

Orange County Demographics

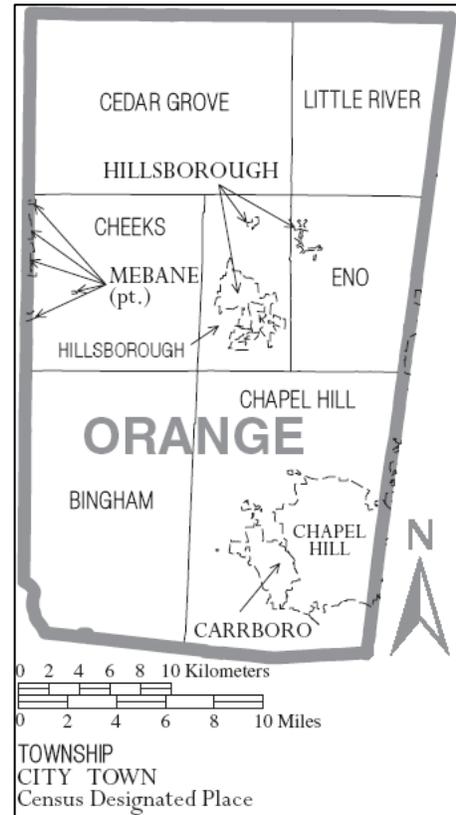
Population

Population estimates from 2016 indicate that North Carolina had approximately 10 million residents in July 2016.^{1,2} A majority of its residents were Non-Hispanic white (64%), female (51%), and over the age of 24 (68%).¹ North Carolina recently became the 9th largest state in the United States.³ North Carolina is composed of 100 counties. The counties range in size from roughly 4,000 residents to over 1 million residents.²

Orange County is one of North Carolina's larger counties. Orange County is composed of 7 townships. These townships are Cedar Grove, Little River, Cheeks, Hillsborough, Eno, Bingham, and Chapel Hill. The main towns in Orange County are Carrboro, Chapel Hill, and Hillsborough. A small portion of the city of Mebane straddles the boundaries of Orange County and Alamance County. While part of the city falls within Orange County's borders, the majority of the city is located in Alamance County. The same is true of Durham city. While parts of Durham city are found within Orange County, the city is predominantly in Durham County.^{4,5}

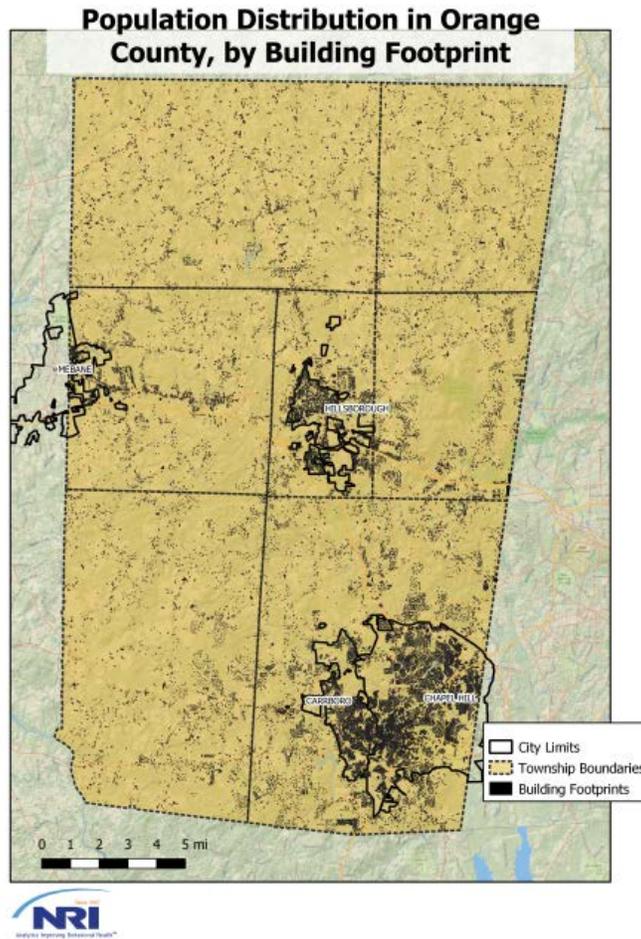
Orange County's population size has grown exponentially since the mid-1900s.⁵ In 1940 its population size was 23,000. In 2000, Orange County had a population of 115,531.⁵ Since 2000, there has been a 21% increase in Orange County's population size.⁵ As of September 2018, Orange County has a population of approximately 140,000 residents^{1,2,5,6,7} For North Carolina, Orange County is ranked as #21 (out of 100) based on its population size.⁸

