



# Healthy Volusia Report

## Alcohol Related Events in Volusia County

Excessive alcohol consumption results in numerous health and social issues and is the fourth leading cause of preventable deaths in the United States (CDC).<sup>2</sup> The Centers for Disease Control and Prevention defines excessive drinking in two different ways: binge drinking and heavy drinking. Binge drinking is 4 or more drinks for women and 5 or more drinks for men on a single occasion. Heavy drinking is 8 or more drinks for women and 15 or more drinks for men per week. Any alcohol consumption by pregnant women or those under 21 in the United States is considered excessive drinking.

Excessive alcohol consumption has both short and long term health effects. Short term effects usually arise from binge drinking and include injuries (from motor vehicle crashes or falls, for example), miscarriages or stillbirths and alcohol poisoning. Long term effects can include heart disease, liver disease, mental and social health problems and has the potential to develop into alcoholism or alcohol dependence.

### Inside this issue...

Alcohol Use and Abuse	1
Report Card	2-3
Gender Disparities	4-5
Maps	6-7
Alcohol and Driving	8-9
Alcoholic Liver Disease	10-11
Summary	12

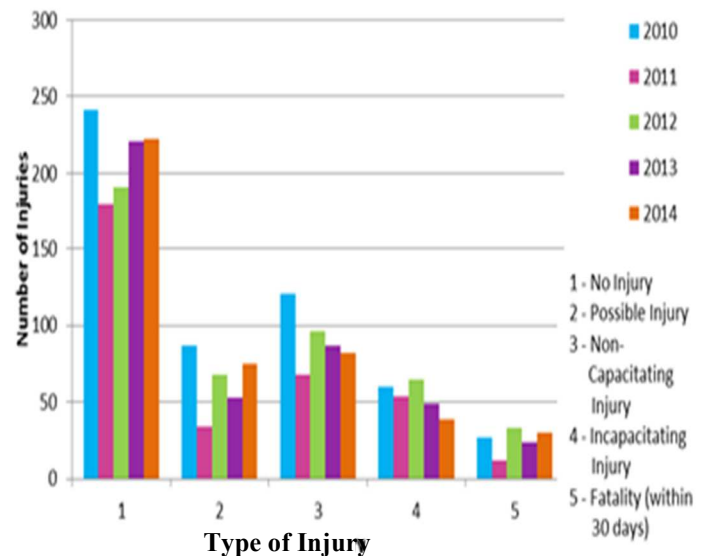
Nationally, there were 88,129 alcohol related deaths on average between the years 2006 and 2010; 6,643 (7.5%) of these deaths were in Florida. In addition to this, 11% of all deaths among adults ages 20-64 in Florida were attributable to alcohol during this same time period.

In comparison to the rest of the nation with regard to percentage of deaths that are alcohol related, Florida yields a poor ranking of 39<sup>th</sup> out of all 50 states when ordered from best to worst.

In Volusia County specifically, the age-adjusted death rate for alcohol related disorders was 11.5 per 100,000 people (95% CI 9.07, 14.05) in 2014.

Another large contributor to alcohol-related deaths is motor vehicle crashes. In 2014 close to one third of all traffic related deaths in the United States involved an alcohol impaired driver, though it was not necessarily always the driver who was killed. Volusia County's death rate for alcohol suspected motor vehicle crashes has, on average, exceeded the rate for Florida, though both the state and county rates have decreased in recent years.

Number of Occurances of Injuries Caused by Alcohol-Related Motor Vehicle Accidents in Volusia



## Report Card

Objectives	Volusia (2014)	Florida (2010-2013)	US (2013)	Healthy People 2020 Target
Reduce cirrhosis deaths (per 100,000)	9.6 <sup>4</sup>	5.7 <sup>4</sup>	10.2 <sup>3</sup>	8.2
Decrease the rate of alcohol-impaired driving (.08+ blood alcohol content) fatalities (per 100 million vehicle miles traveled)	DNA	0.34 <sup>5</sup> (2014)	0.34 <sup>5</sup>	0.38
Reduce the number of deaths attributable to alcohol	85 <sup>4</sup>	6,669 <sup>3</sup> (2006-2010)	88,129 <sup>3</sup> (2006-2010)	71,681
Reduce average annual alcohol consumption (gallons per person)	2.7 <sup>6</sup> (2012)	2.6 <sup>6</sup> (2009)	2.3 <sup>6</sup>	2.1
Reduce the proportion of adults who drank excessively in the previous 30 days (%)	17.5 <sup>10*</sup> (2013)	25.1 <sup>9</sup>	28.0 <sup>8</sup>	25.4
Reduce the proportion of persons engaging in binge drinking during the past 30 days—adults aged 18 years and older (%)	17.5 <sup>7</sup> (2013)	23.8 <sup>8</sup>	26.9 <sup>8</sup>	24.4
Increase the proportion of persons who need alcohol abuse or dependence treatment and received specialty treatment for abuse or dependence in the past year (%)	DNA	8.2 <sup>9</sup>	7.9 <sup>9</sup>	9.0

\*Proportion of adults who drank excessively in the past 2 weeks

DNA: Data not available

#### Sources:

<sup>1</sup>Stahre M, Roeber J, Kanny D, Brewer R, Zhang X. Contribution of excessive alcohol consumption to deaths and years of potential life lost in the United States. Preventing Chronic Disease. 2014; 11  
[http://www.cdc.gov/pcd/issues/2014/13\\_0293.htm](http://www.cdc.gov/pcd/issues/2014/13_0293.htm)

<sup>2</sup>Centers for Disease Control and Prevention, Healthy People 2020,  
<http://www.healthypeople.gov/2020/topicsobjectives2020/>

<sup>3</sup>Centers for Disease Control and Prevention, <http://www.cdc.gov>

<sup>4</sup>Florida Department of Health. Florida Community Health Assessment Resource Tool Set (FL CHARTS),  
[www.floridacharts.com](http://www.floridacharts.com)

<sup>5</sup>National Highway Traffic Safety Administration, <http://www-nrd.nhtsa.dot.gov>

<sup>6</sup>National Institute on Alcohol Abuse and Alcoholism, 2011

<sup>7</sup>Florida Behavioral Risk Factor Surveillance System (BRFSS) 2014 Data Book, [http://www.floridahealth.gov/statistics-and-data/survey-data/behavioral-risk-factor-surveillance-system/reports/\\_documents/2014-brfss.pdf](http://www.floridahealth.gov/statistics-and-data/survey-data/behavioral-risk-factor-surveillance-system/reports/_documents/2014-brfss.pdf)

