# Special Report

www.healthyvolusia.org
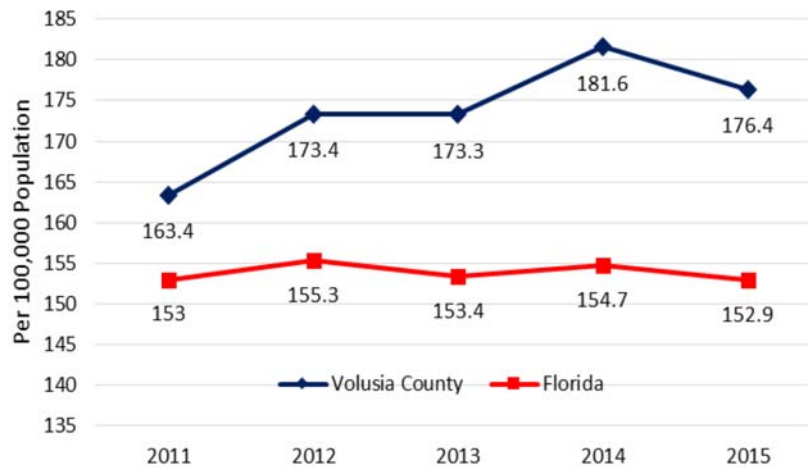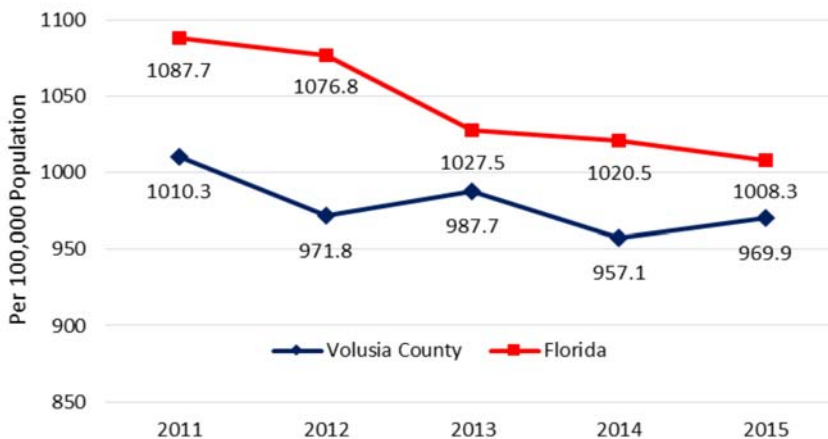
## HEART DISEASE IN VOLUSIA COUNTY

The Centers for Disease Control and Prevention refer to heart disease as an abnormal function of the heart or blood vessels. Heart disease can cause increased risk for heart attack, heart failure, sudden death, stroke and cardiac rhythm problems. It can result in decreased quality of life and decreased life expectancy. The causes of heart disease range from structural defects to infection, inflammation, genetics, and the environment. Heart disease is the leading cause of death in the United States, accounting for 610,000 deaths every year. Volusia County has seen a 7.9% increase in the heart disease death rate from 2011 to 2015. Florida had relatively stable rates during the same period. Volusia

