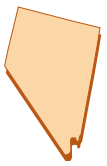
PERCENTAGE OF TYPE 2 DIABETES PATIENTS WITH TWO OR MORE COMPLICATIONS*



PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY TYPE OF COMPLICATION, 2008*

MARKET	Cardiovascular Disease	Neuropathy	Nephropathy	Retinopathy	Hypoglycemia
Las Vegas	46.8%	23.3%	17.6%	9.1%	3.2%
Reno	52.4	17.4	14.8	12.7	2.7
Phoenix	44.4	23.0	19.1	9.8	3.7
Nevada	47.4	21.3	17.5	10.7	3.2
NATION	46.2%	20.1%	18.2%	11.5%	4.0%

Data source: SDI © 2009



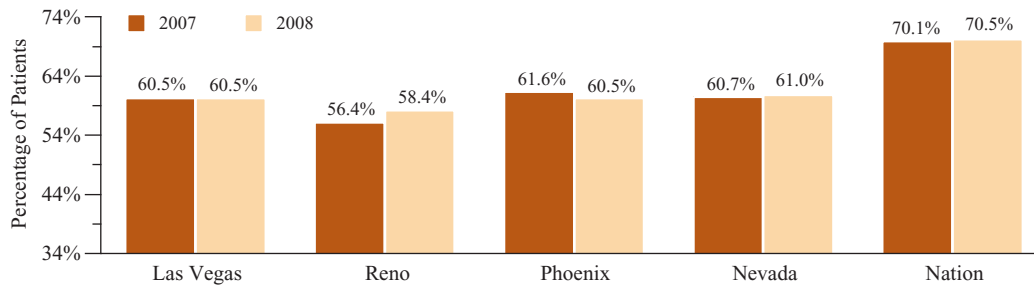
PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY NUMBER OF COMORBIDITIES*

MARKET	0		1		2		>2	
	2007	2008	2007	2008	2007	2008	2007	2008
Las Vegas	36.5%	36.8%	24.0%	23.7%	29.9%	31.4%	9.5%	8.1%
Reno	35.2	39.0	21.2	19.4	33.0	32.8	10.5	8.8
Phoenix	37.1	36.2	24.5	24.3	28.6	31.0	9.7	8.5
Nevada	37.6	38.8	23.1	22.2	29.9	30.9	9.5	8.1
NATION	46.7%	47.6%	23.4%	22.9%	24.3%	24.8%	5.5%	4.7%

RENO PATIENTS TEND TO HAVE FEW COMORBIDITIES

The share of Type 2 diabetes patients in the Reno area with no diagnosed comorbidities rose, to 39.0% in 2008 from 35.2% a year earlier, the highest share among the four markets profiled. By comparison, 36.8% of patients in Las Vegas had no comorbidities, virtually unchanged from 2007. Nationwide, 47.6% of Type 2 diabetes patients were comorbidity-free in 2008.

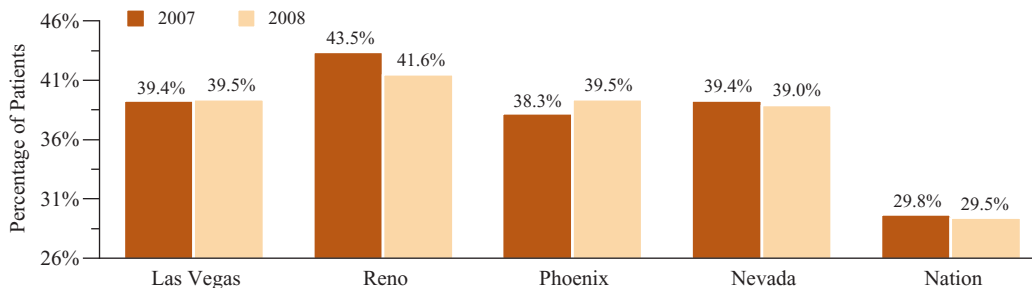
PERCENTAGE OF TYPE 2 DIABETES PATIENTS WITH ONE COMORBIDITY OR FEWER*



NV HYPERLIPIDEMIA COMORBIDITY RATE EXCEEDS THE NATION

In 2008, 40.3% of Type 2 diabetes patients in the state of Nevada also received a diagnosis of hyperlipidemia, slightly higher than the national average of 38.9%. Of the three Nevada markets profiled, only the Phoenix share (39.6%) was below the national average. By comparison, the shares of patients who were also diagnosed with hypertension were lower in each of the Nevada markets than the nationwide share.

PERCENTAGE OF TYPE 2 DIABETES PATIENTS WITH TWO OR MORE COMORBIDITIES*



PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY TYPE OF COMORBIDITY, 2008*

MARKET	Hypertension	Hyperlipidemia	Congestive Heart Failure	Obesity
Las Vegas	45.8%	40.7%	7.2%	5.8%
Reno	45.9	40.1	8.8	4.8
Phoenix	45.9	39.6	7.2	6.3
Nevada	45.9	40.3	7.4	5.8
NATION	48.0%	38.9%	7.7%	4.8%

* 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 may include, but are not limited to, congestive heart failure, coronary artery disease, dysmetabolic syndrome, hyperlipidemia, hypertension and obesity.

Data source: SDI © 2009



HOSPITAL CHARGES

HOSPITAL CHARGES DECLINE FOR THE RENO MSA IN 2008

Average hospital charges per year generated by care delivered to Type 2 diabetes patients in the Reno area fell in 2008, regardless of hospital setting. For instance, average emergency room (ER) charges fell to \$913 in 2008 from \$1,024 in 2007. ER charges were nearly 50% lower than across the nation (\$1,854).

AVERAGE NUMBER OF IP VISITS PER PATIENT RISES IN LAS VEGAS

In 2008, Type 2 diabetes patients in the Las Vegas area made an average of 1.92 inpatient visits per year, up from 1.77 visits the prior year. By comparison, the average for Type 2 diabetes patients across the nation was 1.90 in 2008, down from 2.20 in 2007.

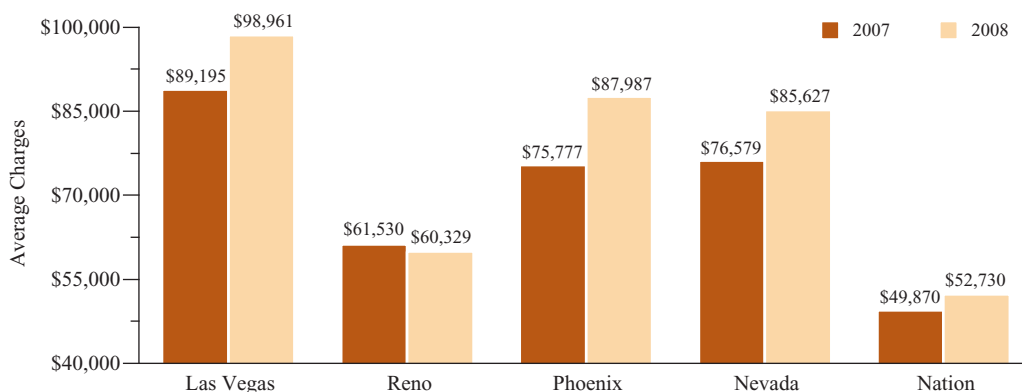
RENO OUTPATIENT CHARGES DECLINE FOR TYPE 2 PATIENTS

Average hospital outpatient charges for Type 2 diabetes patients in Reno fell, to \$4,127 in 2008 from \$4,263 in 2007. Of the three Nevada markets profiled, Reno was the only locale with charges below the national average (\$5,196) in 2008. By comparison, such charges were \$8,433 in Las Vegas, highest of the markets profiled despite falling from \$8,831 in 2007.