<sup>8</sup>Samhsa. National Survey on Drug Use and Health: Summary of National Findings, 2013

<sup>9</sup>Samhsa, Risk and Protective Factors and Initiation of Substance Use: Results from the 2014 National Survey on Drug Use and Health

<sup>10</sup>Behavioral Risk Factor Surveillance System. 2013

## Report Card Summary

Alcohol impacts most systems in the body to varying degrees regardless of the concentration present in the blood. Alcohol's effects are not always instantaneous nor do they always go away once the alcohol is no longer present in the body. In Volusia County in 2014 there were 85 deaths that were alcohol related. While this may not appear to be significant, all alcohol-related deaths are preventable. In Florida alone there were collectively 187,895 years of potential life lost annually between 2006 and 2010 due to alcohol related deaths. Nationally, it is the goal to reduce the number of alcohol related deaths in 2020 by about 19% from 2010. Applying this scale to Volusia County, this would mean getting the annual alcohol related deaths down to about 74 from the recorded 91 deaths in 2010. The number of countywide alcohol related deaths has fluctuated erratically between 2010 and 2014, making any predictions of achieving this goal unreliable.

Prolonged alcohol use can affect liver function. This effect can be mild or it can be severe enough to cause death from liver cirrhosis. The United States in 2013 showed an age-adjusted death rate from cirrhosis of 10.2 per 100,000 people. By 2020, the goal is to have this rate decrease to 8.2; which is a decrease by about 20%. In Florida, age-adjusted death rate for cirrhosis in 2014 was 6.3 per 100,000 population. This rate is well below the national rate and also below the target rate for 2020. In contrast to this, the age-adjusted death rate for Volusia County in 2014 was 9.6 per 100,000 people, which was not only above the target rate, but worse than 67% of Florida counties.

**In 2015 over 1,000 years of potential life were lost in Volusia County due to deaths from alcoholic liver disease<sup>4</sup>**

One method of lowering the rates of alcohol-related illnesses or injuries is to reduce overall alcohol consumption. By 2020, it is the goal to have average alcohol consumption at less than 2.1 gallons per person. The national consumption amount of 2.3 gallons per person in 2013 (the highest recorded national value) may seem to be close in proximity to the goal, however the consumption amount has remained stagnant since 2006. When fluctuations have been seen historically between years, they are minute and generally only differ by 0.1 gallon per person. In Florida, the consumption rate in 2009 was 2.6 gallons per person, which is much farther from the target than the national consumption rate. Even worse is the Volusia County rate of 2.7 gallons per person in 2012. It is clear in this that Volusia County residents are consuming more alcohol than is desirable. This suggests an increased need for education about limiting alcohol consumption.

**When ranked from lowest to highest with regard to percentage of adults engaging in binge drinking Volusia County comes in 39th out of 67 Florida counties<sup>4</sup>**

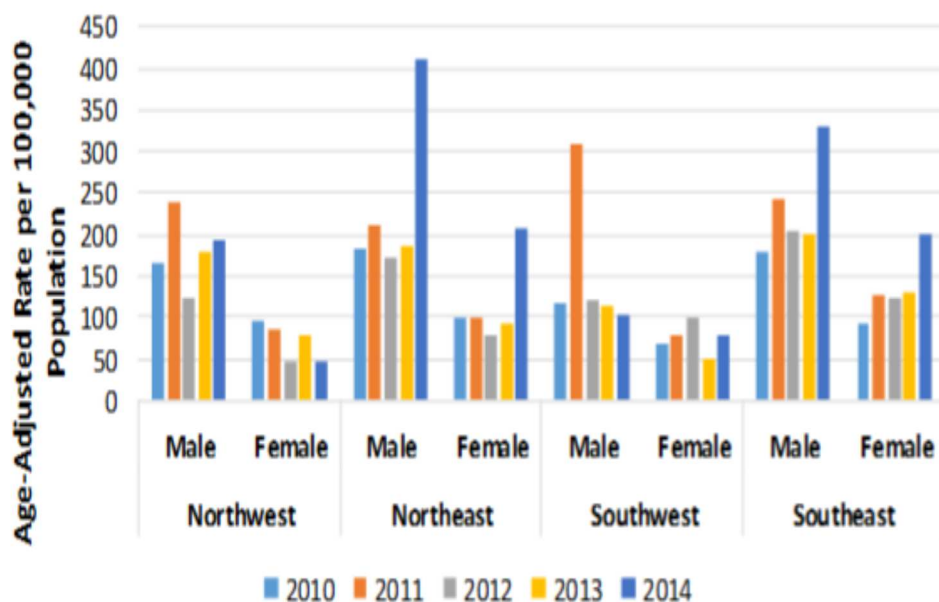
Another measurement that can give insight into patterns of alcohol consumption are proportions of adults that engage in binge or excessive drinking. The target percentage for excessive drinking is 25.4 percent and the target for binge drinking is 24.4 percent. The average national percentages in both of these areas between 2010 and 2013 falls above the goal percentage and the state values fall below the goal percentages. Volusia county percentages in 2014 fell well below the targets.

When evaluating countywide alcohol consumption a paradox develops due to Volusia County's low binge and excessive drinking percentages and high consumption rate. One possible explanation for this is that there are more people in the county that drink frequently as opposed to people who drink a lot in a short amount of time. This idea is further supported by the county's high rate of cirrhosis deaths (caused predominately by chronic alcohol consumption) relative to the rate seen in the state overall.