**Age-adjusted\* Rate of Death from Heart Disease**



County consistently had a higher age-adjusted rate of deaths from heart disease than Florida. Most recently, in 2015, Volusia County's heart disease rate (176.4) was 23.5 points higher than the Florida rate (152.9).
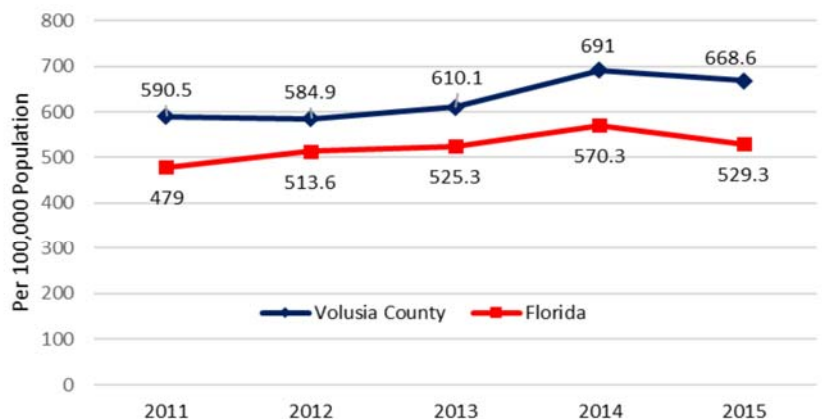
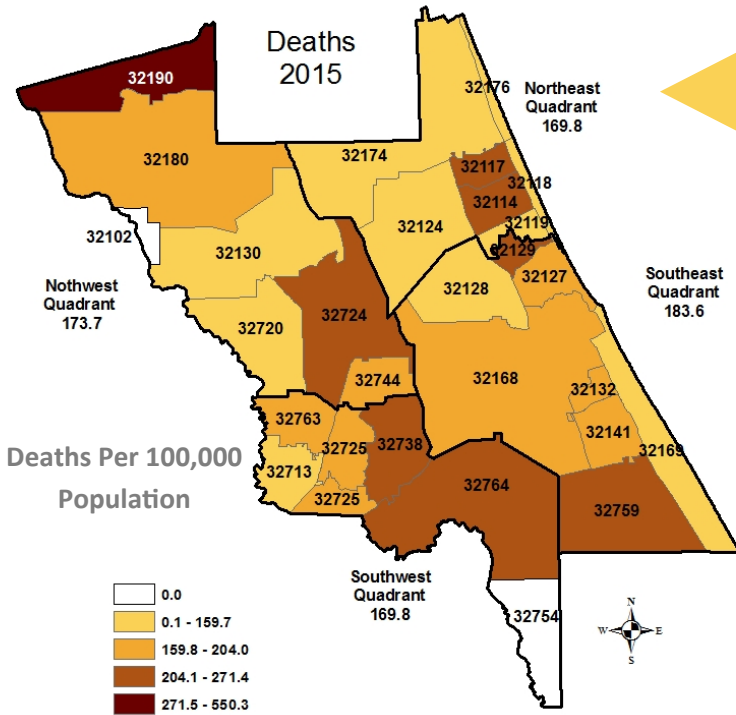**Age-adjusted\* Rate of Hospitalization with Heart Disease**



- Volusia County and Florida have downward trends for hospitalizations with heart disease
- Volusia County had a 4% decrease in the rate of hospitalizations with heart disease from 2011 (1010.3) to 2015 (969.9)
- Volusia County's hospitalizations with heart disease rate (957.1) was 6.2% lower than Florida (1020.5) in 2014