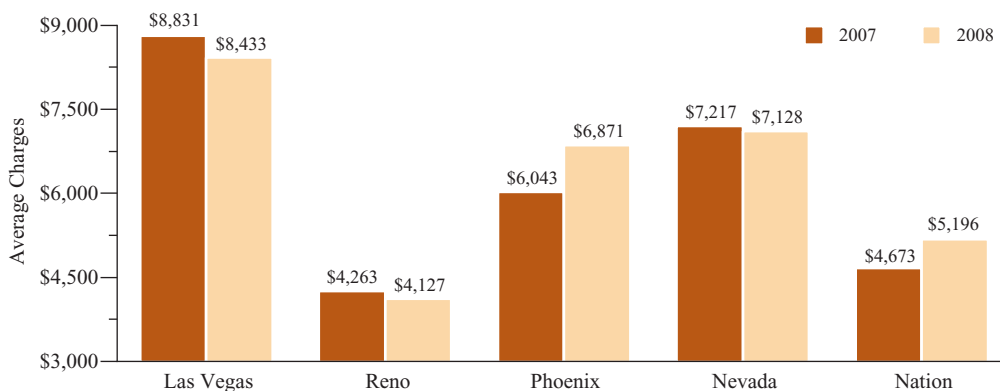
AVERAGE HOSPITAL CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS*

MARKET	Emergency Room		Hospital Outpatient		Hospital Inpatient		Avg. Number of Inpatient Visits per Patient	
	2007	2008	2007	2008	2007	2008	2007	2008
Las Vegas	\$2,085	\$2,224	\$8,831	\$8,433	\$89,195	\$98,961	1.77	1.92
Reno	1,024	913	4,263	4,127	61,530	60,329	1.50	1.51
Phoenix	2,819	3,095	6,043	6,871	75,777	87,987	1.85	1.96
Nevada	1,903	2,094	7,217	7,128	76,579	85,627	2.04	1.89
NATION	\$1,651	\$1,854	\$4,673	\$5,196	\$49,870	\$52,730	2.20	1.90

AVERAGE HOSPITAL INPATIENT CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS*



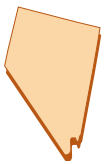
AVERAGE HOSPITAL OUTPATIENT CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS*



* Data reflect the charges generated for Type 2 diabetes patients by the facilities that delivered care. The data also reflect the average amounts charged in Type 2 diabetes patient claims, not the amount the claims paid.

Data source: SDI © 2009

Non-governmental for-profit hospitals nationally have significantly higher average inpatient total charges, as compared with other hospital types (such as government-operated- and private not-for-profit hospitals). Nationally, only 19.8% of hospitals are non-governmental for-profit; in Las Vegas, the ratio is 61.6%.



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

MARKET	Commercial Insurance**		Medicaid		Medicare	
	2007	2008	2007	2008	2007	2008
Las Vegas	\$71,446	\$74,540	\$108,429	\$94,427	\$94,288	\$93,610
Reno	60,738	43,830	68,023	72,090	58,187	56,136
Phoenix	63,395	64,041	58,044	55,503	70,806	75,855
Nevada	64,938	68,834	97,196	87,969	76,939	79,636
NATION	\$43,606	\$45,185	\$47,039	\$49,015	\$48,839	\$50,420

LAS VEGAS RECORDS LOWER MEDICARE INPATIENT CHARGES

Average hospital inpatient charges per year for Type 2 diabetes patients with Medicare coverage declined slightly, to \$93,610 in 2008 from \$94,288 in 2007 but remained highest of the local Nevada markets profiled. By comparison, such charges were \$50,420 across the nation in 2008.

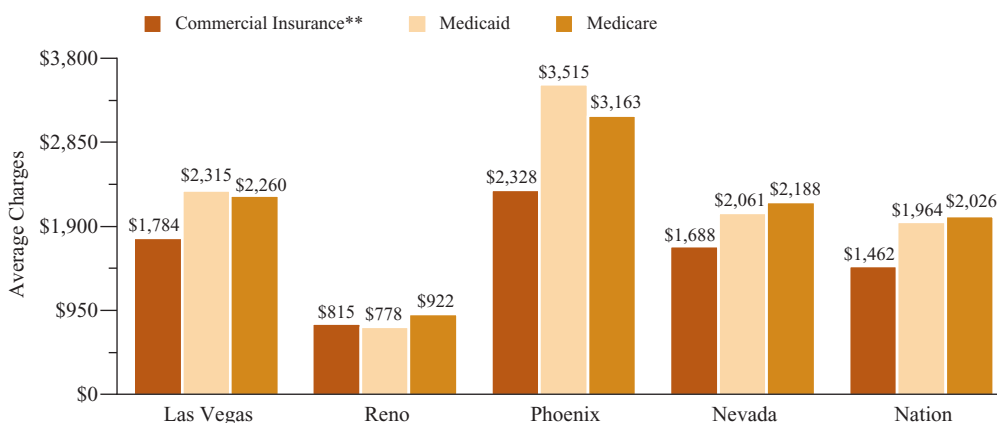
AVERAGE HOSPITAL OUTPATIENT CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS, BY PAYER TYPE*

MARKET	Commercial Insurance**		Medicaid		Medicare	
	2007	2008	2007	2008	2007	2008
Las Vegas	\$8,643	\$8,127	\$7,317	\$7,803	\$8,746	\$8,451
Reno	3,813	4,134	5,213	3,909	3,890	3,948
Phoenix	5,495	6,461	4,887	4,971	6,640	7,541
Nevada	7,087	6,927	7,193	7,380	6,791	6,877
NATION	\$4,030	\$4,440	\$4,317	\$4,711	\$5,103	\$5,804

STATE OUTPATIENT CHARGES EXCEED THE NATION IN 2008

Regardless of payer type, average annual hospital outpatient charges for care delivered to Type 2 diabetes patients in the state of Nevada topped the national averages (the Reno market is the exception to this trend). For example, such charges for Nevada patients with commercial insurance coverage were \$6,927, down from \$7,087 in 2007 but still higher than the national average of \$4,440 in 2008.

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



PHOENIX MEDICAID EMERGENCY ROOM CHARGES ARE HIGH

Type 2 diabetes patients in the Phoenix area who were covered by Medicaid generated hospital emergency room charges of \$3,515 in 2008, highest of the Nevada markets profiled and nearly twice the national average of \$1,964.