## Gender Disparities Within Volusia County

by Dominique Drager, Rachel Lee and Dr. Laura H. Gunn

### Alcohol Related Emergency Department Visits Due to Injuries in Volusia



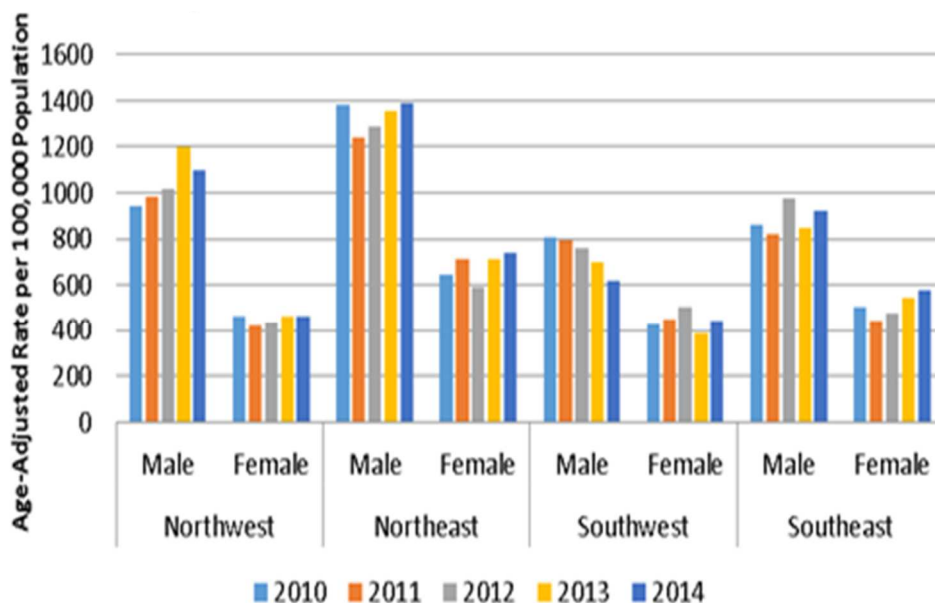
Men often exhibit higher rates of binge and excessive drinking than women. This increased proclivity towards alcohol consumption positions males to be more likely to experience an alcohol related event with potentially detrimental health consequences.<sup>1,2</sup> These patterns are seen throughout the nation<sup>3</sup>, the State of Florida and Volusia County.

The rates of alcohol related emergency department visits due to injuries in the Northeast and Southeast Volusia quadrants for both men and women showed a large increase between 2013 and 2014; with 2014 showing the highest rates

throughout the study period. In the Northeast quadrant this was a 118% increase for men and a 124% increase for women. In the Southeast quadrant this was a 66% increase for men and a 55% increase for women. These increases were statistically significant (based on non-overlapping 95% confidence intervals) for males and females in the Northeast quadrant and males in the Southeast quadrant. The rates of alcohol related emergency department visits due to injuries for men also peaked in 2011 in the western quadrants, and a statistically significant change was seen in the Southwest quadrant with a 167% increase from the 2010 rate. This pattern was not seen in female emergency department visits in 2011.

Men and women in the Northeast quadrant have consistently shown statistically higher rates of alcohol related hospitalizations than at least one other quadrant for each year in the study period. These hospitalizations appear to be increasing over time for men in the Northwest, Northeast and Southeast quadrants while the rates for men in the Southwest quadrant have shown a promising consistent decrease between 2010 and 2014. The rates of alcohol related hospitalizations for women are more sporadic between 2010 and 2014, though they remain significantly lower

### Alcohol Related Hospitalizations in Volusia



## Gender Disparities Within Volusia County (cont.)

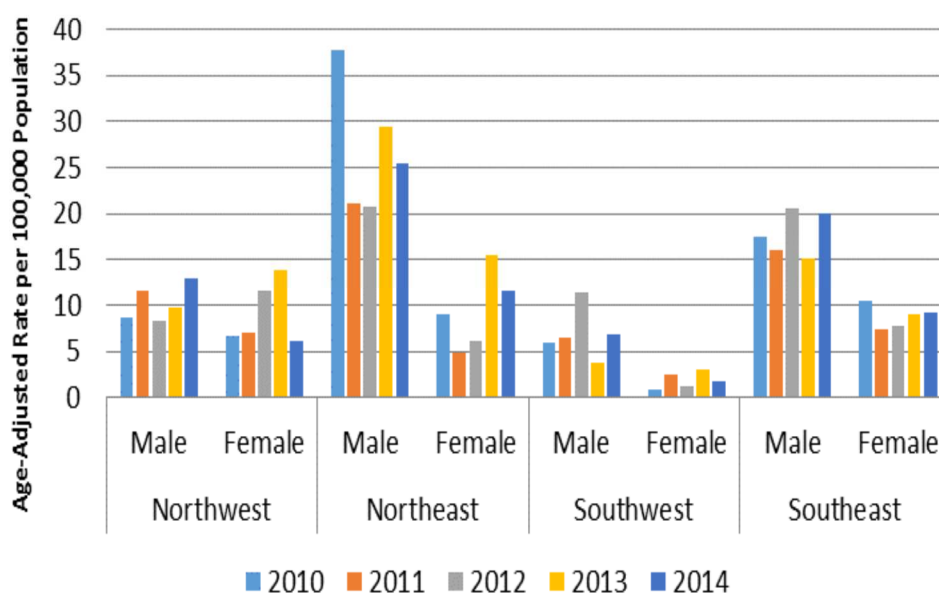
than the rates for men in most cases.

Alcohol related deaths, when classified by gender, show the same patterns as the hospitalizations and emergency department visits. Males in the Northeast quadrant consistently showed the highest death rates each year between 2010 and 2014. It is much more difficult to discern which quadrant consistently produces the most female deaths due to the low annual counts, yet it is clear that the least occurred in the

Southwest quadrant with the age-adjusted rate falling at or below 3.0 per 100,000 population throughout the duration of the study. The female death rates among the other three quadrants were all relatively similar and no single quadrant appeared to have higher average rates than the others.

Men, on average, have shown higher rates than women with regard to alcohol related deaths, hospitalizations and emergency department visits in all quadrants between 2010 and 2014. Results for males show more patterns and consistency compared to that of females due to the increased frequency of males experiencing an alcohol related event. The consistent patterns need addressing in order to prevent the gender disparity that is seen with regard to alcohol related events. The most concerning rates are those found among males in the Northeast quadrant. This shows that there is a clear difference in alcohol consumption patterns between not only males and females but within the quadrants of Volusia County, as well. This suggests the need for gender specific interventions, especially in the Northeast quadrant that aim to stop these trends from increasing.