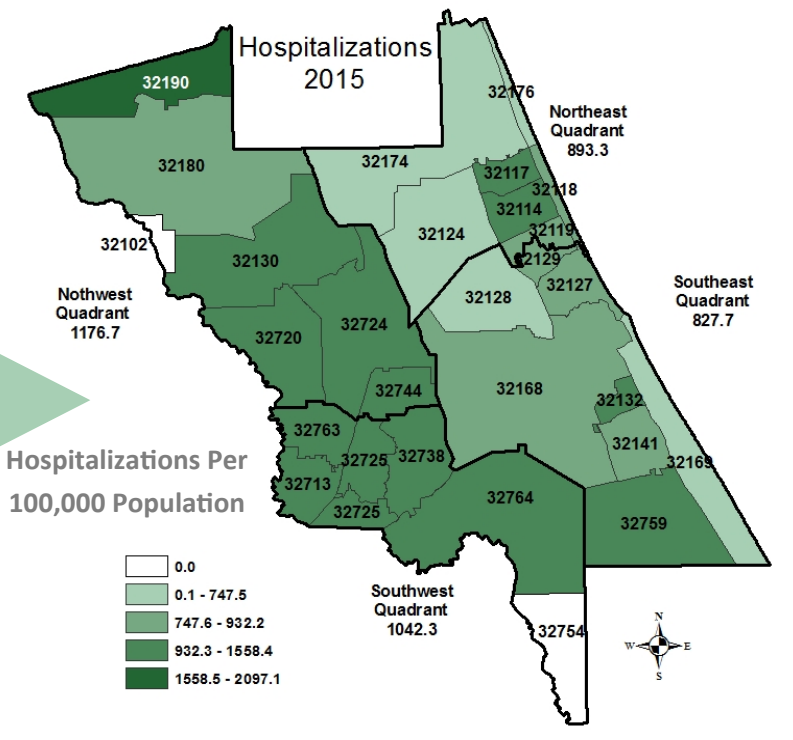- Volusia County and Florida have upward trends for rates of Emergency Department (ED) visits with heart disease
- Volusia County had a 13.2% increase in the rate of ED visits with heart disease from 2011 (590.5) to 2015 (668.6)
- Over the five year period, Volusia County (629) averaged 1.2 times more emergency department visits with heart disease than Florida (523.4)

**Age-adjusted\* Rate of Emergency Department**

## Age-adjusted* Rate of Heart Disease for Emergency Department (ED) Visits, Hospitalizations, and Deaths by ZIP Code in Volusia County, 2015

### Deaths 2015

32190
32176  Northeast Quadrant 169.8
32180
32174
32117
32118
32114
32102
32124
32119
32130
32129
Nothwest Quadrant 173.7
32128
32127
Southeast Quadrant 183.6
32724
32720
32744
32132
32763
32168
32141
32725  32738
32165
32713
32764
32725
32759
32754

**Deaths Per 100,000 Population**

Southwest Quadrant 169.8

Legend:
- 0.0
- 0.1 - 159.7
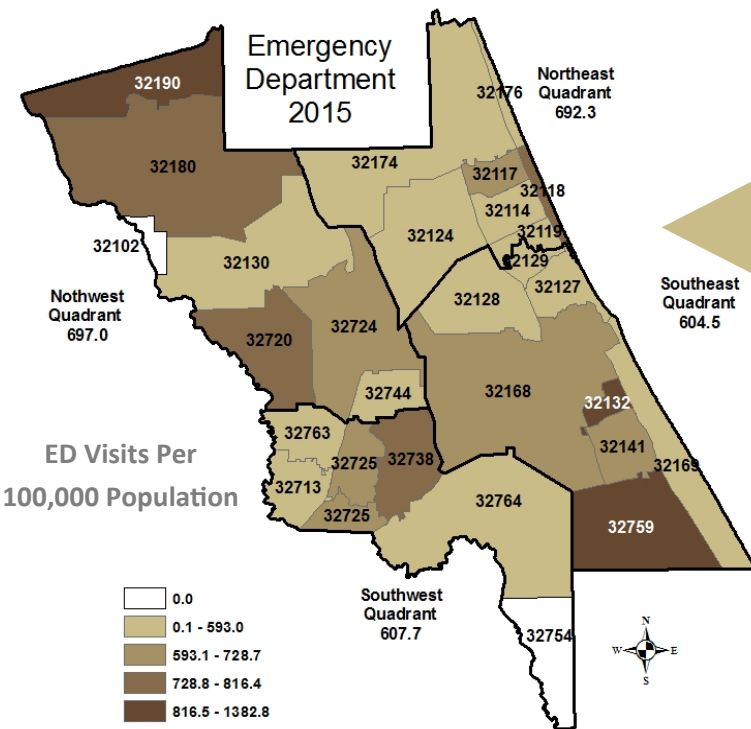- 159.8 - 204.0
- 204.1 - 271.4
- 271.5 - 550.3

