

# Florida Type 2 Diabetes Report | 2015

*With a Focus on Demographic, Utilization, Charge and Pharmacotherapy Data*



**SANOFI**

in partnership with the



*3rd Edition*

## CONTENTS

Patient Demographics .....	3-4
Use of Services .....	5
ALOS/Inpatient Charges .....	6
Professional Charges .....	7-8
Pharmacotherapy .....	9-10
Persistency/Readmissions.....	11
ADA/EASD Position Statement .....	12



Provided by  
Sanofi U.S.  
Bridgewater, NJ

Developed and produced by  
Forte Information Resources LLC  
Denver, CO

[www.forteinformation.com](http://www.forteinformation.com)

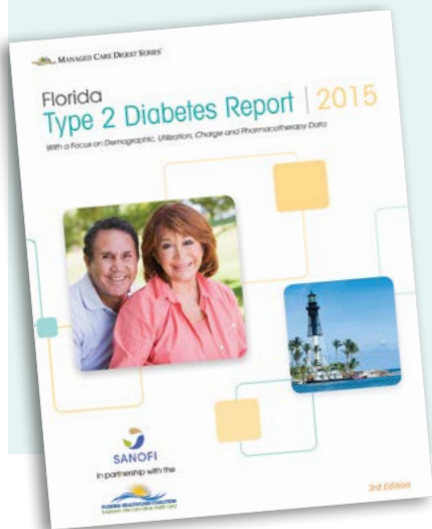
Data provided by  
IMS Health  
Parsippany, NJ

[www.managedcaredigest.com](http://www.managedcaredigest.com)

## CONTACTS

**Steve Montgomery** 407-587-5106  
Account Executive, Sanofi U.S.  
[Steven.Montgomery@Sanofi.com](mailto:Steven.Montgomery@Sanofi.com)

**Gary Behrens** 815-483-6359  
Account Executive, Sanofi U.S.  
[Gary.Behrens@Sanofi.com](mailto:Gary.Behrens@Sanofi.com)



## Introduction

Sanofi U.S. (Sanofi), in conjunction with the Florida Health Care Coalition, is pleased to present the third edition of the **Florida Type 2 Diabetes Report** for 2015, an overview of key demographic, utilization, charge and pharmacotherapy measures for Type 2 diabetes patients in key local markets in Florida. The report also provides state and national benchmarks that can help providers and employers identify opportunities to better serve the needs of their patients. All data are drawn from the Sanofi **Managed Care Digest Series®**.

Sanofi, as sponsor of this report, maintains an arm’s-length relationship with the organizations that prepare this report and carry out the research. The desire of Sanofi is that the information in this report be completely independent and objective.

This report features a number of examples of patient-level, disease-specific data on Type 2 diabetes that can be provided using the **Managed Care Digest Series®** as a resource. Type 2 diabetes (a chronic disease marked by high levels of glucose in the blood) was chosen as the focus of this resource, as the Centers for Disease Control estimates that 90% to 95% of all Americans with diabetes—translating to approximately 5% of the U.S. population—have the Type 2 variety.

Unless otherwise noted, all data in this report (covering 2011 through 2014) were gathered by IMS Health, Parsippany, NJ, a leading provider of innovative health care data products and analytic services. The data provide employers with independent, third-party information against which they benchmark their own data on patient demographics, professional and facility charges, service utilization and pharmacotherapy.

## Methodology

IMS Health generated data for this **Managed Care Digest Series®** report using mostly health care professional and institutional insurance claims, representing more than 8 million unique Type 2 diabetes patients nationally in 2014 with a diagnosis in the 250.00–250.92 range. Data from physicians of all specialties and from all hospital types are included.

Per-case average length of stay and inpatient charge data come from IMS Health’s *Hospital Procedure/Diagnosis (HPD)* Database. This database contains an extensive set of hospital inpatient and outpatient discharge records, including actual diagnoses and procedures for about 75% of discharges nationwide (including 100% of Medicare-reimbursed discharges).

IMS Health also gathers data on prescription activity from the National Council for Prescription Drug Programs (NCPDP). These data account for some 2 billion prescription claims annually, or more than 70% 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. Cash, mail-order, Medicaid and third-party transactions are tracked.

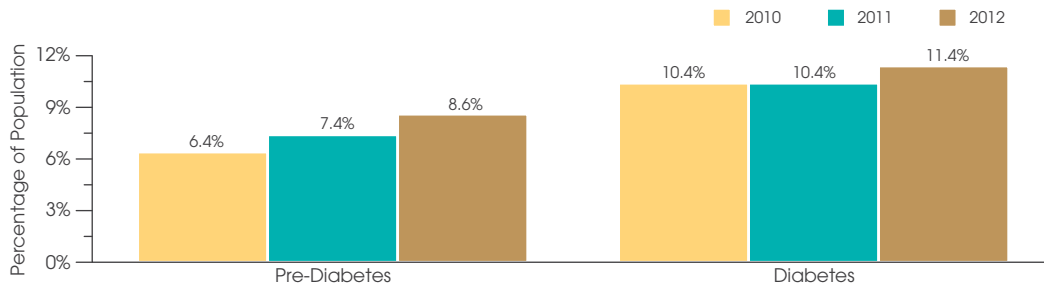
### DATA INTEGRITY

Data arriving into IMS Health 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.

Through its patient encryption methods, IMS Health creates a unique, random numerical identifier for each patient, then strips away all patient-specific health information that is protected under the Health Insurance Portability and Accountability Act (HIPAA). The identifier allows IMS Health to track disease-specific diagnosis and procedure activity across the various settings where patient care is provided.

# PATIENT DEMOGRAPHICS

## PERCENTAGE OF FLORIDA POPULATION SELF-REPORTING PRE-DIABETES AND DIABETES



Data source: Centers for Disease Control and Prevention (CDC), Behavioral Risk Factor Surveillance System Survey Data, Atlanta, Georgia; U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, 2015

## PRE-DIABETIC AND DIABETIC PORTIONS OF FLORIDIANS GROW OVER THREE YEARS

From 2010 to 2012, the percentages of Florida individuals who self-reported a pre-diabetes diagnosis or were diagnosed with diabetes rose. As of 2012, 8.6% of surveyed Floridians indicated they had been told by a doctor that they were pre-diabetic, and 11.4% were diagnosed with diabetes.

## DISTRIBUTION OF TYPE 2 DIABETES PATIENTS, BY AGE<sup>1</sup>

MARKET	0-17		18-35		36-64		65-79		80+	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Brevard County	0.3%	0.4%	2.0%	2.1%	39.4%	38.9%	42.2%	42.7%	16.1%	15.9%
Fort Lauderdale	0.5	0.5	2.4	2.2	41.0	37.0	40.0	42.3	16.2	17.9
Lakeland	0.2	0.3	2.2	2.5	42.7	42.6	42.9	42.6	12.0	12.1
Miami	0.4	0.5	1.8	2.0	35.0	34.6	44.9	44.4	17.9	18.6
Orlando	0.3	0.4	2.3	2.4	43.3	42.8	41.5	41.7	12.6	12.8
West Palm Beach	0.3	0.4	2.1	2.1	35.8	35.9	41.0	41.0	20.9	20.6
Florida	0.3	0.4	2.2	2.2	39.4	39.0	42.6	42.7	15.6	15.7
<b>NATION</b>	<b>0.4%</b>	<b>0.5%</b>	<b>2.9%</b>	<b>2.9%</b>	<b>45.4%</b>	<b>45.1%</b>	<b>38.1%</b>	<b>38.4%</b>	<b>13.2%</b>	<b>13.2%</b>

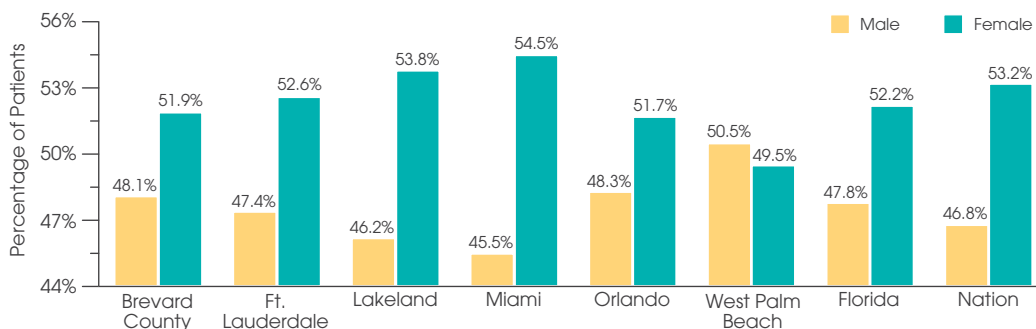
## AGE 65+ PORTION OF FLORIDA TYPE 2 DIABETES PATIENTS GROWS, TOPS THAT OF U.S.