**Alcohol Related Deaths in Volusia**



### Sources:

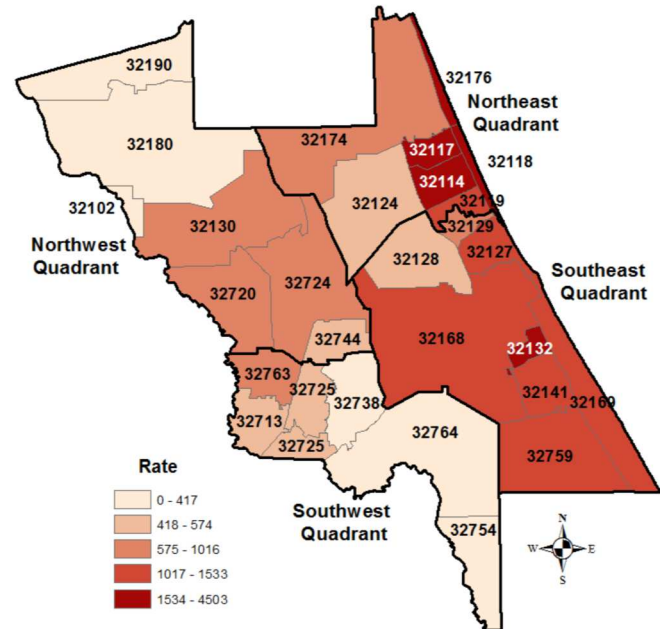
- 1.Rehm J et al. Alcohol-related morbidity and mortality. Alcohol Research & Health, 2003; 27 39-51.
- 2.Substance Abuse and Mental Health Services Administration. 2013 National Survey on Drug Use and Health (NSDUH). Table 2.46B—Alcohol Use, Binge Alcohol Use, and Heavy Alcohol Use in the Past Month among Persons Aged 18 or Older, by Demographic Characteristics: Percentages. 2013.
- 3.Centers for Disease Control and Prevention. <http://www.cdc.gov/alcohol/fact-sheets/mens-health.htm>. Accessed April 2016.



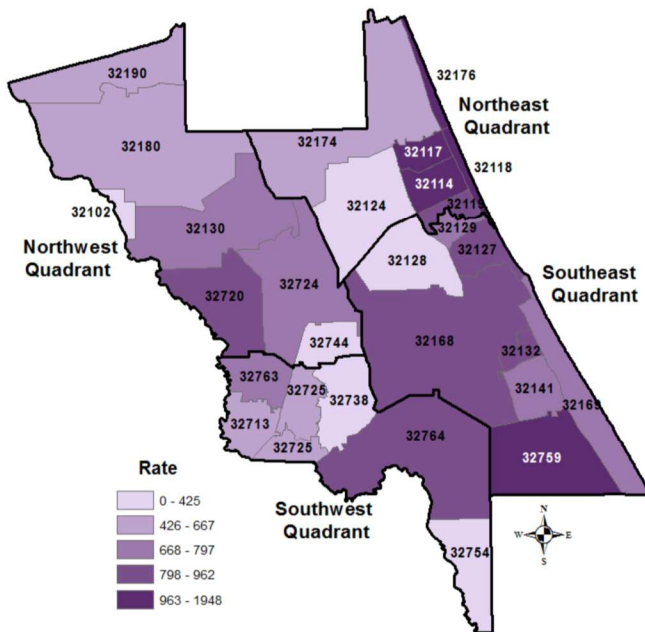
## Alcohol Related Events by ZIP CODE in Volusia County

### Alcohol related age-adjusted emergency department visit rates per 100,000 person, Volusia County, 2014

- ZIP 32114 presented with the highest rate in the county with a value of 4502.7
- No ZIP codes in the western quadrants had rates in the upper two quintiles
- No ZIP codes in the eastern quadrants had rates in the lowest category

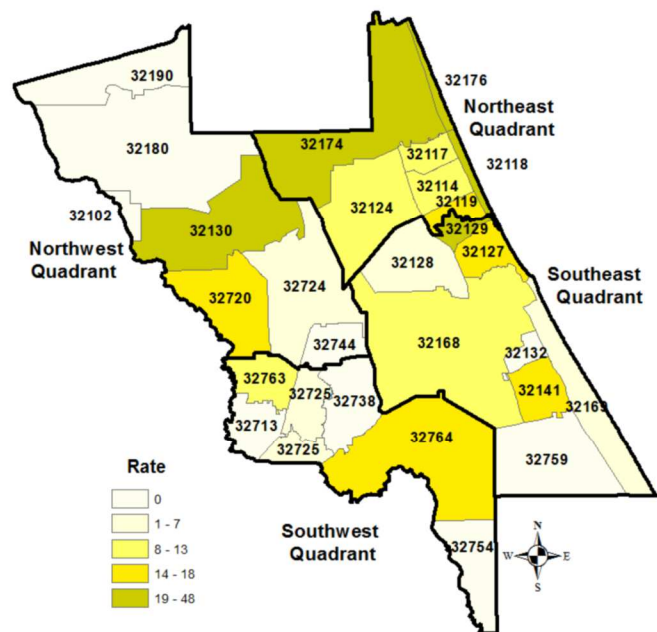


### Alcohol related age-adjusted hospitalization rates per 100,000 person, Volusia County, 2014



- ZIP code 32114 presented with the highest rate in the county with a value of 1948.3
- Only 3 ZIP codes (32744, 32754 and 32102) presented with a rate of 0
- All 5 ZIP codes that fall into the highest category are in the eastern quadrants

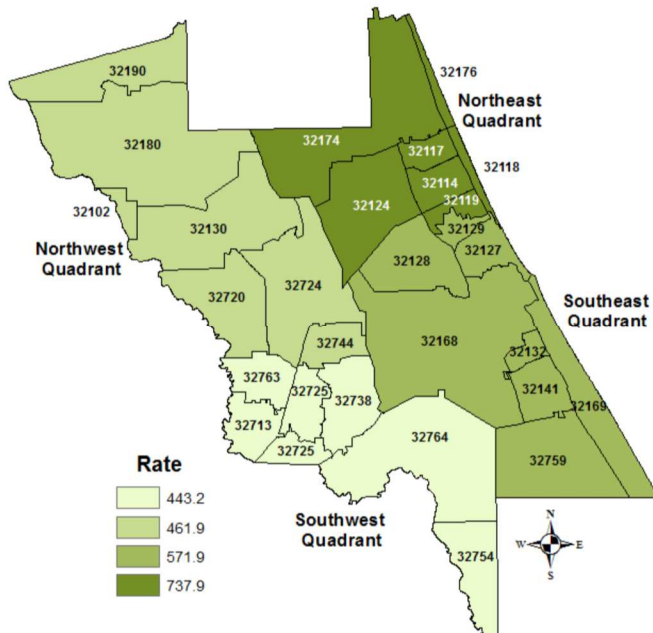
### Alcohol related age-adjusted death rates per 100,000 person in Volusia County, 2014