N W E S

- The Southeast quadrant (183.6) had the highest age-adjusted death rate (AADR) for heart disease in Volusia County in 2015
- The Southwest quadrant (169.8) had the lowest AADR for heart disease in Volusia County in 2015
- Eight out of 28 (28.6%) Volusia County ZIP codes had a lower AADR of heart disease than Florida (152.9)
- ZIP code 32190 (550.3) had the highest AADR for heart disease in Volusia County in 2015
- ZIP code 32124 (60.7) had the lowest AADR for heart disease in Volusia County in 2015

### Hospitalizations 2015

32190
32176  Northeast Quadrant 893.3
32180
32174
32117
32118
32114
32102
32124
32119
32130
32129
Nothwest Quadrant 1176.7
32128
32127
Southeast Quadrant 827.7
32720
32724
32744
32168
32132
32763
32141
32725  32738
32165
32713
32764
32725
32759
32754

**Hospitalizations Per 100,000 Population**

Southwest Quadrant 1042.3

Legend:
- 0.0
- 0.1 - 747.5
- 747.6 - 932.2
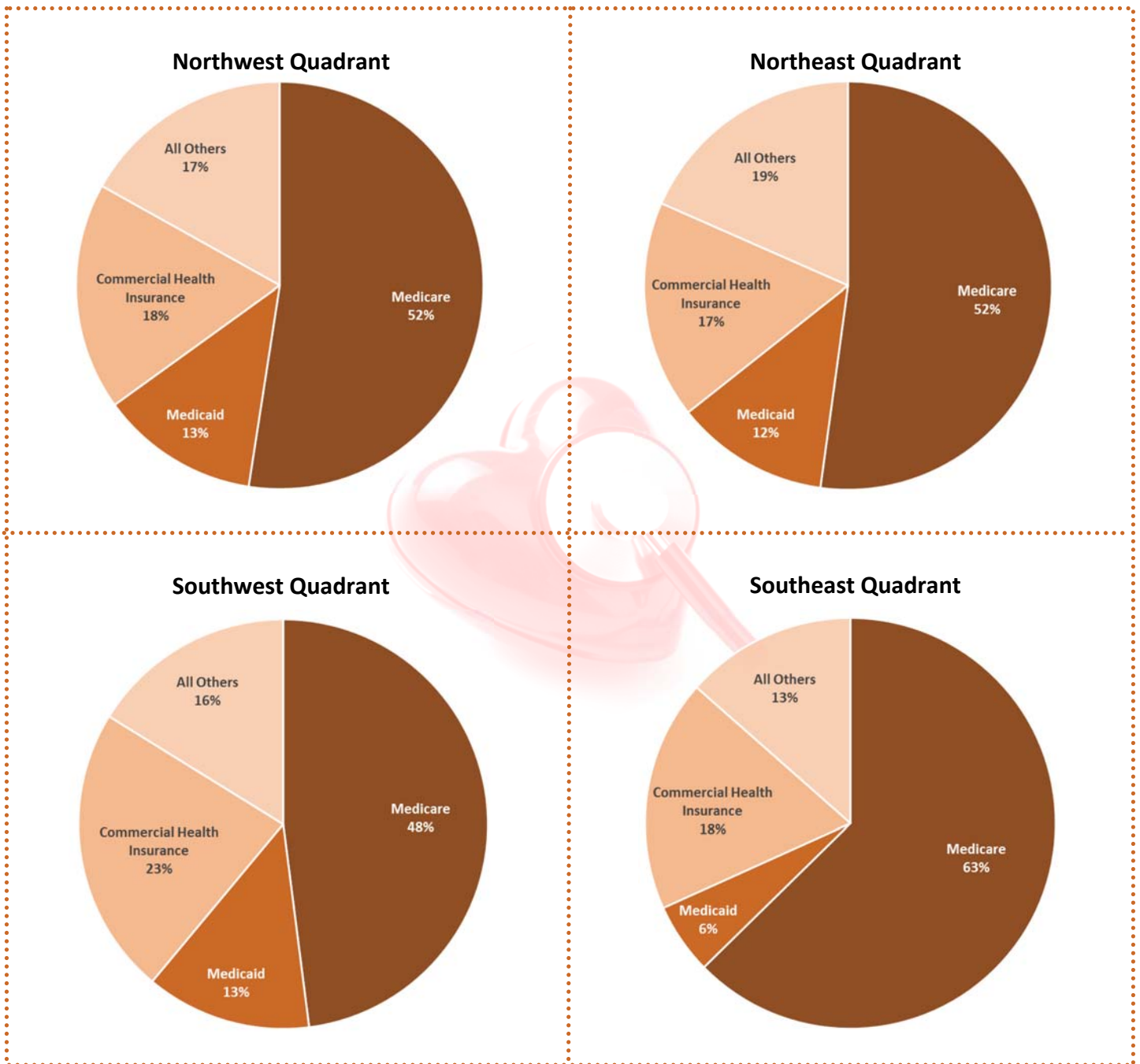- 932.3 - 1558.4
- 1558.5 - 2097.1