Data source: SDI © 2009

* Figures reflect the charges generated for Type 2 diabetes patients by the facilities that delivered care. The data also reflect the average amounts charged in Type 2 diabetes patient claims, not the amount the claims paid.

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



PROFESSIONAL CHARGES

AVERAGE ASC CHARGES DECLINE FOR NEVADA PATIENTS

Average professional charges for services provided to Type 2 diabetes patients at ambulatory surgery centers (ASC) in the state of Nevada were \$7,182 in 2008, down slightly from \$7,278 but still more than twice the ASC charges generated for their nationwide counterparts (\$3,077). By comparison, such charges were a comparatively low \$2,009 in Phoenix, up moderately from \$1,720 a year earlier.

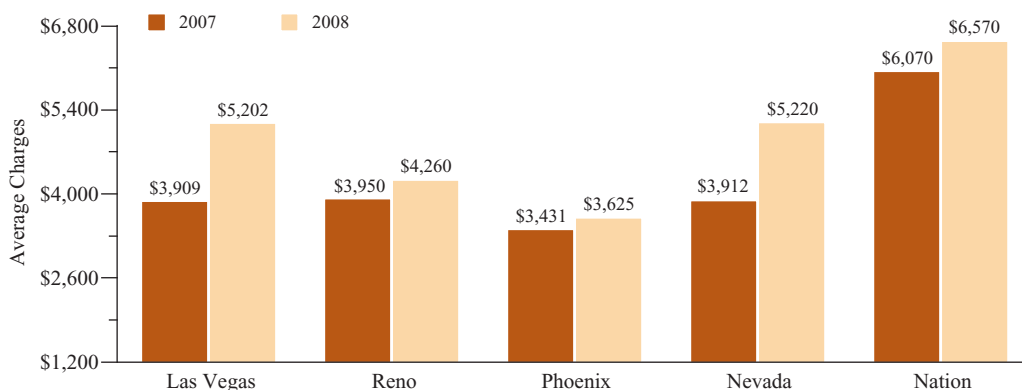
PROFESSIONAL OP CHARGES ARE HIGH IN THE RENO MSA

Average professional outpatient charges per year for care rendered to Type 2 diabetes patients in the Reno area were \$3,736 in 2008, up from \$3,306 in 2007. Outpatient charges in Reno outstripped charges generated across the state (\$2,126) and nation (\$2,042) by wide margins. Conversely, professional inpatient charges generated for services provided to Reno patients (\$4,260) were far lower than for patients statewide (\$5,220) and nationwide (\$6,570).

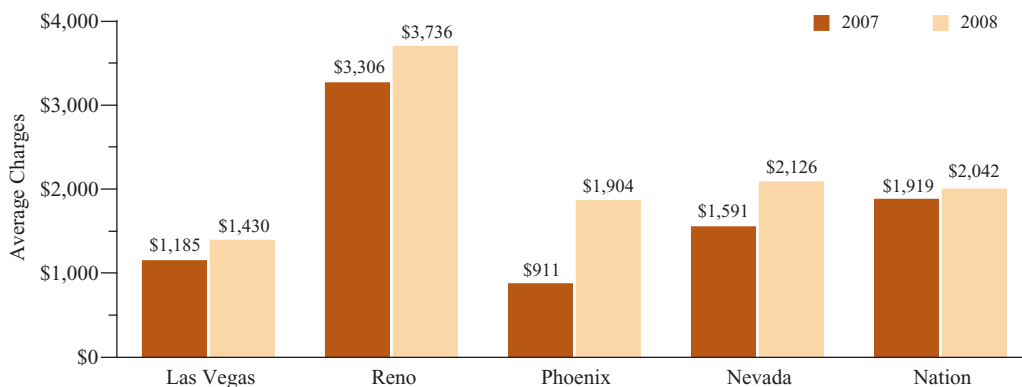
AVERAGE PROFESSIONAL CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS*

MARKET	Ambulatory Surgery Center		Emergency Room		Hospital Inpatient		Hospital Outpatient		Office/Clinic	
	2007	2008	2007	2008	2007	2008	2007	2008	2007	2008
Las Vegas	\$5,340	\$5,176	\$619	\$804	\$3,909	\$5,202	\$1,185	\$1,430	\$1,856	\$2,131
Reno	5,546	6,508	613	651	3,950	4,260	3,306	3,736	1,405	1,767
Phoenix	1,720	2,009	320	507	3,431	3,625	911	1,904	936	1,212
Nevada	7,278	7,182	616	800	3,912	5,220	1,591	2,126	1,762	2,067
NATION	\$3,055	\$3,077	\$647	\$722	\$6,070	\$6,570	\$1,919	\$2,042	\$2,818	\$3,399

AVERAGE PROFESSIONAL INPATIENT CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS*

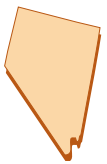


AVERAGE PROFESSIONAL OUTPATIENT CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS*



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

Data source: SDI © 2009



AVERAGE PROFESSIONAL INPATIENT CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS, BY PAYER TYPE*

MARKET	Commercial Insurance**		Medicaid		Medicare	
	2007	2008	2007	2008	2007	2008
Las Vegas	\$3,319	\$4,935	\$3,151	\$2,958	\$4,111	\$5,236
Reno	3,490	3,818	5,829	4,701	3,655	3,789
Phoenix	2,841	3,455	3,266	3,394	4,056	3,345
Nevada	3,267	4,785	3,796	3,380	4,116	5,414
NATION	\$4,916	\$5,211	\$4,963	\$5,224	\$5,823	\$6,326

NV PROFESSIONAL INPATIENT MEDICAID CHARGES DROP

Average professional inpatient charges generated for care delivered to Type 2 diabetes patients in the state of Nevada with Medicaid coverage fell, to \$3,380 in 2008 from \$3,796 in 2007. By comparison, such charges rose for Nevada patients with commercial insurance (to \$4,785 from \$3,267) and Medicare (to \$5,414 from \$4,116) coverage alike in 2008.

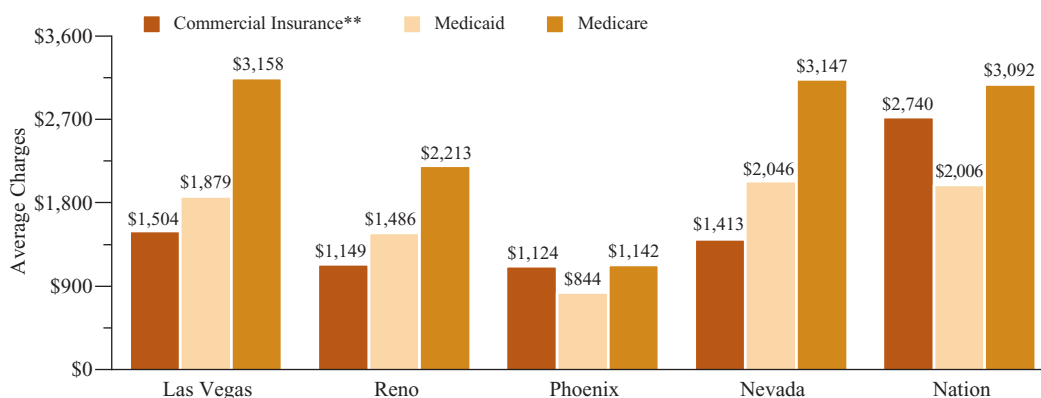
AVERAGE PROFESSIONAL OUTPATIENT CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS, BY PAYER TYPE*