- ZIP code 32118 presented with the highest death rate in the county with a value of 48.1
- Of the 9 ZIP codes with no deaths in 2014, only 2 are in the eastern quadrants
- No ZIP codes in the Southwest Quadrant had a rate in the worst category

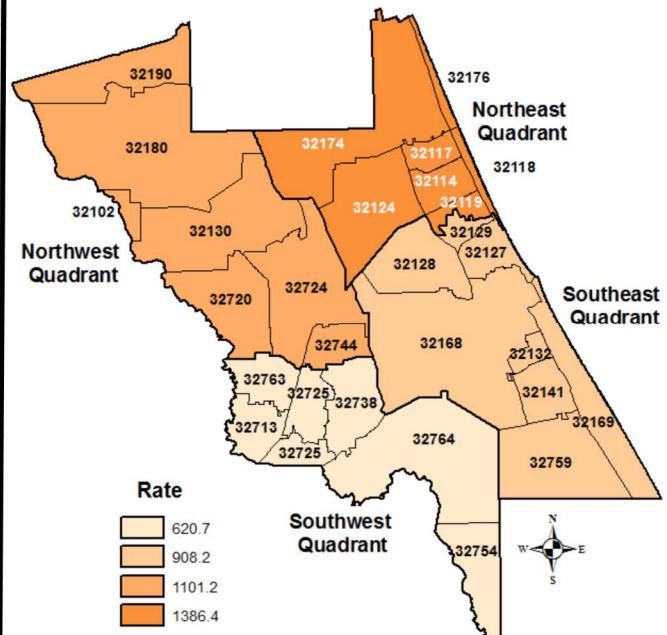
## Alcohol Related Events by QUADRANT in Volusia County

**Female alcohol related age-adjusted hospitalization rates per 100,000 person, Volusia County, 2014**



- The hospitalization rate for an alcohol related event for females was highest in the Northeast Quadrant
- The hospitalization rate for an alcohol related event for females was lowest in the Southwest Quadrant
- The overall hospitalization rate for alcohol related events for females in Volusia County in 2014 was 559.5

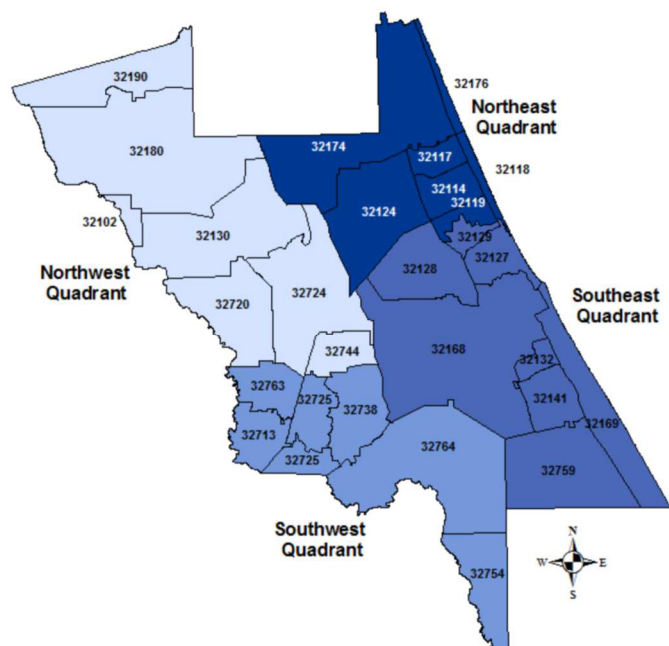
**Male alcohol related age-adjusted hospitalization rates per 100,000 person, Volusia County, 2014**



- The hospitalization rate for an alcohol related event for males was highest in the Northeast Quadrant
- The hospitalization rate for an alcohol related event for males was lowest in the Southwest Quadrant
- The overall hospitalization rate for alcohol related events for males in Volusia County in 2014 was 996.7

**Alcohol suspected motor vehicle crashes in Volusia County, 2014**

- The Northeast Quadrant had the highest number of crashes in 2014
- The Northeast and Southeast Quadrants combined were the locations of 74% of alcohol suspected crashes in 2014
- Fewer crashes occurred in the western quadrants combined than in either of the eastern quadrants alone

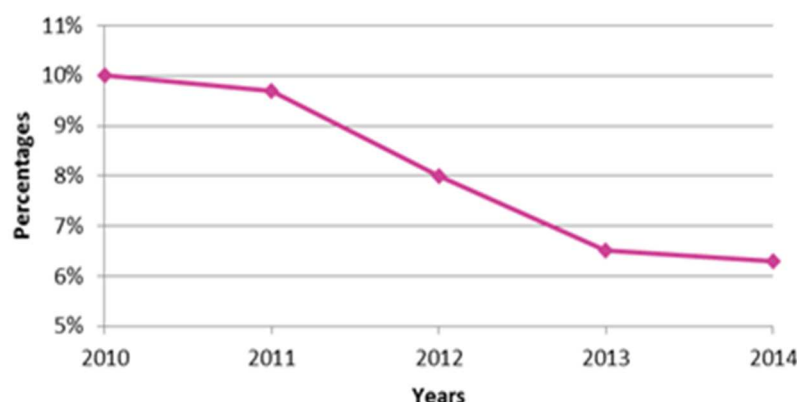


## Alcohol Related Motor Vehicle Crashes in Volusia County Between 2010 and 2014

by Rachel Lee and Dr. Laura H. Gunn

While some may see drunk driving as a recent issue, it has been a consistent problem since the beginning of the 19th century.<sup>1</sup> The first arrest for a drunk driving incident was in Britain in 1897 when a driver ran his cab into a building.<sup>2</sup> The popularization of automobiles added to the drunk driving issue; especially in America where in 1913, 485,000 out of 606,124 motor vehicles produced worldwide were produced in America.<sup>3</sup> One of the first drunk driving laws was enacted in New York in 1912 and the focus on drunk driving has been growing since then.