N W E S

- The Northwest (1176.7) and Southeast (827.7) quadrants had the highest and lowest, respectively, age-adjusted rates of hospitalizations for heart disease in Volusia County in 2015
- Half of Volusia County ZIP codes had a lower age-adjusted hospitalization rate of heart disease than Florida (1008.3)
- ZIP code 32190 (2097.1) had the highest age-adjusted hospitalization rate for heart disease in Volusia County

### Emergency Department 2015

32190
32176  Northeast Quadrant 692.3
32180
32174
32117
32118
32114
32102
32124
32119
32130
32129
Nothwest Quadrant 697.0
32128
32127
Southeast Quadrant 604.5
32720
32724
32744
32168
32132
32763
32141
32725  32738
32165
32713
32764
32725
32759
32754

**ED Visits Per 100,000 Population**

Southwest Quadrant 607.7

Legend:
- 0.0
- 0.1 - 593.0
- 593.1 - 728.7
- 728.8 - 816.4
- 816.5 - 1382.8

N W E S

- The Northwest (697.0) and Southeast quadrants (604.5) had the highest and lowest, respectively, age-adjusted rates of ED visits for heart disease in Volusia County in 2015
- Twenty-two out of 28 (78.6%) Volusia County ZIP codes had a higher age-adjusted rate of ED visits with heart disease than Florida (529.3)
- ZIP code 32759 (1382.8) had the highest age-adjusted rate of ED visits for heart disease in Volusia County in 2015
- ZIP code 32128 (361.9) had the lowest age-adjusted rate of ED visits for heart disease in Volusia County in 2015
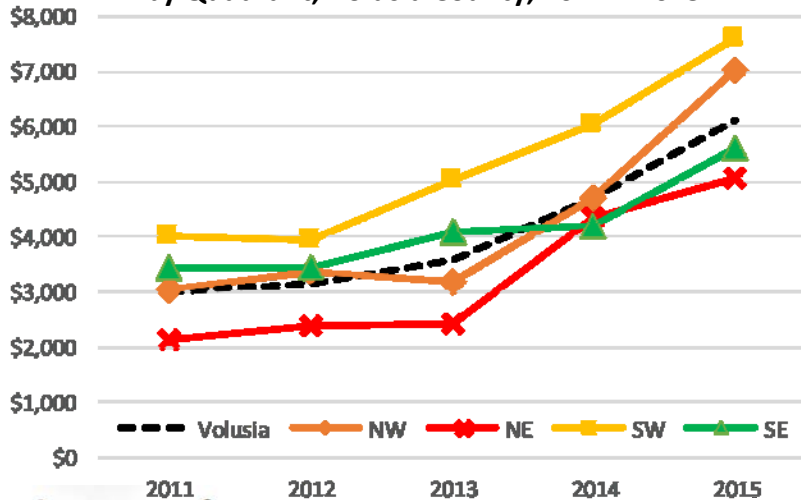
# Payer Types for Emergency Department Visits
# with Heart Disease by Quadrant in Volusia County, 2015