MARKET	Commercial Insurance**		Medicaid		Medicare	
	2007	2008	2007	2008	2007	2008
Las Vegas	\$1,117	\$1,314	\$911	\$976	\$1,238	\$1,532
Reno	3,014	2,971	1,254	3,191	3,448	4,068
Phoenix	866	1,805	673	1,525	1,335	2,437
Nevada	1,227	1,520	879	1,689	2,301	3,549
NATION	\$1,797	\$1,934	\$1,388	\$1,421	\$1,676	\$1,720

PROFESSIONAL OP MEDICARE CHARGES GROW IN NEVADA

In 2008, average professional charges for services provided to Type 2 diabetes patients at outpatient settings across the state of Nevada grew, to \$3,549 from \$2,301 the year before. Of the local Nevada markets profiled, only Las Vegas (\$1,532) reported lower professional outpatient charges than the national average (\$1,720).

AVERAGE PROFESSIONAL OFFICE/CLINIC CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS, BY PAYER TYPE, 2008*



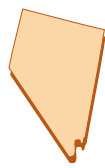
PHOENIX OFFICE CHARGES ARE LOW ACROSS THE BOARD

Professional office or clinic charges for services provided to Type 2 diabetes patients in the Phoenix MSA were lowest, by market, regardless of payer type in 2008. For example, such charges were \$844 for patients with Medicaid coverage, compared with \$2,006 nationwide in 2008.

Data source: SDI © 2009

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

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



USE OF SERVICES

NEVADA A1c TEST PATIENT SHARE TOPS THE NATIONAL SHARE

In 2008, 74.1% of Type 2 diabetes patients in the state of Nevada received at least one A1c test, down fractionally from 74.3% in 2007. The Nevada share exceeded the national average (73.8%) but was well below South Dakota (87.5%), the state leader.

SHARE OF PHOENIX PATIENTS RECEIVING EYE EXAMS TOPS 70%

More than two-thirds (71.1%) of Type 2 diabetes patients in the Phoenix area received at least one ophthalmologic exam in 2008, highest of the markets profiled but still well below the state leader, at 79.1%.

RENO TYPE 2 PATIENTS ARE IN CONTROL IN 2008

The share of Type 2 diabetes patients in Reno with A1c levels under 7.0% was 65.5% in 2008, up from 64.4% the year before and highest of the Nevada markets profiled. The share of such patients was higher than the national average (61.4%) but moderately lower than North Dakota (70.8%), the state leader.

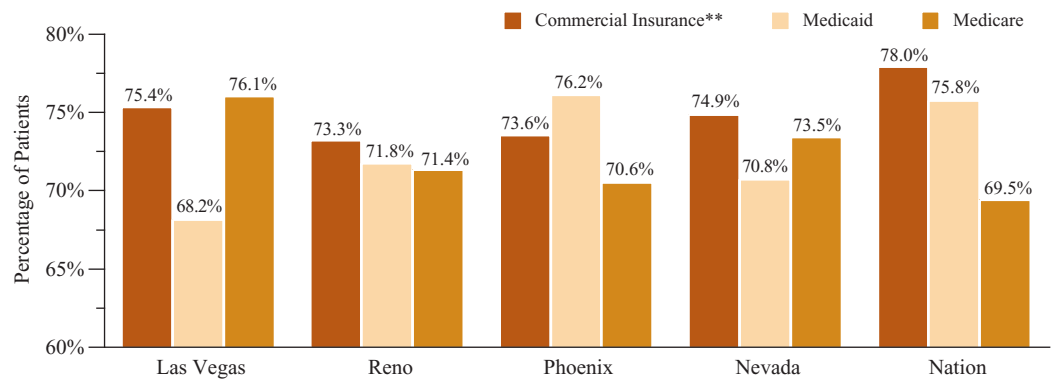
PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY SERVICE

MARKET	A1c Test*		Blood Glucose Test		Serum Cholesterol Test		Ophthalmologic Exam		Urine Glucose Test	
	2007	2008	2007	2008	2007	2008	2007	2008	2007	2008
Las Vegas	75.5%	75.5%	87.4%	87.2%	84.7%	85.1%	63.2%	63.7%	85.1%	85.3%
Reno	72.3	72.2	82.6	83.2	82.7	81.6	70.7	68.7	83.1	82.9
Phoenix	72.5	72.7	87.7	88.0	85.1	85.5	69.5	71.1	86.5	87.1
Nevada	74.3	74.1	85.2	85.3	83.0	83.1	63.9	63.9	83.9	83.7
NATION	73.8%	73.8%	86.6%	86.7%	83.8%	83.9%	69.2%	69.4%	83.3%	83.8%

PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY SERVICE: STATE LEADERS, 2008

State Leaders	A1c Test*	Blood Glucose Test	Serum Cholesterol Test	Ophthalmologic Exam	Urine Glucose Test
#1	SD: 87.5%	CT: 93.4%	DE: 91.3%	NH: 79.1%	CT: 95.0%
#2	MN: 85.7	NH: 92.6	NH: 89.7	MN: 78.7	NH: 93.0
#3	NE: 85.4	DE: 92.2	WI: 89.2	SD: 77.8	DE: 92.8

PERCENTAGE OF TYPE 2 DIABETES PATIENTS RECEIVING A1c TESTS, BY PAYER TYPE, 2008*



PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY A1c LEVEL RANGE*

MARKET	≤7.0%		7.1–7.9%		8.0–9.0%		>9.0%	
	2007	2008	2007	2008	2007	2008	2007	2008
Las Vegas	63.3%	64.1%	15.4%	15.1%	9.5%	9.0%	11.8%	11.8%
Reno	64.4	65.5	15.8	15.6	9.1	8.8	10.8	10.2
Phoenix	63.7	64.2	15.7	15.2	9.1	9.1	11.5	11.6
Nevada	63.2	64.0	15.7	15.4	9.4	9.0	11.7	11.6
NATION	61.1%	61.4%	17.4%	17.2%	9.8%	9.9%	11.7%	11.5%

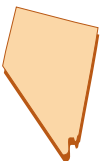
PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY A1c LEVEL RANGE: STATE LEADERS, 2008*

State Leaders	≤7.0%	7.1–7.9%	8.0–9.0%	>9.0%
#1	ND: 70.8%	RI: 17.8%	WV: 9.9%	HI, MD: 11.9%
#2	MT: 70.0	DE: 17.2	NJ: 9.6	TX: 11.8
#3	WY: 68.1	NJ: 16.9	MD, CO: 9.4	AK, MS, NV, NY: 11.6

* The A1c test measures the amount of glucose present 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.