**Percentage of Alcohol-Related Motor Vehicle Accidents Among Total Motor Vehicle Accidents in Volusia**



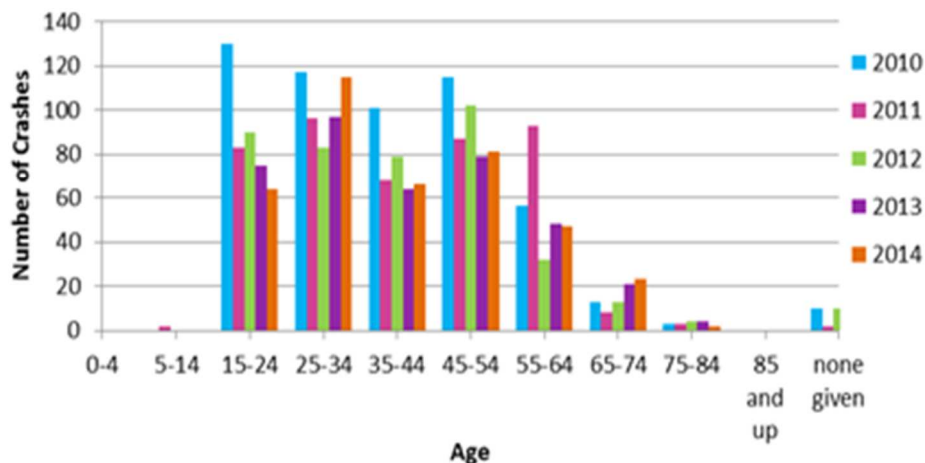
Nationally in 2014, there were 121 million self-reported incidences of driving under the influence of alcohol.<sup>4</sup> In Florida, a suspected 16,347 crashes were alcohol related in 2014.<sup>5</sup> This number has decreased by just over 1,000 since 2010.<sup>5</sup> In Volusia, alcohol related motor vehicle accidents accounted for 6.5% of all motor vehicle accidents in 2013. This is down by 4.5% from 2009.

In Volusia a little over half of these crashes have occurred without injury and even when an injury occurred, they were generally non-capacitating injuries. In 2014, nearly half of all alcohol related motor vehicle accidents ended in injury, and

6.7% ended in a fatality. Nationally and statewide rates of driving under the influence have decreased in recent years, but there is still a push to continue reducing these rates.<sup>9,5</sup> In Florida, half of the months in a year have a scheduled alcohol/driving awareness campaign, sponsored by the Florida Department of Transportation.<sup>6</sup> The most common of these campaigns, Buzzed Driving is Drunk Driving, occurs during holidays that are associated with drinking (i.e. St. Patrick's Day, Fourth of July, etc.). This campaign informs drivers that even one drink can impair their driving, and the best option is to stay safe and not drive after any alcohol has been consumed.<sup>7</sup> Individuals may go online and sign a pledge which states they will not drive after they have consumed alcohol.<sup>7</sup>

The age of the driver has been a large predictive factor in alcohol-related motor vehicle crashes. Traditionally, drivers ages 21-24 are the most at risk, with those 25-34 and 35-44 following close behind.<sup>8</sup> In Volusia, we generally see similar trends, though there have been a large number of crashes among drivers 45-55 years old.

**Age of Individuals in Alcohol Related Motor Vehicle Crashes in Volusia**





## Alcohol Related Motor Vehicle Crashes in Volusia County Between 2010 and 2014

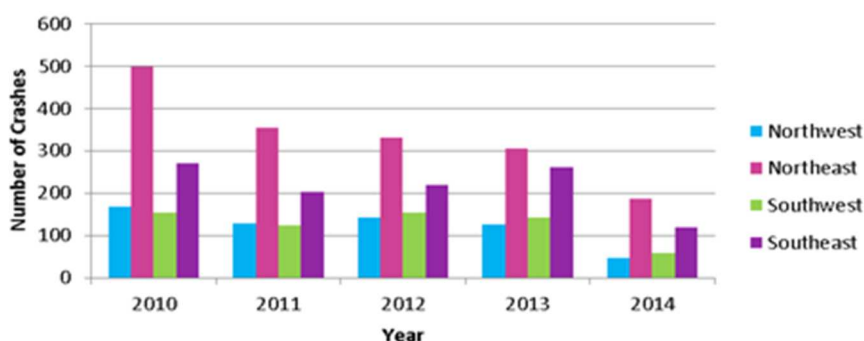
(cont.)

Specifically in 2010, drivers ages 45-54 were involved in 21% of all alcohol-related motor vehicle crashes. While this is not the highest for that year with individuals ages 15-24 at 24%, it's odd considering the national standards. In 2012, individuals ages 45-54 were highest and accounted for 25% of all alcohol-related motor vehicle accidents. In the same year, the next highest (ages 15-24) accounted for only 22%. By 2014, drivers ages 45-54 were second highest in alcohol-related crashes at 20% (the highest was ages 25-34 at 29%).

Continuing a look at the age 15-24 category, excluding 2012, the number of crashes has gone down from 2010-2013. In 2010, there were a total of 130 accidents, while there were only 64 in 2014. This is a 51% decrease. Oddly in 2011, ages 55-64 had a particular spike in alcohol related motor vehicle accidents. This was a 40% increase from 2010, but in 2012 it decreased by 65%.

Looking more closely at Volusia, we can see there are certain areas of the county that need more attention. The Northeast quadrant has been higher every year in alcohol-related motor vehicle crashes. In 2010, there were 42% more crashes in the Northeast quadrant than there were in the next highest quadrant, the Southeast. The Northeast has remained at least 20% or higher in number of alcohol related motor vehicle crashes every year since 2010, with the exception of 2013. The number of alcohol related motor vehicle crashes has gone down by 63% on the Northeast quadrant since 2010. While not as high, the Southeast has also been a source of motor vehicle related crashes within the county. Excluding 2012, it has also remained a consistent 20% higher than the next highest quadrant. The Northwest and Southwest quadrants have remained fairly consistent and low each year, compared to the other two. All of these findings suggest that while alcohol related motor vehicle crashes have gone down, there is still more work to be done with a more specific focus on certain areas of the county.