In 2014, 58.4% of Type 2 diabetes patients in Florida were age 65 or over, a fractional increase from 58.2% the prior year, and nearly seven percentage points higher than that of the nation (51.6%). West Palm Beach reported the largest percentage of Type 2 diabetes patients age 80 and over that year, at 20.6%. The percentages of Florida Type 2 diabetes patients diagnosed by internists (16.1%), endocrinologists (4.3%) or cardiologists (11.6%) in 2014 all exceeded those of the nation.

## PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY DIAGNOSING SPECIALIST<sup>1</sup>

MARKET	Location of Patient's Type 2 Diabetes Diagnosis							
	Primary Care <sup>2</sup>		Internal Medicine		Endocrinology		Cardiology	
	2013	2014	2013	2014	2013	2014	2013	2014
Brevard County	14.4%	14.0%	17.0%	17.5%	3.8%	4.7%	10.7%	10.4%
Fort Lauderdale	10.9	11.0	16.5	16.2	4.3	3.5	11.1	11.1
Lakeland	13.4	13.6	17.6	18.9	3.8	3.4	11.4	11.7
Miami	10.9	11.4	18.1	17.4	3.2	3.4	12.8	13.2
Orlando	16.7	16.4	15.5	15.6	5.0	5.4	12.5	11.9
West Palm Beach	9.2	9.2	19.1	19.3	6.9	6.4	12.3	11.4
Florida	14.4	14.4	16.1	16.1	4.4	4.3	11.6	11.6
<b>NATION</b>	<b>15.3%</b>	<b>15.5%</b>	<b>14.9%</b>	<b>14.7%</b>	<b>3.4%</b>	<b>3.5%</b>	<b>10.3%</b>	<b>9.9%</b>

## DISTRIBUTION OF TYPE 2 DIABETES PATIENTS, BY GENDER, 2014<sup>1</sup>



<sup>1</sup> On all pages, the percentages are representative of the universe of Type 2 diabetes patients for whom claims data have been collected in a given year.

<sup>2</sup> "Primary care" consists of both general and family practitioners.

NOTE: Throughout this report, the Brevard County market includes Melbourne, Titusville and Palm Bay, and the Lakeland market includes Winter Haven.

Data source: IMS Health © 2015

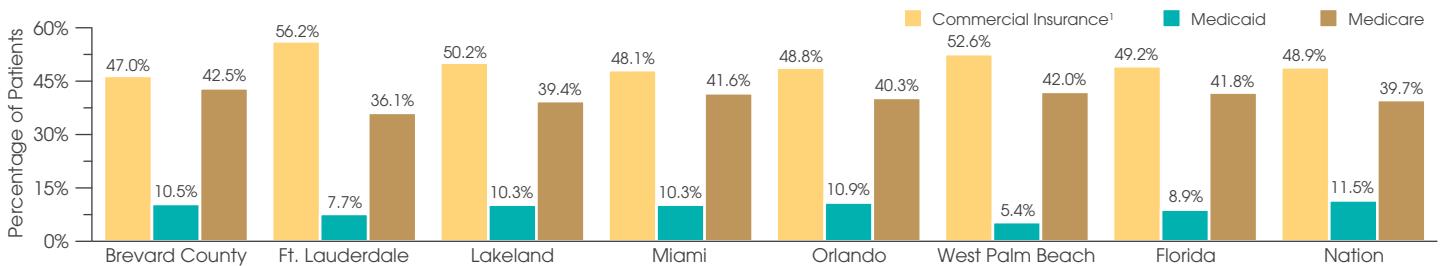
## COMMERCIALLY INSURED SHARE OF FLORIDA TYPE 2 DIABETES PATIENTS EXPANDS

In contrast with a downward national trend, the portion of Florida Type 2 diabetes patients with commercial coverage rose slightly from 2013 (48.7%) to 2014 (49.2%). The Medicare share of such Florida patients declined, but remained higher than that of the nation in 2014.

PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY PAYER

MARKET	Commercial Insurance <sup>1</sup>		Medicaid		Medicare	
	2013	2014	2013	2014	2013	2014
Brevard County	46.5%	47.0%	10.5%	10.5%	43.0%	42.5%
Ft. Lauderdale	58.1	56.2	7.2	7.7	34.7	36.1
Lakeland	49.3	50.2	11.3	10.3	39.4	39.4
Miami	47.8	48.1	9.2	10.3	43.0	41.6
Orlando	48.3	48.8	10.3	10.9	41.4	40.3
West Palm Beach	53.3	52.6	5.5	5.4	41.2	42.0
Florida	48.7	49.2	8.8	8.9	42.6	41.8
<b>NATION</b>	<b>49.2%</b>	<b>48.9%</b>	<b>10.4%</b>	<b>11.5%</b>	<b>40.5%</b>	<b>39.7%</b>

PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY PAYER, 2014



## COMPLICATION RATES ARE HIGHER IN FL THAN THE U.S. FOR TYPE 2 DIABETES PATIENTS

Type 2 diabetes patients in Florida were more prone than their national counterparts to be diagnosed with complications of cardiovascular disease, neuropathy or nephropathy in 2014. Such Florida patients were also more apt to have more than two complications (29.0% versus 21.4%). Nearly one in six Type 2 diabetes patients in Lakeland had a complication of hypoglycemia in 2014, nearly double the U.S. rate of 8.8%.

PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY NUMBER OF COMPLICATIONS<sup>2</sup>

MARKET	0		1		2		>2	
	2013	2014	2013	2014	2013	2014	2013	2014
Brevard County	54.1%	53.4%	15.8%	15.4%	9.2%	9.4%	21.0%	21.8%
Ft. Lauderdale	48.1	45.7	14.3	14.3	9.1	9.4	28.5	30.6
Lakeland	47.3	41.9	14.3	14.1	9.3	9.5	29.1	34.5
Miami	49.3	46.6	16.4	16.0	9.5	9.8	24.9	27.6
Orlando	47.9	46.2	14.4	14.1	9.6	9.5	28.1	30.2
West Palm Beach	47.2	46.2	15.4	15.0	9.6	9.7	27.8	29.1
Florida	48.0	46.7	15.2	14.8	9.6	9.6	27.2	29.0
<b>NATION</b>	<b>55.0%</b>	<b>54.3%</b>	<b>15.6%</b>	<b>15.5%</b>	<b>8.8%</b>	<b>8.9%</b>	<b>20.6%</b>	<b>21.4%</b>

PERCENTAGE OF TYPE 2 DIABETES, BY TYPE OF COMPLICATION, 2014<sup>2</sup>

MARKET	Cardiovascular Disease	Neuropathy	Nephropathy	Retinopathy	Hypoglycemia
Brevard County	58.6%	35.6%	36.1%	14.8%	6.3%
Ft. Lauderdale	58.0	40.4	39.6	18.1	10.3
Lakeland	60.3	42.5	36.9	18.5	15.9
Miami	63.8	40.3	35.0	18.1	9.9
Orlando	62.6	36.5	41.9	14.5	8.8
West Palm Beach	63.4	37.3	35.8	15.7	6.1
Florida	61.9	38.0	37.9	15.8	8.6
<b>NATION</b>	<b>56.2%</b>	<b>34.3%</b>	<b>32.9%</b>	<b>18.2%</b>	<b>8.8%</b>

<sup>1</sup> Includes HMOs, PPOs, point-of-service plans and exclusive provider organizations.