Within Orange County, certain areas are more heavily populated than others. Data from the Orange County Tax Administration's Land Records/GIS Division⁹ was used to create a geographic information system (GIS) map that depicts the distribution of Orange County residents (See Figure AA.1). As can be seen from the graph, certain areas within Orange County (Hillsborough, Chapel Hill, Carrboro) have higher concentrations of residents.



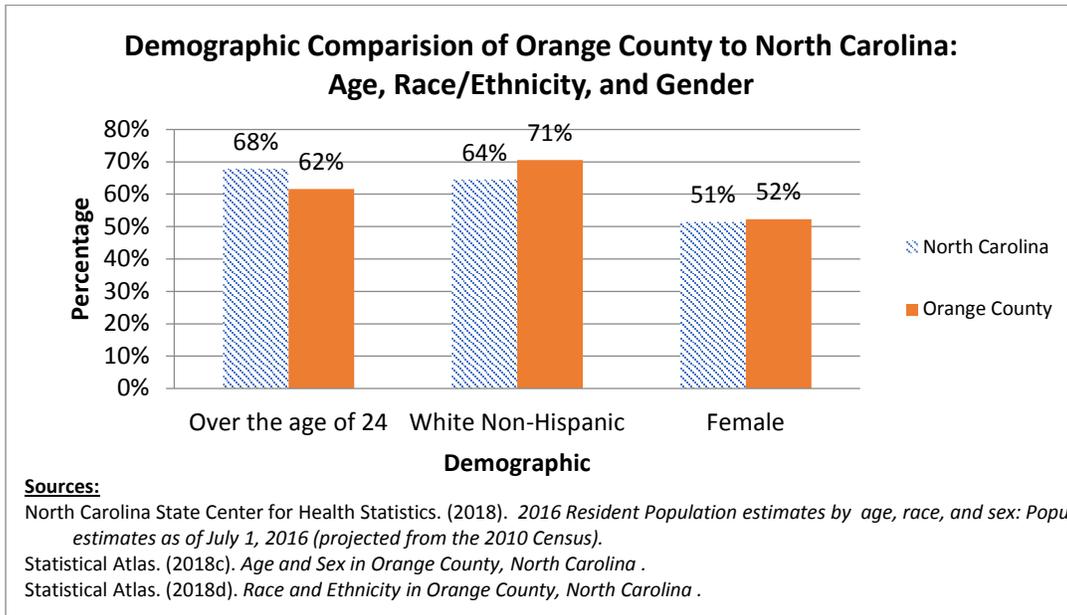
Wikipedia. (2018). *Orange County, North Carolina*. Retrieved from: [http: https://en.wikipedia.org/wiki/Orange_County,_North_Carolina](https://en.wikipedia.org/wiki/Orange_County,_North_Carolina)