### Northwest Quadrant



### Northeast Quadrant



### Southwest Quadrant



### Southeast Quadrant



- In 2015, Medicare accounted for the majority of payer types across all for quadrants, Medicaid accounted for the smallest percentage

- The Southwest quadrant had the highest percentage of commercial health insurance payer type with 23%

- Medicare payer type in the Southeast quadrant was at least 11 percentage points higher than Medicare payer types in all other quadrants

- The Medicaid payer type in the Southeast quadrant (6%) was at least 50% lower than Medicaid in all other quadrants

# Charges for Emergency Department (ED) Visits with Heart Disease, 2011 – 2015

**Average Charge per ED Visit with Heart Disease by Quadrant, Volusia County, 2011 – 2015**



- The Southwest quadrant experienced the highest average charge per ED visit with heart disease from 2011 to 2015

- Averages charges for the western quadrants increase more than 130% from 2011 to 2015

- Volusia County's increase (104%) from 2011 to 2015 was almost twice the size of Florida's (56%) for the same period

- Average charges for the Northeast quadrant were consistently lower than the average charges for the other quadrants and the county

- The Southeast quadrant had the lowest increase in average charges per ED visit with heart disease from 2011 to 2015

## Average Charge per Emergency Department (ED) Visit with Heart Disease in Volusia County, 2015

| 2015 Measures | Volusia County | Quadrants | | | |
|---|---|---|---|---|---|
| | | **Northwest** | **Northeast** | **Southwest** | **Southeast** |
| **ED visits** | 4,477 | 675 | 1478 | 1063 | 1194 |
| **Total charges** | $27,463,943.00 | $4,752,099.00 | $7,485,815.00 | $8,072,012.00 | $6,722,221.00 |
| **Average charge per visit** | $6,134.45 | $7,040.00 | $5,064.83 | $7,593.61 | $5,630.00 |
| **% of population 65 & older** | 23.0% | 21.4% | 24.4% | 18.2% | 34.8% |
| **% of ED visits 65 & older** | 50.4% | 47.8% | 47.0% | 45.8% | 59.9% |

- The average charges per ED visit with heart disease in Volusia County and the four quadrants were lower than the average for Florida in 2015

- In 2015, the Southwest quadrant had the highest average charge ($7,593.61) per ED visit with heart disease; this was $553.61 higher than the next closest quadrant, Northwest, at $7,040 in 2015

- The Northeast quadrant ($5,064) had the lowest average charge per ED visit with heart disease being 11.2% lower than the next closest quadrant in 2015

- The Southeast quadrant had the greatest percentage of persons aged 65 and older and the greatest percentage of heart disease related ED visits by persons aged 65 and older in 2015

**NOTE: Age-adjusting\***
The frequency with which health events occur is almost always related to age. For example, mortality rates tend to increase after 40 years of age. The age-adjusted rate is a summary measure that eliminates the effect of the underlying age distribution of the population, allowing for comparisons between populations regardless of their age structure. Visit www.floridacharts.com for more information.

**Data Sources**:
Florida Community Health Assessment Resource Tool Set (CHARTS); Florida Department of Health, Bureau of Vital Statistics, 2010 – 2014; Agency for Health Care Administration's Hospital and ED datasets, 2010-2014; Centers for Disease Control and prevention 2015.

**For more information or to share your ideas, contact the Florida Department of Health in Volusia County Office of Planning & Performance Management at (386) 274-0500 Ext. 0582 or visit www.VolusiaHealth.com**

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