<sup>2</sup> 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, cardiovascular disease, hypoglycemia, nephropathy, neuropathy and retinopathy.

Data source: IMS Health © 2015

# USE OF SERVICES

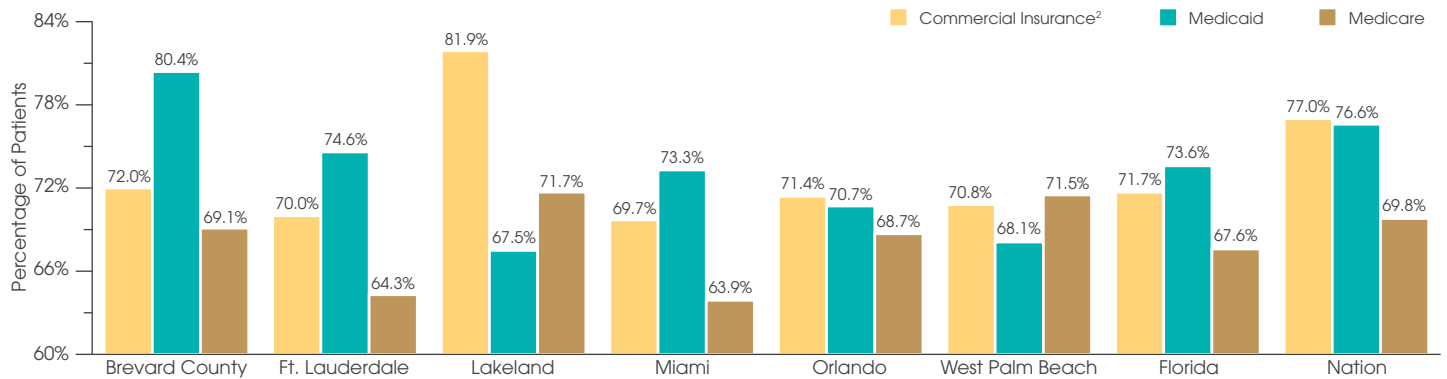
PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY SERVICE

MARKET	A1c Test <sup>1</sup>		Blood Glucose Test		Serum Cholesterol Test		Ophthalmologic Exam		Urine Glucose Test	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Brevard County	71.2%	70.6%	85.3%	85.8%	82.3%	82.9%	72.8%	73.2%	83.5%	83.6%
Ft. Lauderdale	67.8	68.1	84.3	84.4	82.1	82.4	74.3	74.9	82.6	82.7
Lakeland	76.1	76.5	88.7	88.7	86.6	87.2	74.5	72.7	84.6	85.0
Miami	67.7	67.1	84.5	84.9	81.7	81.8	72.6	73.8	82.6	82.9
Orlando	69.4	70.1	85.4	85.7	82.4	82.6	72.1	72.1	84.5	84.3
West Palm Beach	71.2	71.0	87.2	86.9	84.3	84.3	74.6	74.2	84.5	84.6
Florida	70.2	69.9	85.7	85.6	82.8	82.9	73.6	73.6	83.8	83.7
NATION	74.2%	73.9%	86.8%	86.7%	84.3%	84.4%	69.6%	69.7%	84.0%	83.9%

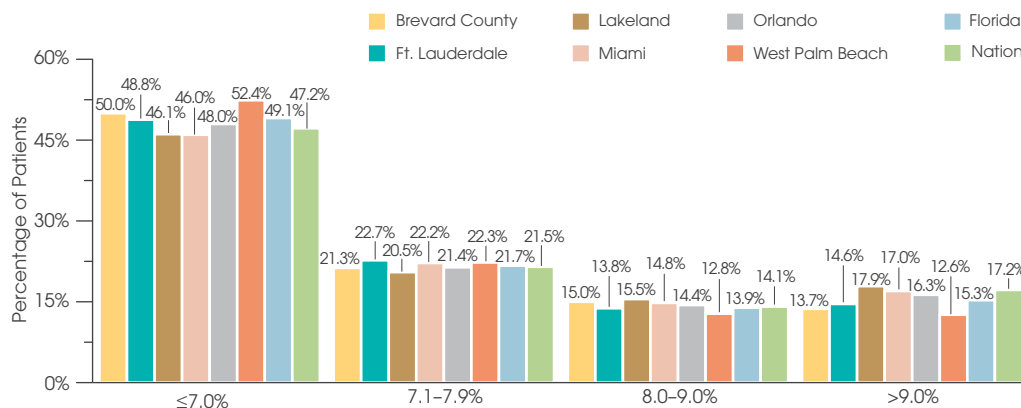
## A1c AND BLOOD GLUCOSE TESTING RATES FOR FL TYPE 2 DIABETES PTS. LAG NATION'S

The portions of Florida Type 2 diabetes patients who received either an A1c or blood glucose test remained below those of the nation in 2014. Just under 70% of such patients in Florida received an A1c test versus 73.9% nationally, and 85.6% received a blood glucose test versus 86.7% nationally.

PERCENTAGE OF TYPE 2 DIABETES PATIENTS RECEIVING A1c TESTS, BY PAYER, 2014<sup>1</sup>



PERCENTAGE OF TYPE 2 DIABETES PATIENTS, BY A1c LEVEL RANGE, 2014<sup>1</sup>



Data source: IMS Health © 2015

## SHARE OF FL TYPE 2 DIABETES PATIENTS WITH A1c LEVEL ≤7.0% FALLS BELOW 50%

Just under half (49.1%) of Type 2 diabetes patients in Florida had an A1c level at or below 7.0% in 2014, a decline from 52.4% the prior year (data not shown). Meanwhile, the percentage of such patients whose A1c levels exceeded 9.0% on their last exam rose across Florida from 2013 (13.7%; data not shown) to 2014 (15.3%). This percentage was highest, by Florida market, in Lakeland in 2014, at 17.9%.

<sup>1</sup> 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.

<sup>2</sup> Includes HMOs, PPOs, point-of-service plans and exclusive provider organizations.

# ALOS/INPATIENT CHARGES

## ALOS FOR DIABETES INPATIENT CASES EXCEEDS NATIONAL MEAN IN FL HOSPITALS

Between 2012 and 2013, the average length of stay (ALOS) per inpatient diabetes mellitus case in Florida remained unchanged (4.6 days), but exceeded the national average (4.2). Moreover, such ALOS increased in Fort Lauderdale (to 4.9 from 4.8) and West Palm Beach (to 5.2 from 4.9), and surpassed the U.S. mean in every profiled Florida market but Lakeland.