Figure AA.1



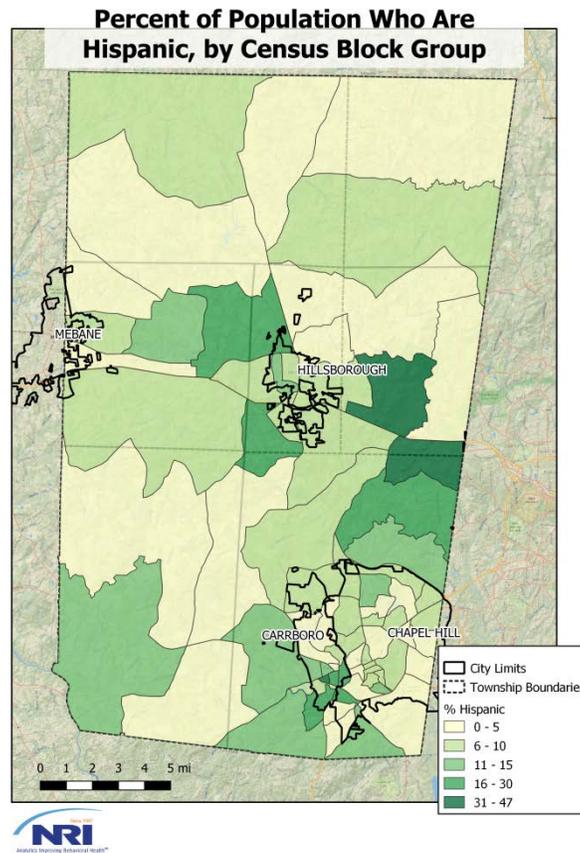
When it comes to demographics, a majority of Orange County's residents are female (52%), Non-Hispanic White (71%), and over the age of 24 (62%) (See Figure AA.2).^{1,10,11} Over one third (38%) of Orange County's residents are under the age of 24.¹

Figure AA.2



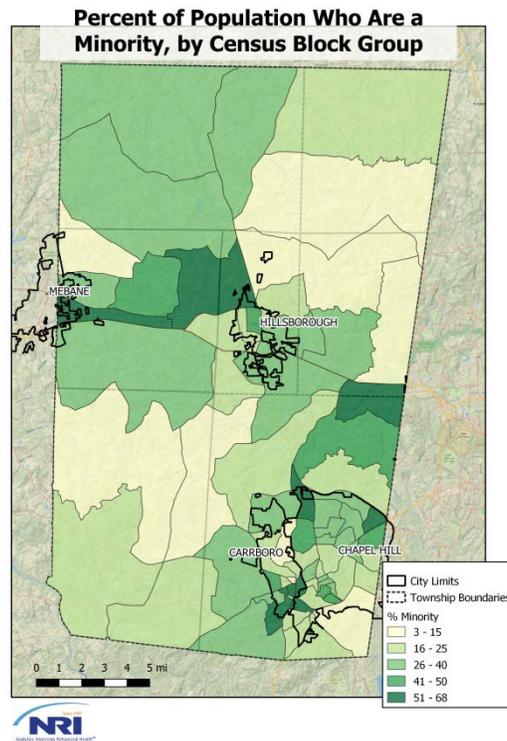
Data from the American Community Survey¹² can be used to display how these demographic variables map out across the county. Looking at residents that identified as Hispanic in the 2012-2016 American Community Survey¹², it can be seen that there are five regions within Orange County where 31 to 47% of their residents are Hispanic (See Figure AA.3). The areas with the highest concentration (16 to 47%) of Hispanic residents are to the areas East and West of Hillsborough. Overall, most of the regions in Orange County report low concentrations (10% or less) of residents who identify as being Hispanic (See Figure AA.3).

Figure AA.3



When ethnicity is combined with race, the distributions seen above in Figure AA.3 change slightly. Figure AA.4 depicts the proportion of Orange County residents who identify as minorities. In this context, the term *minority* refers to individuals who are not white and/or who identify as Hispanic. As can be seen from Figure AA.4, most of the regions within Orange County report that 75 to 97% of their residents are non-Hispanic and white (i.e., non-minorities). A few regions within Orange County (Northwest region of Orange County, Hillsborough, and the southeastern region of Orange County) have moderate to high concentrations (26 to 50% or 51 to 68%) of residents that identify as minorities. The regions that are shaded in the darkest green are the areas with the highest concentration (51 to 68%) of minorities (Figure AA.4).

Figure AA.4



The age distribution of residents across Orange County should be viewed in two groups: Under 18 and 18 to 24. The reason that it is best to view Orange County's population in this manner is because individuals between the ages of 18 to 24 have the opportunity to attend college. Throughout most of Orange County, less than 30 % of its residents are between the ages of 18 to 24. The one area that had a higher concentration (31 to 99%) of 18 to 24 year olds was Chapel Hill (See Figure AA.5). The high concentration of 18 to 24 year olds in Chapel Hill is most likely a result of Chapel Hill being the home of the University of North Carolina. This could also explain why the highest concentration (81 to 100%) of female residents between the ages of 18 and 24 can be found in Chapel Hill and its neighboring town of Carrboro (See Figure AA.6). A few other areas in Orange County (e.g. Southwestern portion of Orange County and areas surrounding Hillsborough) have high concentrations (81 to 100%) of 18 and 24 year old females. Outside of these areas, the concentration of 18 to 24 year old females is under 41% (See Figure AA.6).