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

Data source: SDI © 2009



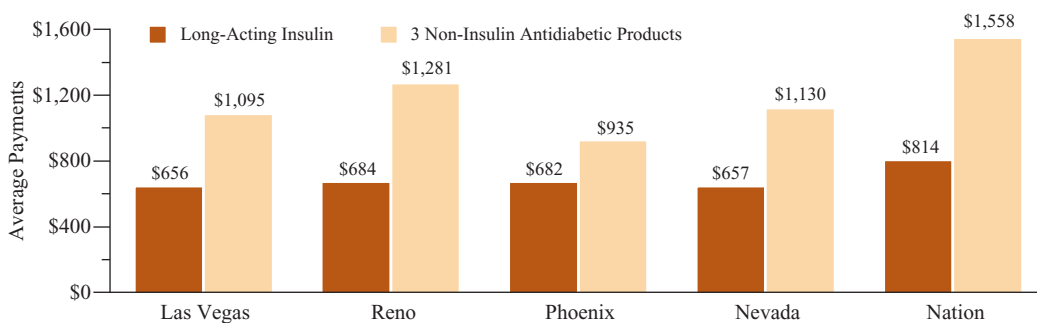
PERCENTAGE OF TYPE 2 DIABETES PATIENTS USING INSULIN THERAPIES

MARKET	Any Insulin Product		Intermediate-Acting Insulin		Long-Acting Insulin		Short-Acting Insulin		Mixed Insulin	
	2007	2008	2007	2008	2007	2008	2007	2008	2007	2008
Las Vegas	34.5%	33.8%	3.9%	3.6%	19.2%	19.3%	12.7%	12.5%	8.1%	7.7%
Reno	28.7	30.8	3.7	2.9	15.5	18.1	12.4	14.2	6.2	5.4
Phoenix	35.5	33.5	5.4	4.0	18.7	19.6	15.3	14.5	7.5	7.1
Nevada	34.0	33.8	4.0	3.6	18.7	19.2	12.7	12.8	7.9	7.6
NATION	35.6%	36.4%	4.7%	4.0%	19.1%	21.2%	15.2%	16.1%	8.9%	8.5%
#1 State, 2008	AK: 40.8%		SD: 8.2%		KS: 27.3%		KS: 24.3%		AL: 13.1%	

PERCENTAGE OF TYPE 2 DIABETES PATIENTS USING NON-INSULIN ANTIDIABETIC THERAPIES

MARKET	Any Non-Insulin Antidiabetic Product		Biguanides		Sulfonylureas		Insulin Sensitizing Agents	
	2007	2008	2007	2008	2007	2008	2007	2008
Las Vegas	80.7%	81.2%	48.4%	49.6%	37.0%	36.5%	22.8%	19.0%
Reno	84.8	83.9	56.9	58.5	35.0	30.8	25.6	19.6
Phoenix	82.4	83.6	55.8	57.9	37.7	38.7	23.2	17.3
Nevada	80.8	85.9	49.1	47.1	36.4	34.2	22.8	20.8
NATION	84.8%	85.1%	52.5%	54.8%	39.5%	39.6%	26.0%	20.8%
#1 State, 2008	CA: 86.8%		OR: 61.7%		RI: 43.0%		CA: 24.1%	

AVERAGE PAYMENTS PER TYPE 2 DIABETES PATIENT PER YEAR, BY TYPE OF THERAPY, 2008*



PERSISTENCY: LONG-ACTING INSULIN, 2008

	Mo. 1	Mo. 2	Mo. 3	Mo. 4	Mo. 5	Mo. 6	Mo. 7	Mo. 8	Mo. 9	Mo. 10	Mo. 11	Mo. 12
Long-Acting Insulin												
Las Vegas	100.0%	75.2%	76.4%	74.3%	73.4%	72.2%	74.3%	74.9%	73.4%	73.4%	72.5%	70.2%
Reno	100.0	75.0	76.6	75.0	78.1	75.0	75.0	73.4	71.9	73.4	70.3	68.8
Short-Acting Insulin												
Las Vegas	100.0%	68.1%	67.6%	67.1%	63.4%	64.3%	65.7%	62.4%	62.4%	62.9%	63.4%	58.2%
Reno	100.0	62.5	62.5	62.5	62.5	67.5	67.5	67.5	60.0	52.5	67.5	60.0
Sulfonylureas												
Las Vegas	100.0%	86.9%	87.4%	82.4%	81.2%	79.3%	76.6%	74.5%	73.4%	71.5%	70.6%	69.4%
Reno	100.0	89.2	92.3	86.2	84.6	83.9	83.9	80.8	78.5	76.2	75.4	77.7
Biguanides												
Las Vegas	100.0%	86.9%	87.5%	85.4%	83.9%	82.6%	81.1%	79.5%	77.9%	77.1%	76.4%	75.2%
Reno	100.0	91.4	92.2	86.4	84.4	84.0	83.1	80.3	79.0	79.8	79.8	81.1

Data source: SDI © 2009

LONG-ACTING INSULIN PATIENT SHARE IS LOW IN NV

In 2008, 19.2% of Type 2 diabetes patients in the state of Nevada received a prescription for long-acting insulin, up from 18.7% in 2007 but still below the national (21.2%) and state leader (27.3%) averages.

Between the two local Nevada MSAs profiled for persistency, a greater share of Las Vegas patients was persistent, at month 12, than their Reno counterparts (70.2% vs. 68.8%) in 2008.

NEVADA NON-INSULIN PATIENT SHARE RISES

After a notable increase, to 85.9% in 2008 from 80.8% in 2007, the share of Type 2 diabetes patients in Nevada who received a prescription for a non-insulin anti-diabetic product topped the national average of 85.1% (up from 84.8% a year earlier). The Nevada average was moderately lower than the mark set by California (86.8%), the state leader.

* Figures reflect the per-patient yearly costs for Type 2 diabetes patients receiving a particular type of therapy.

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.

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.

Sulfonylureas

Stimulate the release of insulin in the pancreas.



STROKE: PATIENT DEMOGRAPHICS

NEVADA SHARE OF STROKE PATIENTS 65 TO 74 TOPS NATION

In 2007, 31.6% of patients who were diagnosed with stroke in the state of Nevada were between 65 and 74 years of age, moderately higher than the national average of 28.1%. By comparison, the share of Nevada stroke patients who were at least 75 years of age was 41.8% in 2007, more than five percentage points below the nation, at 46.9%.

RENO MEDICARE PAYER PATIENT SHARE DECLINES

The share of stroke patients in the Reno local market who were covered by Medicare fell, to 63.0% in 2007 from 68.5% in 2006. In spite of the percentage decline, the Medicare payer coverage share in Reno remained highest of the four markets profiled by a wide margin. By comparison, 45.7% of stroke patients in Phoenix and 52.8% across the state were covered by Medicare.