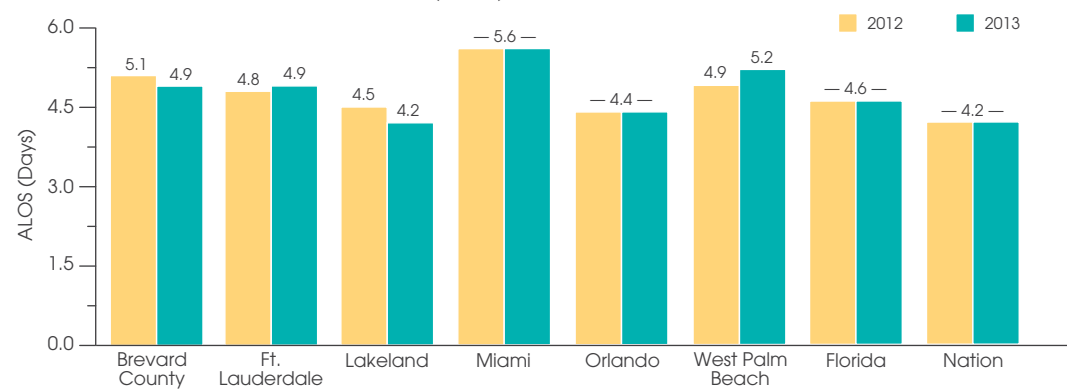
## PER-CASE CHARGES FOR DIABETES ARE HIGH VS. U.S. AVG. IN FLORIDA

With the exception of Brevard County (\$36,931), average charges per inpatient diabetes mellitus case were higher than that of the nation (\$41,107) in each profiled Florida market in 2013, most notably in Miami (\$63,857), West Palm Beach (\$55,765) and Fort Lauderdale (\$55,435). Furthermore, these charges increased from 2012 to 2013 in Fort Lauderdale, Miami, Orlando, West Palm Beach and across Florida.

AVERAGE LENGTH OF STAY (DAYS) PER INPATIENT DIABETES MELLITUS CASE

MARKET	2012	2013
Brevard County	5.1	4.9
Ft. Lauderdale	4.8	4.9
Lakeland	4.5	4.2
Miami	5.6	5.6
Orlando	4.4	4.4
West Palm Beach	4.9	5.2
Florida	4.6	4.6
<b>NATION</b>	<b>4.2</b>	<b>4.2</b>

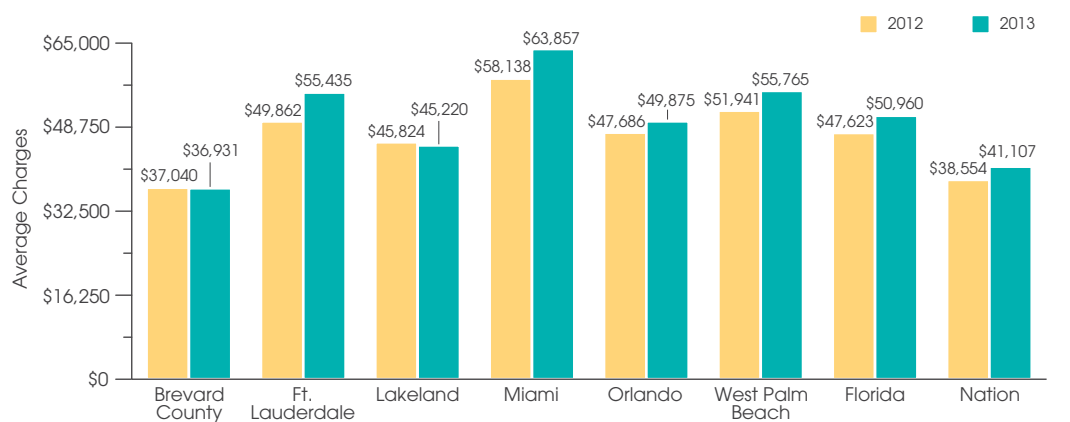
AVERAGE LENGTH OF STAY (DAYS) PER INPATIENT DIABETES MELLITUS CASE



CHARGES PER INPATIENT DIABETES MELLITUS CASE<sup>1</sup>

MARKET	2012	2013
Brevard County	\$37,040	\$36,931
Ft. Lauderdale	49,862	55,435
Lakeland	45,824	45,220
Miami	58,138	63,857
Orlando	47,686	49,875
West Palm Beach	51,941	55,765
Florida	47,623	50,960
<b>NATION</b>	<b>\$38,554</b>	<b>\$41,107</b>

CHARGES PER INPATIENT DIABETES MELLITUS CASE<sup>1</sup>



<sup>1</sup> Charge data are per-case averages for inpatients with a particular diagnosis of interest. Charges may be for treatment related to other diagnoses. Data reflect the total charges billed by the hospital for the entire episode of care, and may include accommodation, pharmacy, laboratory, radiology and other charges not billed by the physician. Data do not necessarily indicate final amounts paid.

NOTE: Average length of stay (ALOS) and hospital inpatient charge data come from IMS Health's Hospital Procedure/Diagnosis (HPD) database and are current as of calendar year 2013.

Data source: IMS Health © 2015

# PROFESSIONAL CHARGES

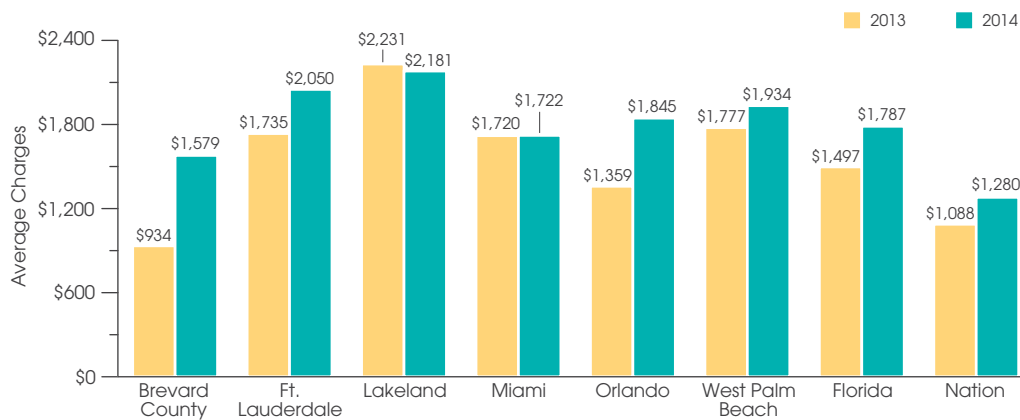
## PROFESSIONAL CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS<sup>1</sup>

MARKET	Ambulatory Surgery Center		Emergency Room		Hospital Inpatient		Hospital Outpatient		Office/Clinic	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Brevard County	\$2,608	\$3,085	\$934	\$1,579	\$2,836	\$2,794	\$867	\$1,084	\$2,293	\$2,993
Ft. Lauderdale	2,453	2,959	1,735	2,050	3,672	4,020	1,230	1,453	2,341	2,475
Lakeland	2,376	2,571	2,231	2,181	2,825	3,691	1,286	1,356	2,847	3,141
Miami	2,048	2,590	1,720	1,722	3,638	4,557	1,558	1,603	2,254	2,395
Orlando	2,272	2,638	1,359	1,845	4,175	4,811	1,524	1,804	2,305	2,441
West Palm Beach	2,981	3,473	1,777	1,934	3,278	3,827	1,182	1,317	3,192	3,272
Florida	2,553	2,928	1,497	1,787	3,426	3,896	1,253	1,377	2,390	2,556
<b>NATION</b>	<b>\$2,724</b>	<b>\$3,143</b>	<b>\$1,088</b>	<b>\$1,280</b>	<b>\$3,005</b>	<b>\$3,433</b>	<b>\$1,175</b>	<b>\$1,299</b>	<b>\$2,024</b>	<b>\$2,203</b>

## PROVIDER CHARGES FOR TYPE 2 DIABETES PATIENTS RISE ACROSS FLORIDA

From 2013 to 2014, average annual professional charges for Florida Type 2 diabetes patients increased for each of the profiled treatment settings. Such charges were highest for the inpatient setting, growing to \$3,896 in 2014 from \$3,426, exceeding the corresponding national mean of \$3,433.