Figure AA.5

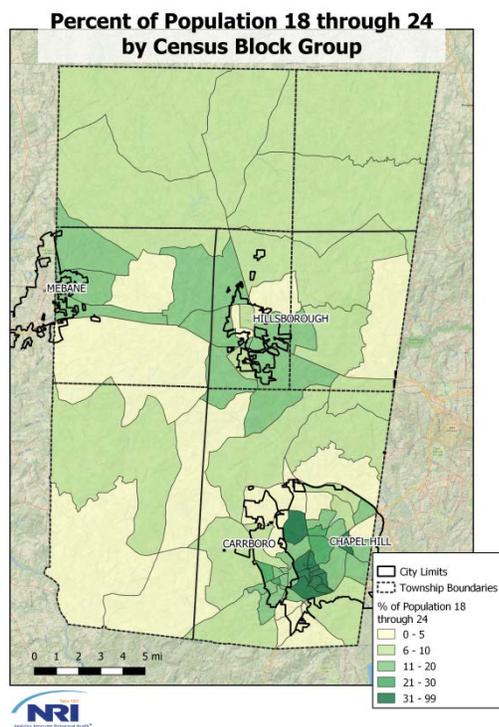
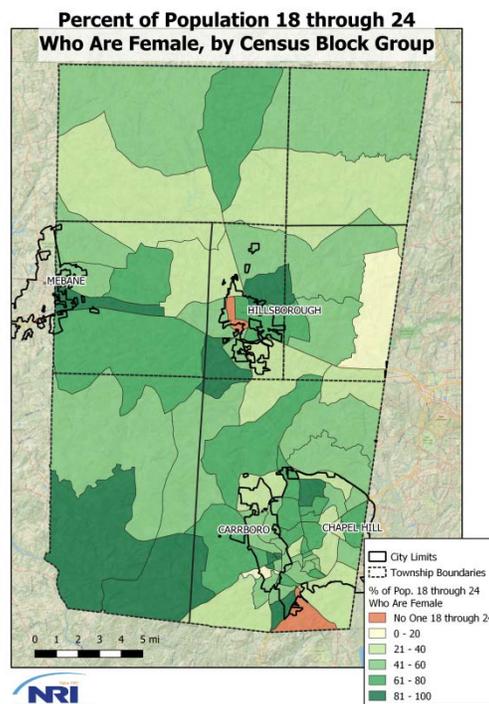


Figure AA.6



The GIS map depicting the geographic distribution of Orange County residents under the age of 18 illustrates that most of the regions within Orange County report that less than 30 % of their residents are under the age of 18 (See Figure AA.7). When gender is incorporated into the picture the map that is generated suggests that many of the regions within Orange County indicate that 21 to 60 % of their residents who are under the ages of 18 are female. The few regions that report that over 81 % of their under 18 population are female were located in Hillsborough and Chapel Hill (See Figure AA.8).