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

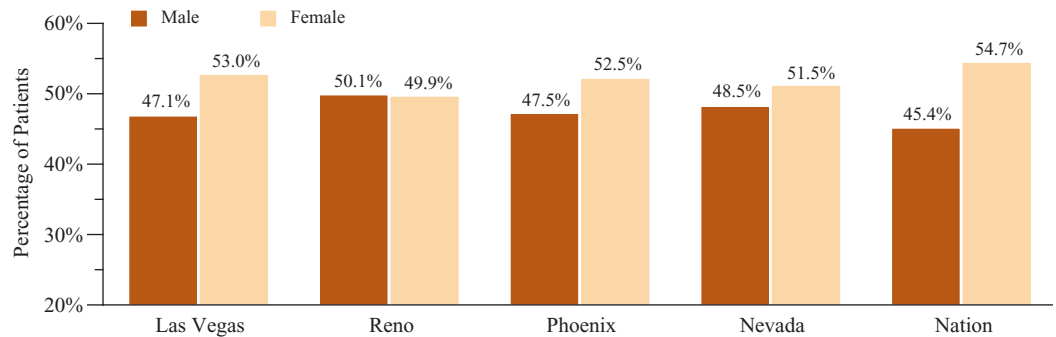
** "Other payer" includes government, Department of Veterans Affairs and others.

NOTE: All percentages are representative of the universe of stroke patients on whom claims data have been collected in a given year. Percentages may not sum to 100% due to rounding.

PERCENTAGE OF STROKE PATIENTS, BY AGE GROUP, 2007

MARKET	0-44	45-54	55-64	65-74	75+
Las Vegas	2.3%	6.2%	16.8%	32.5%	42.2%
Reno	1.5	4.2	15.2	32.3	46.9
Phoenix	2.4	5.8	16.7	27.7	47.4
Nevada	2.2	6.5	17.9	31.6	41.8
NATION	1.9%	6.5%	16.7%	28.1%	46.9%

PERCENTAGE OF STROKE PATIENTS, BY GENDER, 2007

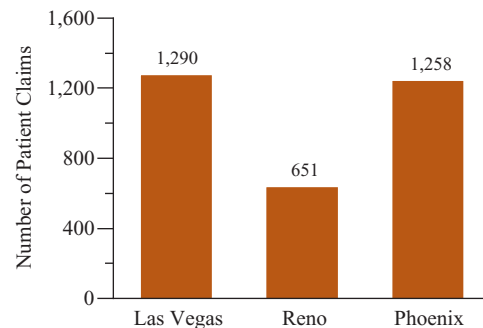


PERCENTAGE OF STROKE PATIENTS, BY PAYER TYPE

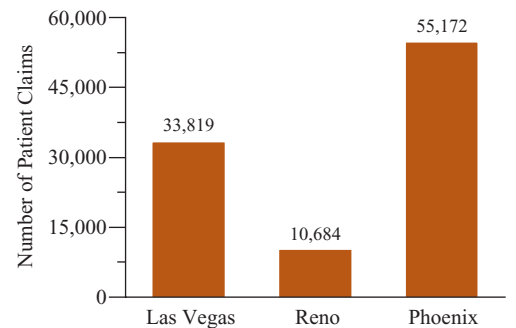
MARKET	Commercial Insurance*		Medicaid		Medicare		Other Payer**	
	2006	2007	2006	2007	2006	2007	2006	2007
Las Vegas	48.3%	42.0%	3.1%	3.0%	46.0%	52.2%	2.6%	2.7%
Reno	25.7	32.2	3.4	2.2	68.5	63.0	1.5	2.0
Phoenix	46.7	44.2	2.4	4.5	47.6	45.7	3.3	5.7
Nevada	45.6	41.2	3.2	2.8	48.5	52.8	2.6	3.1
NATION	35.5%	36.7%	4.0%	4.4%	57.2%	55.3%	3.2%	3.4%

NUMBER OF PATIENT CLAIMS

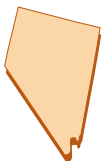
STROKE, 2007



TYPE 2 DIABETES, 2008



Data source: SDI © 2009



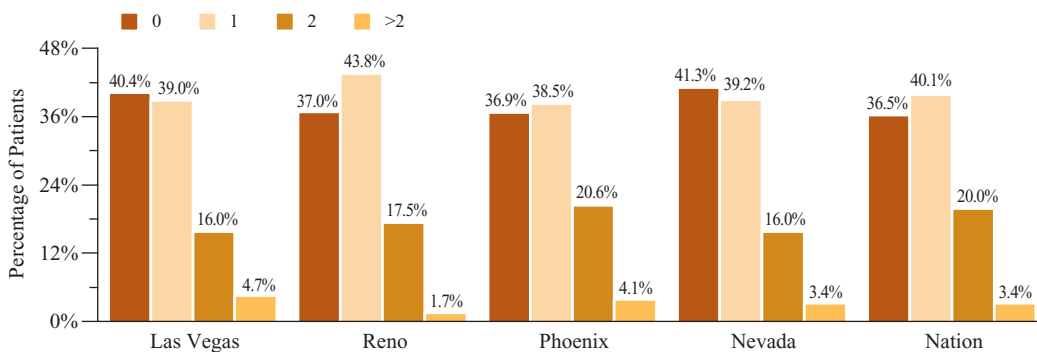
PERCENTAGE OF STROKE PATIENTS, BY LOCATION OF DIAGNOSIS

MARKET	Primary Care ¹		Internal Medicine		Cardiology		Other Specialty ²	
	2006	2007	2006	2007	2006	2007	2006	2007
Las Vegas	36.8%	34.7%	11.8%	14.0%	6.1%	7.7%	45.2%	43.3%
Reno	13.9	13.7	4.0	3.9	38.9	37.3	41.9	44.5
Phoenix	21.9	19.8	9.8	10.4	8.2	7.2	60.2	62.6
Nevada	31.9	27.8	7.0	6.6	13.9	17.3	47.2	47.9
NATION	26.6%	25.2%	10.9%	10.3%	12.3%	12.1%	50.1%	52.5%

NEVADA CARDIOLOGY DIAGNOSIS PATIENT SHARE TOPS NATION

Of patients diagnosed with stroke in either calendar year 2006 or 2007, 17.3% received the diagnosis from a cardiologist, up strikingly from 13.9% in 2006. By comparison, 12.1% of stroke patients nationwide received a diagnosis from a cardiologist, down fractionally from 12.3% in 2006.

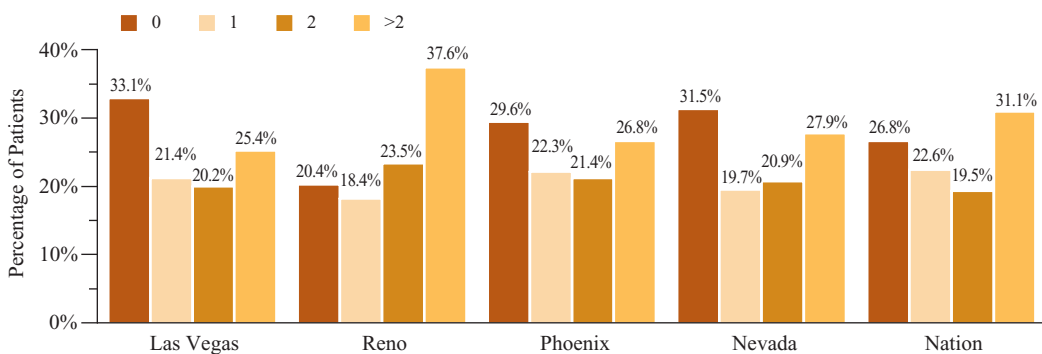
PERCENTAGE OF STROKE PATIENTS, BY NUMBER OF COMPLICATIONS, 2007³



2+ COMPLICATIONS RENO PATIENT SHARE IS RELATIVELY LOW

The share of stroke patients in the Reno area who were diagnosed with more than two complications from the disease was 1.7%, lowest of the local Nevada markets profiled and only half the statewide share (3.4%). Conversely, 37.6% of Reno stroke patients were also diagnosed with more than two comorbid conditions in 2007, highest of markets profiled, by a wide margin.