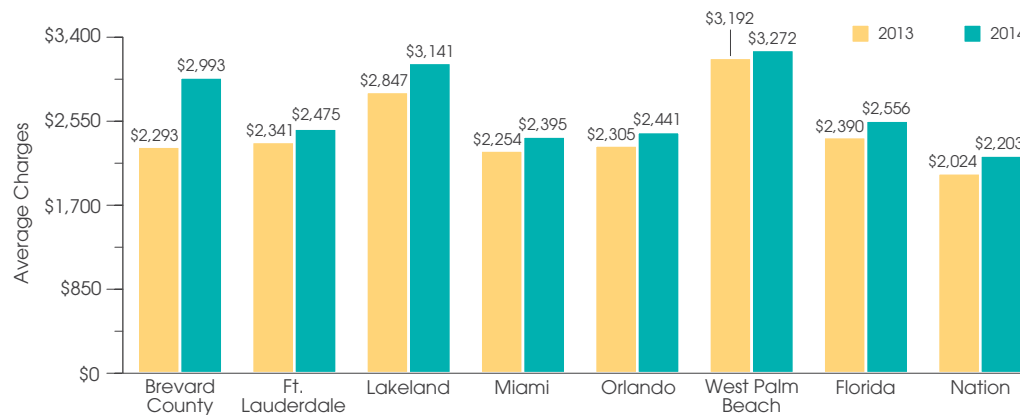
## PROFESSIONAL EMERGENCY ROOM CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS<sup>1</sup>



## ER CHARGES FOR FL TYPE 2 DIABETES PTS. TOP NATIONAL AVERAGE IN EACH MARKET

Emergency room (ER) charges for Florida Type 2 diabetes patients increased in six of seven profiled Florida markets between 2013 and 2014, and were higher in each than the national average in 2014 (\$1,280). These charges remained highest, by market, in Lakeland in 2014 (\$2,181), despite a decline from 2013 (\$2,231).

## PROFESSIONAL OFFICE/CLINIC CHARGES PER YEAR FOR TYPE 2 DIABETES PATIENTS<sup>1</sup>



## OFFICE CHARGES FOR FL TYPE 2 DIABETES PATIENTS GROW IN EACH MARKET

In all six profiled local markets and across Florida, average annual professional charges for the office/clinic setting increased from 2013 to 2014, and were higher than those of the nation (\$2,203). Of the local markets profiled, West Palm Beach (\$3,272) reported the highest professional office/clinic charges in 2014.

Data source: IMS Health © 2015

<sup>1</sup> Professional charges are those generated by the providers delivering care to Type 2 diabetes patients in various settings.

## IP CHARGES ARE HIGH FOR COMMERCIALLY COVERED FL TYPE 2 DIABETES PATIENTS

In 2014, average annual professional inpatient (IP) charges were higher for Florida Type 2 diabetes patients with commercial coverage (\$3,414) than for those enrolled in Medicaid (\$3,063) or Medicare (\$3,330). IP professional charges for commercially covered Florida Type 2 diabetes patients increased in each of the six profiled local markets, and were highest in Orlando (\$4,220). Corresponding charges for Medicare beneficiaries (\$4,245) and Medicaid recipients (\$3,633) were also highest, by local market, in Orlando.

## OP CHARGES FOR TYPE 2 DIABETES PTS. RISE ACROSS FL, REGARDLESS OF PAYER

Average annual outpatient (OP) professional charges for Type 2 diabetes patients rose across Florida from 2013 to 2014, regardless of payer, and were higher for such patients who were covered by commercial insurers (\$1,414) or Medicare (\$1,197) than for their counterparts nationally (\$1,248 and \$1,155, respectively).

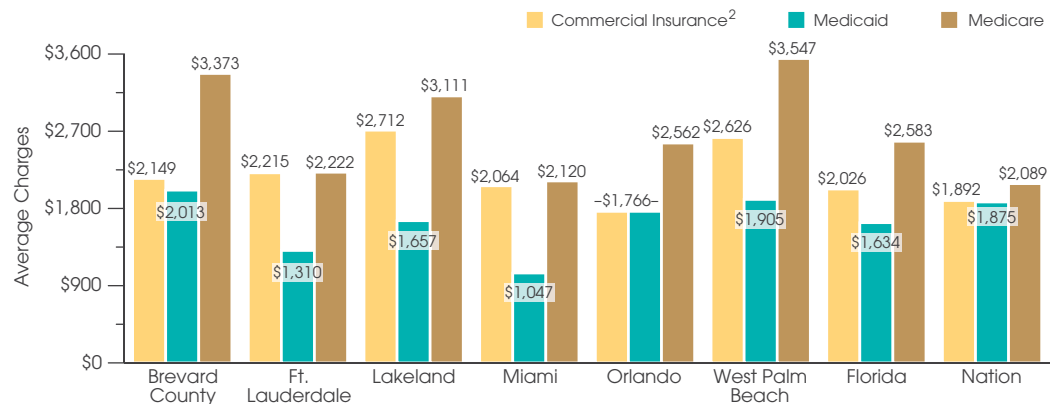
**PROFESSIONAL INPATIENT CHARGES PER TYPE 2 DIABETES PATIENT PER YEAR, BY PAYER<sup>1</sup>**

MARKET	Commercial Insurance <sup>2</sup>		Medicaid		Medicare	
	2013	2014	2013	2014	2013	2014
Brevard County	\$2,428	\$2,448	\$2,785	\$2,888	\$2,639	\$2,472
Ft. Lauderdale	3,262	3,577	3,230	2,578	3,175	3,435
Lakeland	2,801	3,511	2,332	2,978	2,286	2,972
Miami	3,470	3,964	2,602	2,459	3,004	3,729
Orlando	3,546	4,220	3,574	3,633	3,811	4,245
West Palm Beach	3,020	3,397	3,160	3,489	2,888	3,190
Florida	3,069	3,414	2,925	3,063	3,048	3,330
<b>NATION</b>	<b>\$2,779</b>	<b>\$3,196</b>	<b>\$2,823</b>	<b>\$3,246</b>	<b>\$2,605</b>	<b>\$2,838</b>

**PROFESSIONAL OUTPATIENT CHARGES PER TYPE 2 DIABETES PATIENT PER YEAR, BY PAYER<sup>1</sup>**

MARKET	Commercial Insurance <sup>2</sup>		Medicaid		Medicare	
	2013	2014	2013	2014	2013	2014
Brevard County	\$819	\$1,038	\$843	\$939	\$860	\$1,057
Ft. Lauderdale	1,246	1,487	1,015	973	1,055	1,186
Lakeland	1,363	1,390	947	980	1,052	1,188
Miami	1,510	1,619	964	948	1,516	1,405
Orlando	1,561	1,845	1,136	1,207	1,421	1,685
West Palm Beach	1,167	1,348	871	978	1,132	1,165
Florida	1,267	1,414	1,039	1,088	1,140	1,197
<b>NATION</b>	<b>\$1,120</b>	<b>\$1,248</b>	<b>\$1,148</b>	<b>\$1,280</b>	<b>\$1,086</b>	<b>\$1,155</b>

**PROFESSIONAL OFFICE/CLINIC CHARGES PER TYPE 2 DIABETES PATIENT PER YEAR, BY PAYER, 2014<sup>1</sup>**



<sup>1</sup> Professional charges are those generated by the providers delivering care to Type 2 diabetes patients in various settings.

<sup>2</sup> Includes HMOs, PPOs, point-of-service plans and exclusive provider organizations.