Figure AA.7

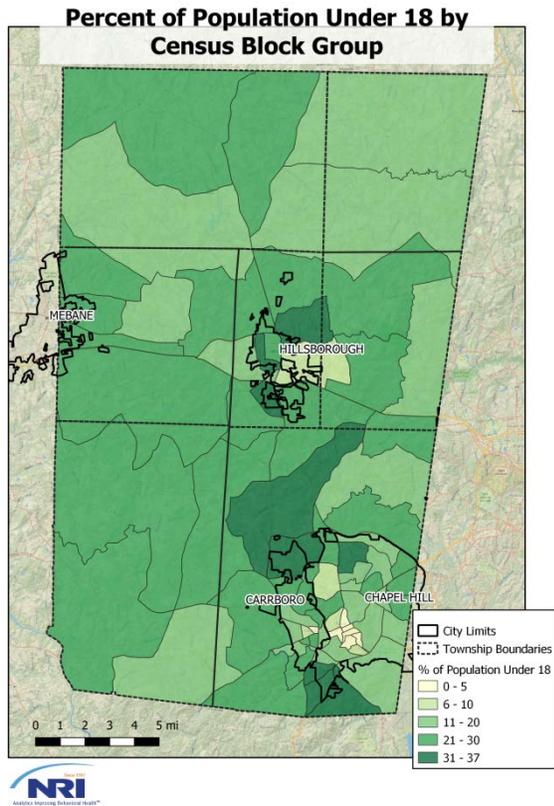
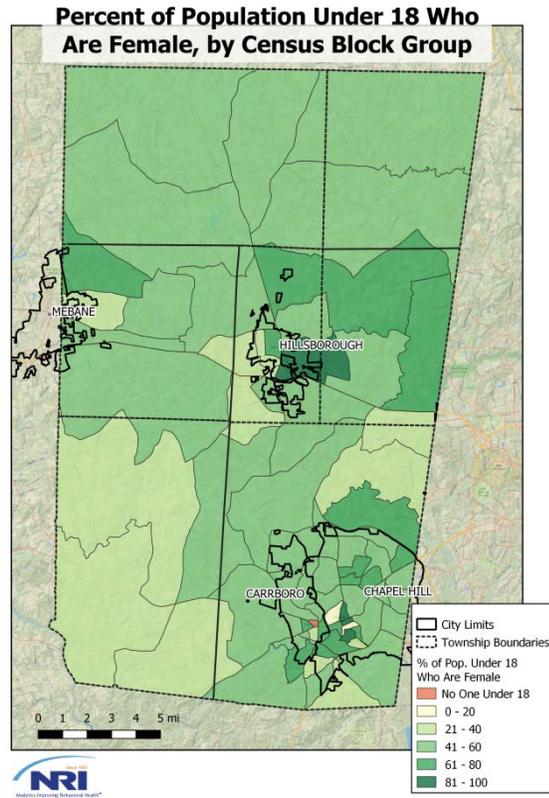