PERCENTAGE OF STROKE PATIENTS, BY NUMBER OF COMORBIDITIES, 2007⁴



¹ “Primary Care” includes Family Practice and General Practice.
² “Other specialty” includes emergency medicine, endocrinology, OB/gyn, ophthalmology, pulmonary and others.
³ A complication is defined as a patient condition caused by the stroke. These conditions are a direct result of having a stroke. Complications of stroke include, but are not limited to, heart attack, hypertensive retinopathy, ischemic stroke, kidney failure and ventricular hypertrophy.
⁴ A comorbidity is a condition a stroke patient may also have, which is not directly related to the stroke. Comorbidities were narrowed down to a subset of conditions typically present in patients with stroke. Comorbidities of stroke may include, but are not limited to, congestive heart failure, hypertension, nephrolithiasis and obesity.

Data source: SDI © 2009



STROKE: PHARMACOTHERAPY

NV ANTIPLATELET USE PATIENT SHARE EXCEEDS THE NATION

The share of patients in Nevada who were diagnosed with stroke in calendar year 2006 or 2007 and were using antiplatelet therapy was 64.8%, slightly higher than the national average of 62.6%. By comparison, the share of Nevada stroke patients was lower than the national average for patients using antiplatelet combinations (7.3% vs. 9.9%) but identical to the share using anticoagulants (41.4%).

ANTICOAGULANT PAYMENTS ARE LOW IN PHOENIX MSA

Average annual payments for stroke patients using anticoagulants was lowest, by market, in the Phoenix area, regardless of payer type. For example, such payments were \$71 for patients with Medicaid coverage, compared with \$114 statewide and \$120 nationwide in 2007.

* Figures reflect the per-patient yearly costs for stroke patients receiving a particular type of therapy.

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

NOTE: Therapy percentages are representative of those patients with a diagnosis of stroke in the most recent two years, who filled prescriptions within each drug category in the reporting year.

Anticoagulants: Drugs that suppress, delay, or prevent blood clots. Anticoagulants are used to treat embolisms.

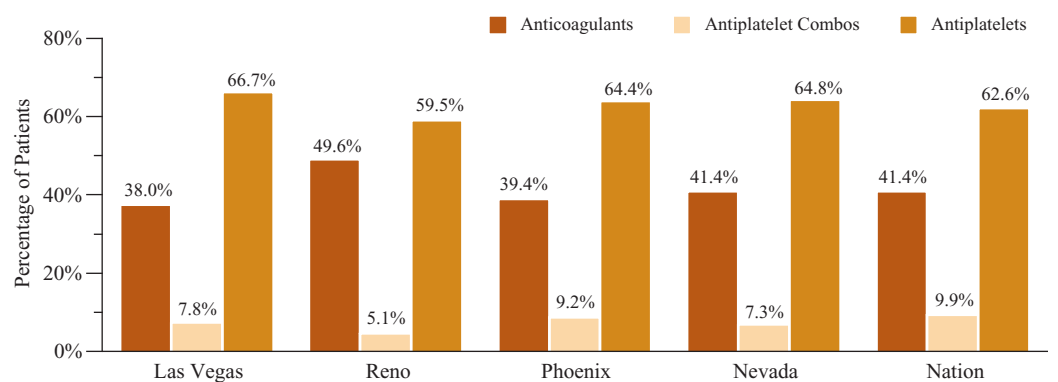
Antiplatelets: Drugs that inhibit platelets from aggregating to form a plug. They are used to prevent clotting and alter the natural course of atherosclerosis.

Definition Source: Encarta® Online Encyclopedia © 2009

STROKE PATIENTS USING VARIOUS THERAPIES, 2007

MARKET	Anticoagulants		Antiplatelet Combinations		Antiplatelets	
	Percentage of Patients	Avg. Payments per Patient*	Percentage of Patients	Avg. Payments per Patient*	Percentage of Patients	Avg. Payments per Patient*
Las Vegas	38.0%	\$113	7.8%	\$625	66.7%	\$815
Reno	49.6	126	5.1	798	59.5	885
Phoenix	39.4	111	9.2	732	64.4	839
Nevada	41.4	120	7.3	662	64.8	840
NATION	41.4%	\$125	9.9%	\$711	62.6%	\$770

PERCENTAGE OF STROKE PATIENTS USING VARIOUS THERAPIES, 2007



PERCENTAGE OF STROKE PATIENTS USING VARIOUS THERAPIES, BY PAYER TYPE, 2007

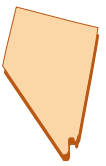
MARKET	Anticoagulants			Antiplatelet Combos			Antiplatelets		
	Com'l. Ins.**	Medicaid	Medicare	Com'l. Ins.**	Medicaid	Medicare	Com'l. Ins.**	Medicaid	Medicare
Las Vegas	38.7%	23.8%	38.5%	8.4%	—	7.0%	65.5%	82.5%	62.8%
Reno	46.9	—	50.0	4.3	—	—	58.5	—	52.5
Phoenix	36.7	35.8	49.3	8.6	—	10.7	64.1	71.6	51.9
Nevada	41.4	31.8	41.0	7.4	—	5.9	63.1	77.3	60.8
NATION	41.3%	25.3%	43.5%	10.1%	5.7%	9.4%	59.7%	80.0%	58.9%