Data source: IMS Health © 2015



## PERCENTAGE OF TYPE 2 DIABETES PATIENTS USING VARIOUS INSULIN THERAPIES<sup>1</sup>

MARKET	Any Insulin Products		Long-Acting Insulin		Rapid-Acting Insulin		Short-Acting Insulin		Mixed Insulin	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Brevard County	28.4%	28.8%	18.1%	18.9%	12.1%	12.4%	13.6%	13.7%	7.1%	6.7%
Ft. Lauderdale	28.5	27.7	19.7	19.6	11.6	11.5	12.9	12.6	7.3	6.5
Lakeland	32.4	31.9	22.5	22.5	12.2	12.1	14.1	14.0	7.3	7.1
Miami	32.6	32.1	24.4	24.2	14.4	14.2	15.6	15.2	8.7	8.2
Orlando	28.8	28.9	20.4	21.0	11.8	12.2	13.6	13.7	5.6	5.4
West Palm Beach	27.8	27.2	18.3	18.4	12.6	12.4	14.2	13.8	6.5	5.9
Florida	29.7	29.4	20.8	20.9	12.6	12.5	14.2	14.0	6.6	6.2
<b>NATION</b>	<b>34.3%</b>	<b>34.3%</b>	<b>25.8%</b>	<b>26.2%</b>	<b>16.5%</b>	<b>16.7%</b>	<b>17.8%</b>	<b>17.9%</b>	<b>5.3%</b>	<b>4.9%</b>

## PERCENTAGE OF TYPE 2 DIABETES PATIENTS USING VARIOUS INSULIN THERAPIES, BY PENS AND VIALS, 2014

MARKET	Long-Acting Insulin		Rapid-Acting Insulin		Short-Acting Insulin		Mixed Insulin	
	Pens	Vials	Pens	Vials	Pens	Vials	Pens	Vials
Brevard County	14.1%	6.1%	7.9%	5.3%	7.9%	6.8%	4.2%	2.9%
Ft. Lauderdale	13.2	8.0	7.1	5.3	7.1	6.5	2.7	4.4
Lakeland	14.6	9.7	6.6	6.3	6.6	8.4	2.7	4.9
Miami	15.6	10.8	9.1	6.3	9.1	7.5	3.1	5.8
Orlando	13.9	8.8	6.6	6.7	6.6	8.3	2.4	3.4
West Palm Beach	12.1	7.5	7.2	6.0	7.2	7.6	2.7	3.5
Florida	14.0	8.6	7.5	6.0	7.5	7.6	2.6	4.0
<b>NATION</b>	<b>18.3%</b>	<b>9.6%</b>	<b>10.6%</b>	<b>7.3%</b>	<b>10.6%</b>	<b>8.6%</b>	<b>2.5%</b>	<b>2.7%</b>

## PERCENTAGE OF TYPE 2 DIABETES PATIENTS USING VARIOUS NON-INSULIN ANTIDIABETIC THERAPIES<sup>1</sup>

MARKET	Any Non-Insulin Antidiabetic Product		DPP-4 Inhibitors		GLP-1 Receptor Agonists		Insulin Sensitizing Agents	
	2013	2014	2013	2014	2013	2014	2013	2014
Brevard County	88.9%	88.8%	13.3%	12.4%	6.3%	6.4%	3.3%	3.4%
Ft. Lauderdale	88.5	89.2	11.3	11.6	3.5	3.9	3.7	3.4
Lakeland	87.4	88.4	10.3	10.1	4.2	4.3	3.5	3.6
Miami	86.5	87.2	14.1	14.0	3.5	4.0	5.1	4.8
Orlando	89.0	89.3	10.3	9.8	3.7	3.9	4.2	4.1
West Palm Beach	88.1	88.8	10.0	10.1	4.4	4.9	3.7	3.3
Florida	87.7	88.2	11.2	10.9	4.2	4.5	4.1	4.0
<b>NATION</b>	<b>84.7%</b>	<b>85.1%</b>	<b>12.7%</b>	<b>12.4%</b>	<b>5.3%</b>	<b>5.5%</b>	<b>5.5%</b>	<b>5.1%</b>

Data source: IMS Health © 2015

## SHARES OF TYPE 2 DIABETES PTS. FILLING ANY INSULIN RXs LAG U.S. MEAN IN FL MARKETS

In 2014, the percentages of Type 2 diabetes patients who were dispensed any insulin products trailed that of the nation (34.3%) in every profiled Florida market. The share of such patients was lowest, by profiled market, in West Palm Beach (27.2%). Furthermore, these portions declined in Fort Lauderdale, Lakeland, Miami, West Palm Beach and statewide from 2013 to 2014.

## NON-INSULIN FILL RATES IN ALL FLORIDA MARKETS EXCEED THAT OF THE NATION

In each of the Florida markets shown, the portion of Type 2 diabetes patients who filled prescriptions for any non-insulin antidiabetic product exceeded the national rate (85.1%) in 2014. Further, from 2013 to 2014, the percentages of such patients rose in every market except Brevard County.

<sup>1</sup> Patients who filled prescriptions for any insulin products may have also filled prescriptions for products in the non-insulin category, and vice versa.

**Dipeptidyl Peptidase 4 (DPP-4) Inhibitors**  
Inhibit DPP-4 enzymes and slow inactivation of incretin hormones, helping to regulate glucose homeostasis through increased insulin release and decreased glucagon levels.

**GLP-1 Receptor Agonists**  
Used in conjunction with oral agents; increase glucose-dependent insulin secretion and pancreatic beta-cell sensitivity, reduce glucagon production, slow rate of absorption of glucose in the digestive tract by slowing gastric emptying, and suppress appetite.

**Insulin Sensitizing Agents**  
Increase insulin sensitivity by improving 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.

## PERCENTAGE OF TYPE 2 DIABETES PATIENTS USING VARIOUS THERAPIES

MARKET	Use of 1 Product		Use of 2 Products				Use of 3 Products									
	Use of 1 Non-Insulin Product		Use of 2 Non-Insulin Products		Use of 1 Insulin, 1 Non-Insulin Products		Use of 2 Insulin Products		Use of 3 Non-Insulin Products		Use of 1 Insulin, 2 Non-Insulin Products		Use of 2 Insulin, 1 Non-Insulin Products		Use of 3 Insulin Products	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Brevard County	45.7%	45.9%	19.5%	18.3%	4.7%	5.0%	4.1%	4.5%	6.3%	6.9%	5.9%	5.9%	5.3%	5.3%	2.6%	2.5%
Ft. Lauderdale	44.3	44.7	20.8	20.7	5.2	4.9	4.8	4.5	6.5	6.9	5.2	5.3	5.1	5.3	2.8	2.5
Lakeland	44.5	43.8	17.9	18.5	6.3	5.9	4.8	4.4	5.1	5.8	6.1	6.2	6.0	6.5	2.8	3.0
Miami	40.3	40.3	20.0	20.0	5.2	5.1	6.2	5.9	7.2	7.7	5.7	5.7	6.1	6.4	4.1	3.8
Orlando	47.2	46.3	18.4	18.8	5.6	5.2	4.1	4.1	5.7	6.0	5.4	5.7	5.3	5.6	3.0	3.0
West Palm Beach	45.4	45.8	20.6	20.2	4.5	4.4	4.9	4.7	6.1	6.8	4.7	4.9	5.2	5.3	3.1	2.6
Florida	45.1	45.1	19.2	19.1	5.3	5.2	5.0	4.9	5.9	6.4	5.2	5.3	5.4	5.6	3.0	2.8
<b>NATION</b>	<b>39.8%</b>	<b>39.6%</b>	<b>19.2%</b>	<b>18.9%</b>	<b>5.6%</b>	<b>5.6%</b>	<b>7.0%</b>	<b>6.9%</b>	<b>6.7%</b>	<b>7.2%</b>	<b>5.6%</b>	<b>5.8%</b>	<b>6.4%</b>	<b>6.7%</b>	<b>3.0%</b>	<b>2.9%</b>