**Number of Alcohol Related Motor Vehicle Crashes in Volusia Quadrants**



### Sources:

1. Loewit-Phillips P, Goldbas A. Mothers against drunk driving (MADD): history and impact. International Journal Of Childbirth Education [serial online]. 2013;(4):62. Available from: Health & Wellness Resource Center, Ipswich, MA. Accessed April 7, 2016.
2. History. 1897—First Drunk Driving Arrest. <http://www.history.com/this-day-in-history/first-drunk-driving-arrest>. Accessed April 2016.
3. History.com. Automobiles. <http://www.history.com/topics/automobiles>. Accessed April 2016.
4. Centers for Disease Control and Prevention. Impaired Driving: Get the Facts. [http://www.cdc.gov/motorvehiclesafety/impaired\\_driving/impaired-drv\\_factsheet.html](http://www.cdc.gov/motorvehiclesafety/impaired_driving/impaired-drv_factsheet.html). Accessed April 2016.
5. Florida Charts. Alcohol-suspected motor vehicle crashes. <http://www.floridacharts.com/charts/OtherIndicators/NonVitalIndNoGrpDataViewer.aspx?cid=0302>. Accessed April 2016.
6. Florida Department of Transportation. Campaigns. <http://www.dot.state.fl.us/safety/10-Campaigns/Campaigns.shtm>. Accessed April 2016.
7. Buzzed Driving. <http://buzzeddriving.adcouncil.org/>. Accessed April 2016.
8. Centers for Disease Control and Prevention. Risk Factors: Who is Most at Risk? [http://www.cdc.gov/motorvehiclesafety/impaired\\_driving/impaired-drv\\_factsheet.html](http://www.cdc.gov/motorvehiclesafety/impaired_driving/impaired-drv_factsheet.html). Accessed April 2016.
9. National Survey on Drug Use and Health – 2013. Alcohol Use. <http://www.samhsa.gov/data/sites/default/files/NSDUHresultsPDFWHTML2013/Web/NSDUHsults2013.pdf>. Accessed April 2016.

## Alcoholic Liver Disease in Volusia County Between 2010 and 2014

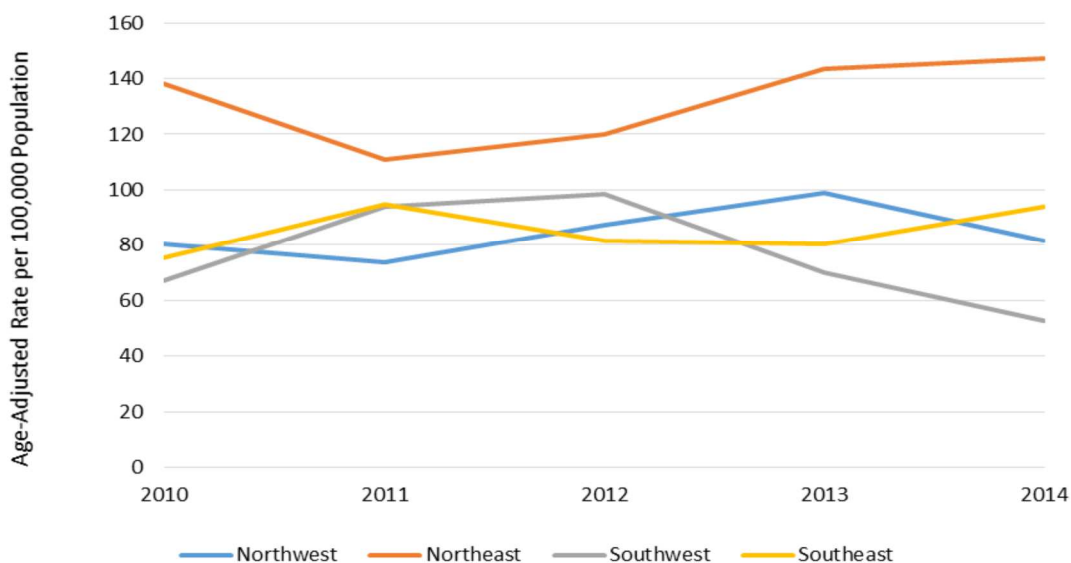
by Dominique Drager and Dr. Laura H. Gunn

According to the National Institute of Health, the liver is the largest internal organ in the body and is a crucial part of digestive and waste removal processes. While damaged liver cells in the average person can regenerate without causing clinical symptoms, the damage done by chronic alcohol users can be so severe that it cannot be repaired. With chronic alcohol abuse, the regeneration process does not occur properly, which leads to the formation of non-functional scar tissue on the liver. This is referred to as alcoholic liver disease. If the alcohol abuse is not stopped, the damage will become so severe that it becomes classified as alcoholic liver cirrhosis. This occurs when the scar tissue on the liver is so severe that blood flow is blocked and normal liver function is impaired. Symptoms of cirrhosis include, among others, fatigue, weight loss, abdominal swelling and jaundice (which is a yellowing of the skin or eyes). Once the scar tissue is formed, there is nothing that can be done to reverse it, however steps can be taken to slow the progression of the disease. In the case of alcoholic liver cirrhosis, the crucial element for treatment is to cease all consumption of alcohol. The only potential cure for alcoholic liver cirrhosis is a liver transplant.<sup>1</sup>

In the United States in 2013, alcoholic liver disease deaths (including alcoholic cirrhosis) occurred at an age adjusted rate of 5.1 per 100,000 population.<sup>2</sup> In Florida and Volusia County in 2014, the age-adjusted death rates were 6.3 and 9.6 per 100,000 population, respectively. Volusia County's rate is 52% higher than the overall Florida rate. In addition to this, Hepatitis C is the most common cause of liver disease in the United States<sup>1</sup>, yet in Volusia County alcoholic liver disease was responsible for over 50% of all liver disease deaths, making it the leading factor associated with countywide liver disease deaths. This suggests that alcoholic liver disease (and alcohol abuse in general) is a cause for concern in Volusia County.

A sub-county analysis of alcoholic liver deaths between 2010 and 2014 does not show that any individual quadrant presents with statistically higher (based on overlapping 95% confidence intervals) death rates when compared to the other quadrants. The age-adjusted death rates in the Southeast quadrant nearly tied those in the Northeast quadrant in 2012 with values of 11.20 (95% CI 6.53, 17.94) vs. 11.29 (95% CI 4.54, 23.27), respectively, per 100,000 population. This also occurred in 2014 with the Southeast rate of 12.64 (95% CI 7.61, 19.74) and the Northeast rate of 12.68 (95% CI 7.95, 19.20), respectively, per 100,000 population. This suggests that deaths from this debilitating disease occur relatively consistently between the quadrants. Even so, an evaluation of the confidence intervals suggests that none of the rates for any quadrant over the 5 year study period have statistically fallen below the 2013 national rate of 5.1 per 100,000 population which is indicative of the severity of this problem in Volusia County overall.