AVERAGE ANNUAL PAYMENTS FOR STROKE PATIENTS USING VARIOUS THERAPIES, BY PAYER TYPE, 2007*

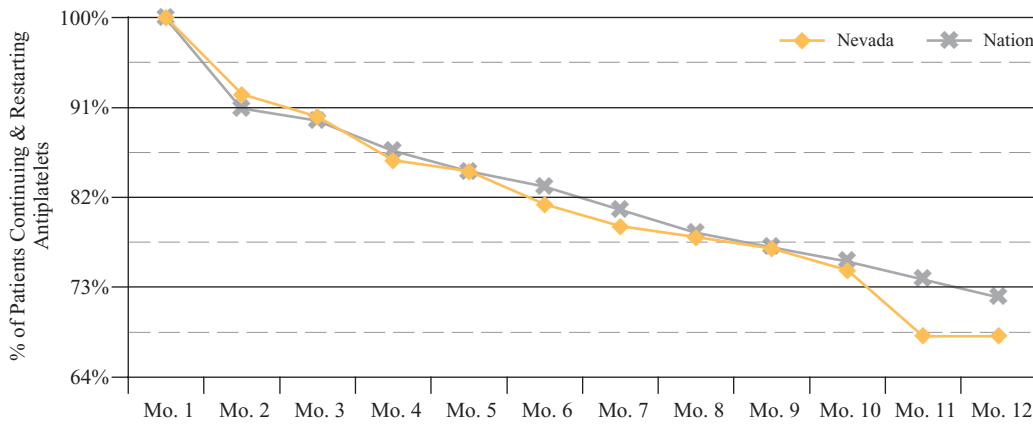
MARKET	Anticoagulants			Antiplatelets			Antiplatelet Combos		
	Com'l. Ins.**	Medicaid	Medicare	Com'l. Ins.**	Medicaid	Medicare	Com'l. Ins.**	Medicaid	Medicare
Las Vegas	\$105	\$111	\$103	\$758	\$661	\$782	\$625	—	\$551
Reno	119	—	88	844	—	753	560	—	—
Phoenix	110	71	82	849	688	645	757	—	458
Nevada	112	114	104	788	656	803	621	—	692
NATION	\$117	\$120	\$111	\$764	\$390	\$759	\$675	\$660	\$680

Data source: SDI © 2009

STROKE: PERSISTENCY



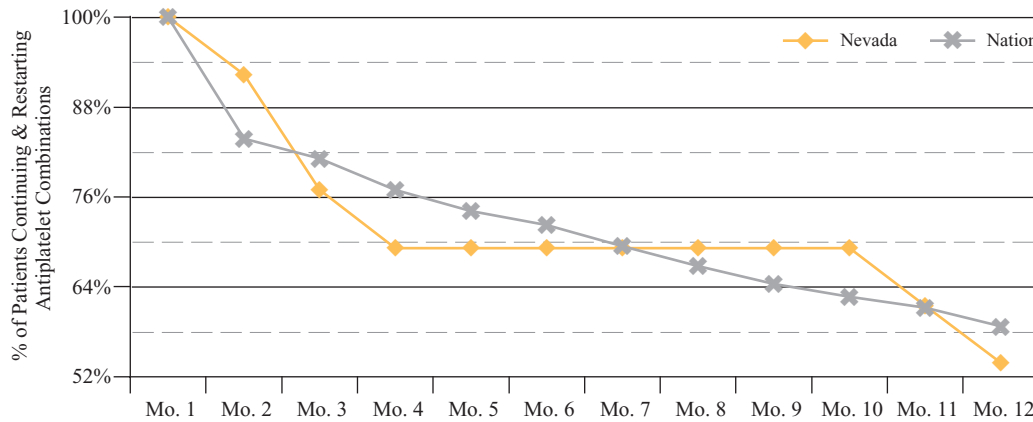
PERSISTENCY: ANTIPLATELETS, 2007



NV ANTIPLATELET PERSISTENCY TRAILS THE NATION IN 2007

The share of stroke patients in the state of Nevada who received a prescription for antiplatelets in either calendar year 2006 or 2007 and remained persistent at month 12 of therapy was 68.1%, noticeably lower than the national share of 72.0%. Nevada recorded a notably greater percentage of stroke patients who were still persistent at month 2 of therapy (92.3% vs. 90.9%) than the nationwide share.

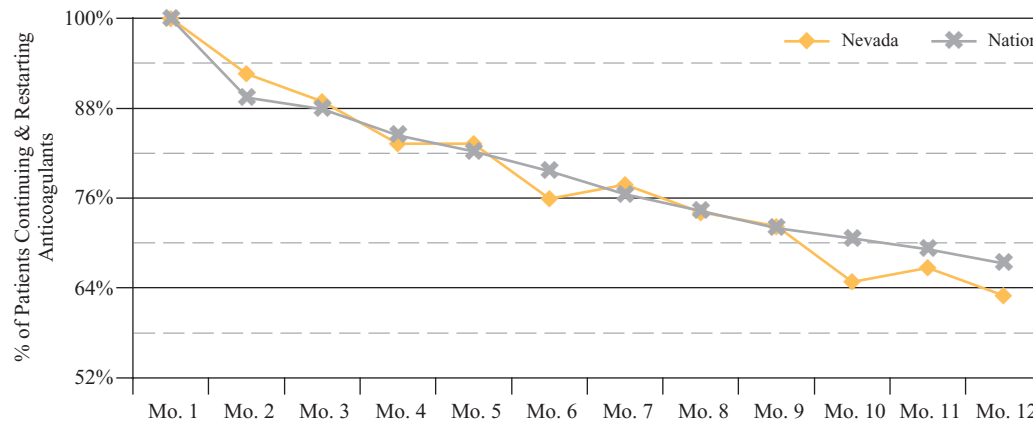
PERSISTENCY: ANTIPLATELET COMBINATIONS, 2007



NV ANTIPLATELET COMBO PERSISTENCY RATE PLUNGES IN M12

After holding steady at 69.2% from months 4 through 10 of therapy, the share of stroke patients in Nevada who received a prescription for antiplatelet combination therapy in either calendar year 2006 or 2007 and were persistent at month 12 fell to 53.9%.

PERSISTENCY: ANTICOAGULANTS, 2007



NOTE: "Persistency" measures whether patients maintain their prescribed therapy. It is calculated by identifying patients who filled a prescription for the reported drug class in the four months prior to the reported year, and then tracking prescription fills for those same patients in each of the months in the current reported year. If a patient fills a prescription in a month they are reported among the patients who have continued or restarted on therapy. Continued means that the patient has filled the drug group in each of the preceding months. Restart means that the patient did not fill in one or more of the preceding months. Continuing and restart patients are reported together.

Persistency data are unavailable for the Las Vegas, Reno and Phoenix MSAs.

Data source: SDI © 2009



Nevada Health Care Coalition
 300 E. Second Street, Suite 1520
 Reno, NV 89501

Leading the way to quality health care in our community...

www.nhccreno.org

The Nevada Health Care Coalition is a partnership between public and private sectors formed for the primary purpose of improving the total community's understanding and acceptance of cost-effective delivery and utilization of medical services through educational programs and seminars. The Coalition also focuses on the creation of purchasing initiatives designed to reduce the cost of health care, for the benefit of employers, employees and the community as a whole.

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 Jacob's Entertainment (Gold Dust West)
 John Ascuaga's Nugget
 NV Energy (Formerly Sierra Pacific Power Co.)
 Peppermill Resort Spa Casino
 Reno Tahoe Airport Authority
 Scolari's Food and Drug Company
 Washoe County
 Washoe County School District

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.

NEVADA TYPE 2 DIABETES AND STROKE REPORT 2009

The Nevada Health Care Coalition and Health Innovations, in conjunction with sanofi-aventis U.S. LLC, are pleased to bring you the third edition of the **Nevada Type 2 Diabetes and Stroke Report**.

The report features key national, state and local level Type 2 diabetes and stroke data from the sanofi-aventis **Managed Care Digest Series**®.

- Demographics
- Hospital and Professional Charges
- Use of Services
- Pharmacotherapy

We look forward to providing you with another **Nevada Type 2 Diabetes and Stroke Report** in 2010.