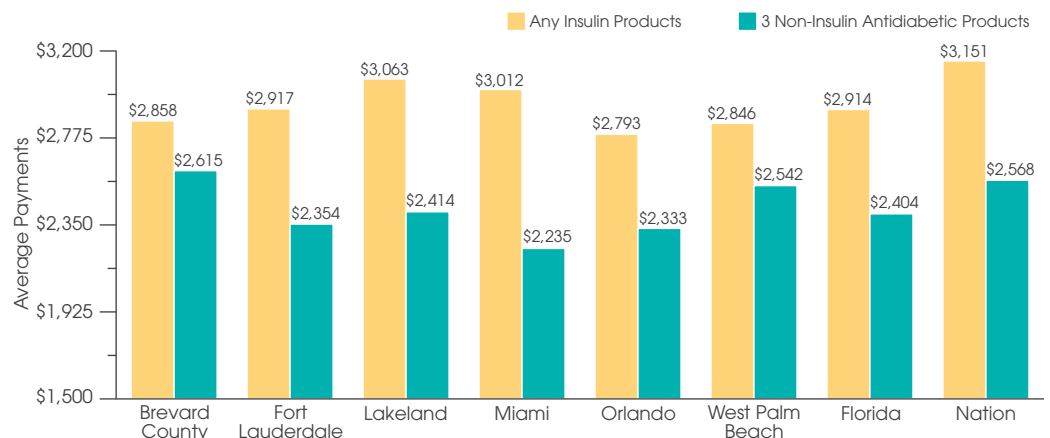
## ANNUAL PAYMENTS PER TYPE 2 DIABETES PATIENT USING VARIOUS THERAPIES<sup>1</sup>

MARKET	Use of 1 Product		Use of 2 Products				Use of 3 Products									
	Use of 1 Non-Insulin Product		Use of 2 Non-Insulin Products		Use of 1 Insulin, 1 Non-Insulin Products		Use of 2 Insulin Products		Use of 3 Non-Insulin Products		Use of 1 Insulin, 2 Non-Insulin Products		Use of 2 Insulin, 1 Non-Insulin Products		Use of 3 Insulin Products	
	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014	2013	2014
Brevard County	\$213	\$216	\$840	\$952	\$1,993	\$2,421	\$2,788	\$3,652	\$2,315	\$2,615	\$3,054	\$3,933	\$4,004	\$5,139	\$3,993	\$5,174
Ft. Lauderdale	210	200	694	766	1,911	2,339	3,235	4,086	1,962	2,354	2,552	3,267	3,597	4,697	4,074	4,924
Lakeland	169	181	711	777	1,876	2,208	3,267	4,033	2,123	2,414	2,789	3,573	3,975	4,860	4,261	5,292
Miami	297	305	869	923	1,865	2,391	3,144	4,138	2,028	2,235	2,764	3,383	3,834	4,910	4,099	5,193
Orlando	178	174	671	719	1,860	2,283	2,903	3,696	1,978	2,333	2,735	3,301	3,505	4,545	4,052	5,108
West Palm Beach	201	200	713	793	1,770	2,228	2,925	3,811	2,103	2,542	2,578	3,196	3,642	4,807	3,939	4,943
Florida	206	208	738	807	1,916	2,370	3,073	3,914	2,067	2,404	2,757	3,411	3,758	4,867	4,057	5,066
<b>NATION</b>	<b>\$285</b>	<b>\$292</b>	<b>\$900</b>	<b>\$977</b>	<b>\$2,102</b>	<b>\$2,596</b>	<b>\$3,250</b>	<b>\$4,100</b>	<b>\$2,280</b>	<b>\$2,568</b>	<b>\$3,044</b>	<b>\$3,782</b>	<b>\$4,218</b>	<b>\$5,334</b>	<b>\$4,152</b>	<b>\$5,226</b>

### FL TYPE 2 DIABETES PATIENTS ARE MORE LIKELY TO USE ONE OR TWO NON-INSULIN RXS

In 2014, higher percentages of Florida Type 2 diabetes patients filled prescriptions for either one (45.1%) or two (19.1%) non-insulin antidiabetic products than their counterparts nationally (39.6% and 18.9%, respectively). However, these Florida patients were less likely than their national peers to be dispensed three non-insulin antidiabetic products in 2014.

### ANNUAL PAYMENTS PER TYPE 2 DIABETES PATIENT, BY TYPE OF THERAPY, 2014<sup>1,2</sup>

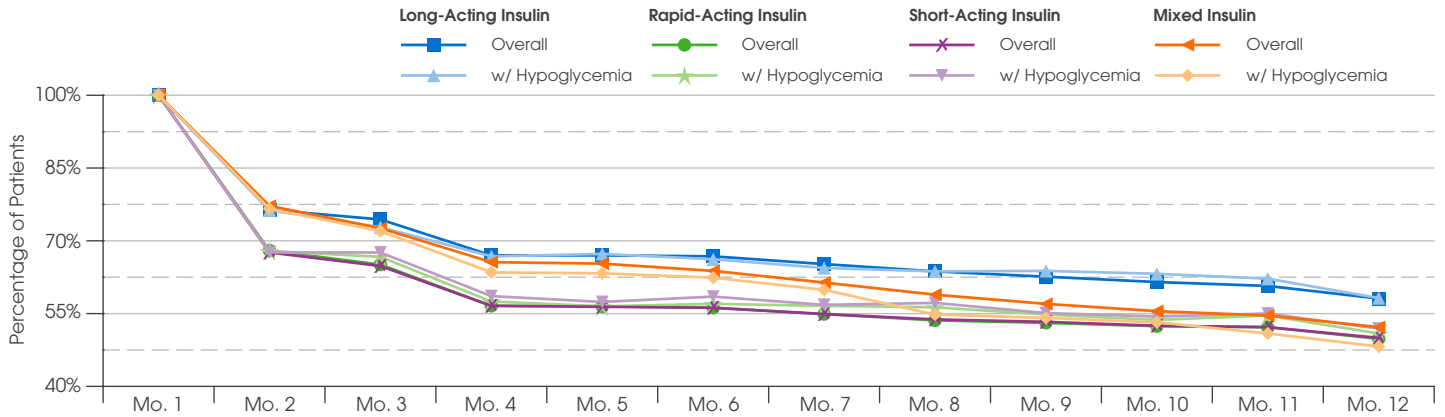


Data source: IMS Health © 2015

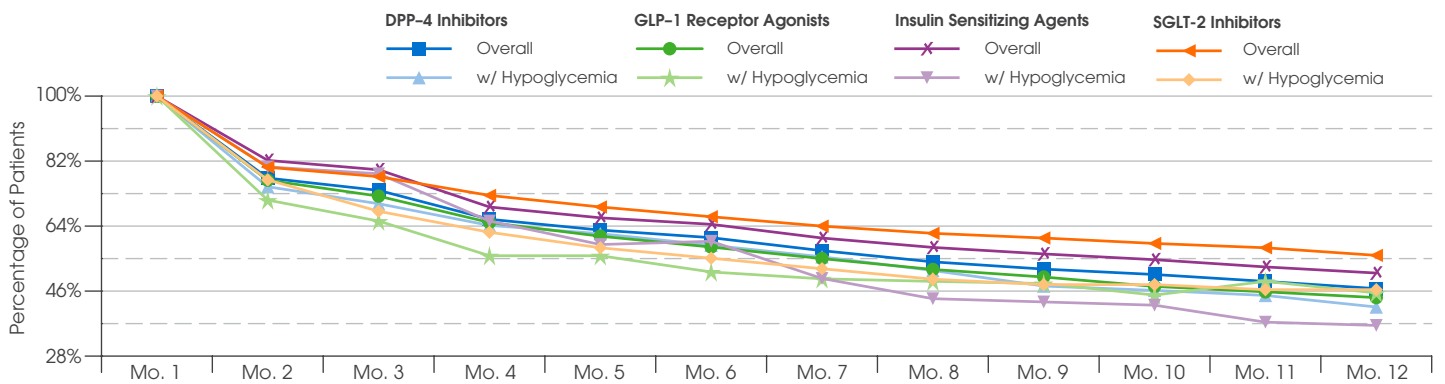
<sup>1</sup> Figures reflect the per-patient yearly costs for Type 2 diabetes patients receiving a particular type of therapy.