Sub-County Hospitalizations Due to Alcoholic Liver Disease in Volusia



## Alcoholic Liver Disease in Volusia County Between 2010 and 2014<sup>(cont.)</sup>

In contrast to the trends seen in alcoholic cirrhosis deaths, the Northeast quadrant has shown significantly higher age-adjusted rates of hospitalizations due to alcoholic liver disease compared to at least one other quadrant each year between 2010 and 2014. In addition to this, there was a significant increase in the hospitalization rate from 2011 to 2014 in this quadrant. There was a lack of consistency for the Southwest quadrant over the five year period between 2010 and 2014, yet the age-adjusted rate was significantly lower than the rates for the other three quadrants in 2014.

For every year between 2010 and 2014, the highest percentage of alcoholic liver disease hospitalizations was paid for by Medicare. Medicaid follows with having the second highest percentage. Together, Medicare or Medicaid paid for between 59% and 65% of all alcoholic liver disease hospitalizations each year throughout the study period. Uninsured individuals were responsible for between 11% and 14% of these hospitalizations annually, as well.

Emergency department visits due to alcoholic liver cirrhosis show less regularity than do the hospitalizations and deaths. Even so, it can

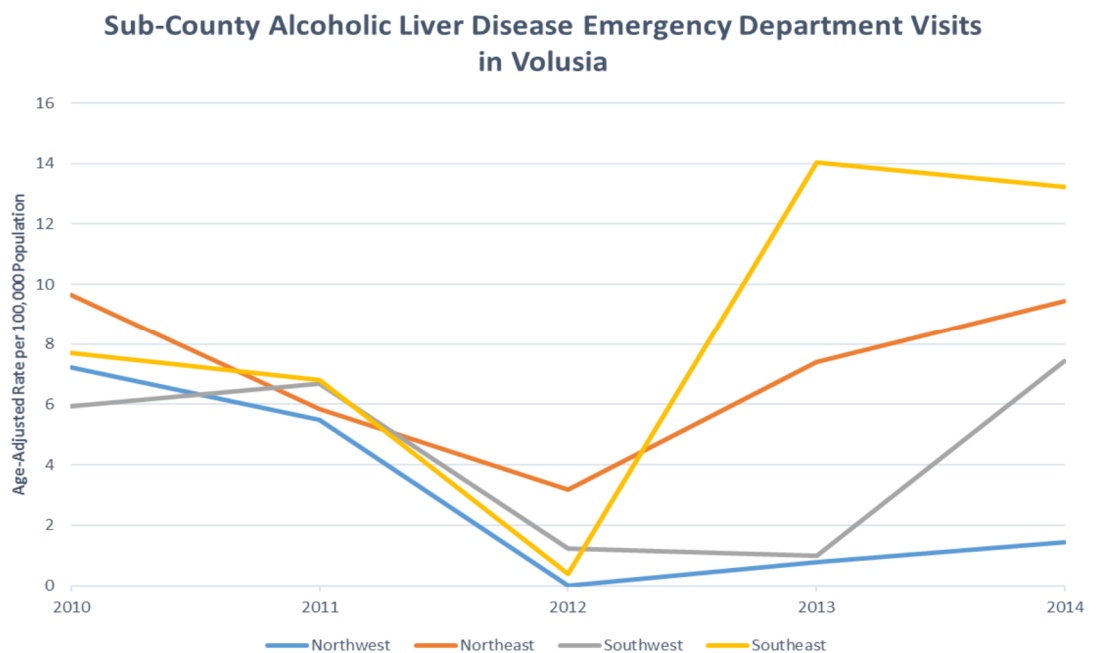
be seen that the closely spaced rates of the quadrants have become more spread out in 2013 and 2014. For both of these years, the eastern quadrants have presented with the highest rates, with significantly higher rates than the western quadrants.

Overall, these analyses show the importance of looking at trends at the sub-county level rather than just looking at the overall county rates.

Despite the ambiguity of the death analyses, it is clear through these analyses that the problem of alcoholic liver disease occurs predominantly in the eastern side of the county. This also suggests that alcohol abuse, in general, is more prominent in that area. All alcohol-related illnesses affect length and/or quality of life. Because of the prominence of alcoholic liver cirrhosis, especially in the eastern side of the county, general productivity and prosperity of the population can be affected if the rates do not start to show a promising decrease.

### Sources:

1. National Institute of Health: National Institute of Diabetes and Digestive and Kidney Diseases. Cirrhosis. <http://www.niddk.nih.gov/health-information/health-topics/liver-disease/cirrhosis/Pages/facts.aspx>. Accessed April 2016.
2. Centers for Disease Control and Prevention. [www.cdc.gov](http://www.cdc.gov). Accessed on March, 23, 2016.



## Healthy Volusia Report Key Points

- Alcohol use has a wide variety of short-term and long-term impacts on the body that can range from mild and temporary to permanent and deadly
- When evaluating alcohol related events, ZIP code 32114 (as well as the Northeast Quadrant as a whole) often shows the highest rates.
- While Volusia County is excelling in reducing rates of binge drinking, rates of alcoholic liver disease and overall alcohol consumption are still higher than the Healthy People 2020 goal.
- Alcohol suspected motor vehicle accidents are on the overall decline in Volusia County, although younger individuals are still at an increased risk
- Males show significantly higher rates of alcohol related hospitalizations, emergency department visits and deaths than females
- Rates of alcoholic liver disease are much higher than Healthy People 2020 target and appear to be increasing over time in Volusia County

**Florida Department of Health in Volusia County**  
**Office of Informatics and Assessment**  
**386-274-0605**  
[www.volusiahealth.com/stats](http://www.volusiahealth.com/stats)

### Average number of days per week alcohol is consumed in Volusia County, 2013

- The residents of ZIP code 32124 on average reported drinking every day of the week
- Residents of the Northeast Quadrant reported drinking more frequently than the residents of the other 3 quadrants
- No ZIP codes in the western quadrants averaged drinking more than 3 days per week