<sup>2</sup> Patients who filled prescriptions for any insulin products may have also filled prescriptions for products in the non-insulin category, and vice versa.

**PERSISTENCY: TYPE 2 DIABETES PATIENTS OVERALL VS. TYPE 2 DIABETES PATIENTS WITH HYPOGLYCEMIA, VARIOUS INSULIN THERAPIES, FLORIDA, 2014<sup>1</sup>**



**PERSISTENCY: TYPE 2 DIABETES PATIENTS OVERALL VS. TYPE 2 DIABETES PATIENTS WITH HYPOGLYCEMIA, VARIOUS NON-INSULIN ANTI-DIABETIC THERAPIES, FLORIDA, 2014<sup>1</sup>**



**READMISSION RATES FOR PATIENTS DIAGNOSED WITH TYPE 2 DIABETES, BY TYPE OF THERAPY, 2012-2014<sup>3,4</sup>**

MARKET	Three-Day Readmissions		30-Day Readmissions	
	Any Insulin Products	Three Non-Insulin Antidiabetic Products	Any Insulin Products	Three Non-Insulin Antidiabetic Products
Florida	18.0%	18.8%	26.5%	30.1%
Southeast Region	11.9	15.6	20.8	26.1
<b>NATION</b>	<b>10.3%</b>	<b>14.0%</b>	<b>19.4%</b>	<b>24.5%</b>

Data source: IMS Health © 2015

<sup>1</sup> 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, cardiovascular disease, hypoglycemia, nephropathy, neuropathy and retinopathy.

<sup>2</sup> Figures reflect the percentages of and the visits and charges for Type 2 diabetes patients who visited an emergency department in the three-year period between 2012 and 2014. These include patients who filled multiple prescriptions.

<sup>3</sup> Patients who filled prescriptions for any insulin products may have also filled prescriptions for products in the non-insulin category, and vice versa.

<sup>4</sup> Figures reflect the percentages of Type 2 diabetes patients who were readmitted to an inpatient facility in the three-year period between 2012 and 2014. These percentages include patients who filled multiple prescriptions. Readmissions are not necessarily due to Type 2 diabetes.

NOTE: "Persistence" 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 patients fill 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. Restarted means that the patient did not fill in one or more of the preceding months. Continuing and restarting patients are reported together. All patients tracked are "New-to-Brand," meaning they have not filled a prescription for their cohort product during the six months prior to initiation of therapy on that product.

**READMIT RATES ARE LOWER FOR FL TYPE 2 DIABETES PTS. USING ANY INSULINS**

Florida Type 2 diabetes patients who were dispensed any insulin products and admitted to an inpatient facility from 2012 through 2014 had lower three- (18.0%) and 30-day (26.5%) readmission rates than their counterparts who filled prescriptions for three non-insulin antidiabetic products (18.8% and 30.1%, respectively).

## Adapted From the 2015 ADA/EASD Position Statement

Healthy eating, weight control, increased physical activity, and diabetes education

### Monotherapy

Efficacy\*  
Hypo risk  
Weight  
Side effects  
Costs\*



### Dual therapy<sup>†</sup>

Efficacy\*  
Hypo risk  
Weight  
Side effects  
Costs\*



### Triple therapy

Efficacy\*  
Hypo risk  
Weight  
Side effects  
Costs\*



### Combination injectable therapy<sup>‡</sup>

**Metformin**  
high  
low risk  
neutral/loss  
GI/lactic acidosis  
low

If A1C target not achieved after ~3 months of monotherapy, proceed to 2-drug combination (order not meant to denote any specific preference—choice dependent on a variety of patient- and disease-specific factors):

**Metformin + Sulfonylurea**  
high  
moderate risk  
gain  
hypoglycemia  
low

**Metformin + Thiazolidinedione**  
high  
low risk  
gain  
edema, HF, fxs  
low

**Metformin + DPP-4 Inhibitor**  
intermediate  
low risk  
neutral  
rare  
high

**Metformin + SGLT2 Inhibitor**  
intermediate  
low risk  
loss  
GU, dehydration  
high

**Metformin + GLP-1 Receptor Agonist**  
high  
low risk  
loss  
GI  
high

**Metformin + Insulin (basal)**  
highest  
high risk  
gain  
hypoglycemia  
variable

If A1C target not achieved after ~3 months of dual therapy, proceed to 3-drug combination (order not meant to denote any specific preference—choice dependent on a variety of patient- and disease-specific factors):

**Metformin + Sulfonylurea + TZD or DPP-4i or SGLT2-i or GLP-1-RA or Insulin<sup>§</sup>**

**Metformin + Thiazolidinedione + SU or DPP-4i or SGLT2-i or GLP-1-RA or Insulin<sup>§</sup>**

**Metformin + DPP-4 Inhibitor + SU or TZD or SGLT2-i or Insulin<sup>§</sup>**

**Metformin + SGLT2 Inhibitor + SU or TZD or DPP-4i or Insulin<sup>§</sup>**

**Metformin + GLP-1 Receptor Agonist + SU or TZD or Insulin<sup>§</sup>**

**Metformin + Insulin (basal) + TZD or DPP-4i or SGLT2-i or GLP-1-RA**

If A1C target not achieved after ~3 months of triple therapy and patient (1) on oral combination, move to injectables; (2) on GLP-1-RA, add basal insulin; or (3) on optimally titrated basal insulin, add GLP-1-RA or mealtime insulin. In refractory patients consider adding TZD or SGLT2-i:

**Metformin + Basal insulin + Mealtime insulin or GLP-1-RA**

Antihyperglycemic therapy in Type 2 diabetes: general recommendations (see Reference). The order in the chart was determined by historical availability and the route of administration, with injectables to the right; it is not meant to denote any specific preference. Potential sequences of antihyperglycemic therapy for patients with Type 2 diabetes are displayed, with the usual transition moving vertically from top to bottom (although horizontal movement within therapy stages is also possible, depending on the circumstances). DPP-4-i, DPP-4 inhibitor; fxs, fractures; GI, gastrointestinal; GLP-1-RA, GLP-1 receptor agonist; GU, genitourinary; HF, heart failure; Hypo, hypoglycemia; SGLT2-i, SGLT2 inhibitor; SU, sulfonylurea; TZD, thiazolidinedione. \*See Reference for description of efficacy categorization. † Consider starting at this stage when A1C is  $\geq 9\%$ . ‡ Consider starting at this stage when blood glucose is  $\geq 300$ – $350$  mg/dL (16.7–19.4 mmol/L) and/or A1C is  $\geq 10$ – $12\%$ , especially if symptomatic or catabolic features are present, in which case basal insulin + mealtime insulin is the preferred initial regimen. § Usually a basal insulin (NPH, glargine, detemir, degludec). Adapted with permission from Inzucchi et al. (see Reference).

Reference: Inzucchi, S. E., et al. (2015). Management of Hyperglycemia in Type 2 Diabetes. 2015: A Patient-Centered Approach: Update to a Position Statement of the American Diabetes Association (ADA) and the European Association for the Study of Diabetes (EASD). Diabetes Care. Retrieved from <http://care.diabetesjournals.org/content/38/1/140.full.pdf+html>