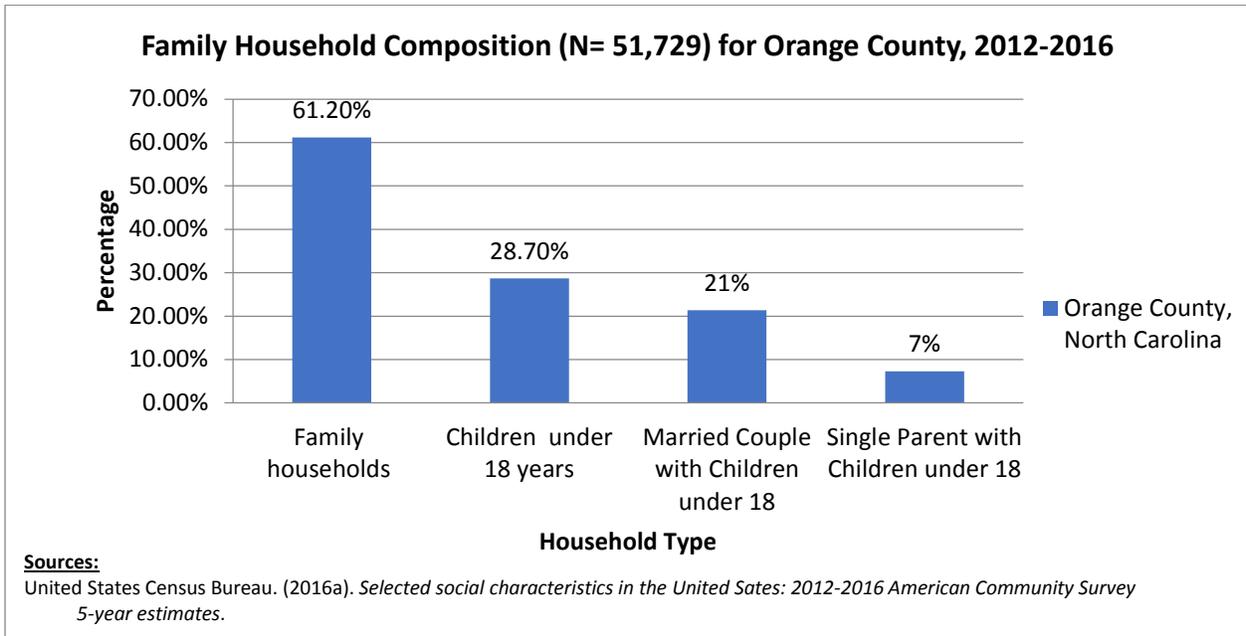
Figure AA.8



Households

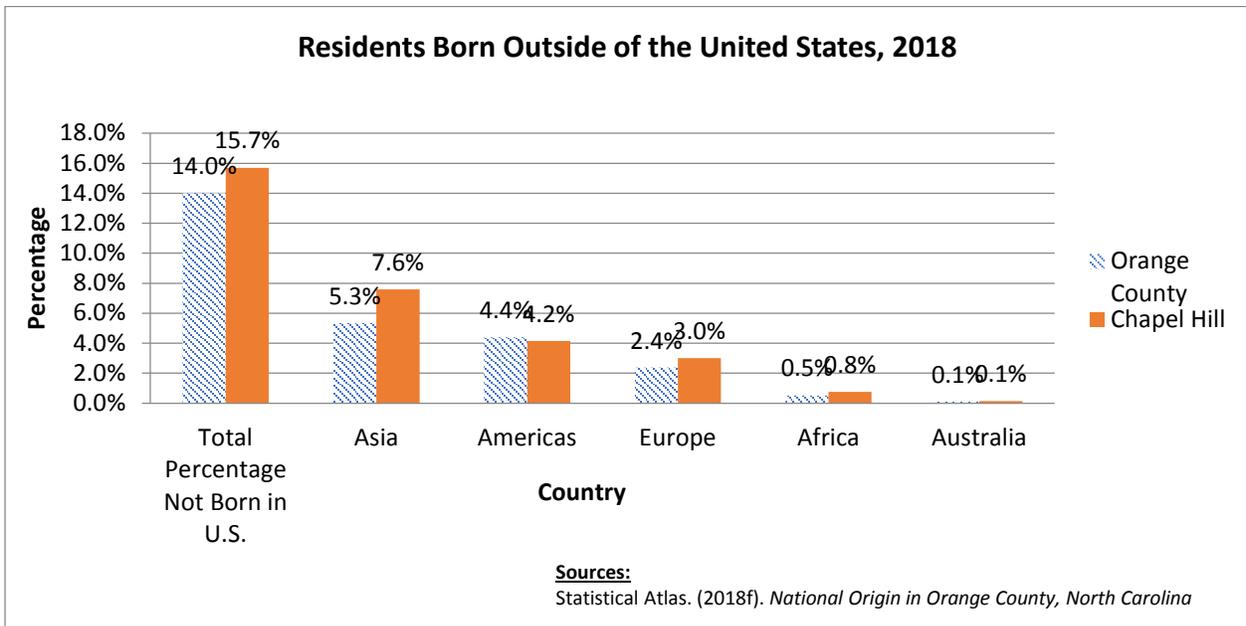
As of September 2018, Orange County had roughly 51,792 households.¹³ This number is only slightly higher than the number of households reported in 2016 (51,728 households) to the Census Bureau's 2012-2016 American Community Survey.¹⁴ According to the 2012-2016 American Community Survey (2016), 7.3% of respondents reported being single parents that were raising their children (under the age of 18) in their household without the support of a spouse (See Figure AA.9).¹⁴

Figure AA.9



Approximately 86% of Orange County’s residents were born in the United States.^{5,15} Residents who were not born in the United States came from Asia (5.34%), the Americas (4.39%), Europe (2.36%), Africa (0.51%) and Australia (0.10%).¹⁵ Within Orange County, Chapel Hill has the highest percentage of residents who were born outside of the United States (15.7%).^{5,15} Many of these residents were born in Asia (7.65%). Other residents were born in the Americas (4.15%), Europe (3.00%), Africa (0.76), and Australia (0.14%) (See Figure AA.10).^{5,15}

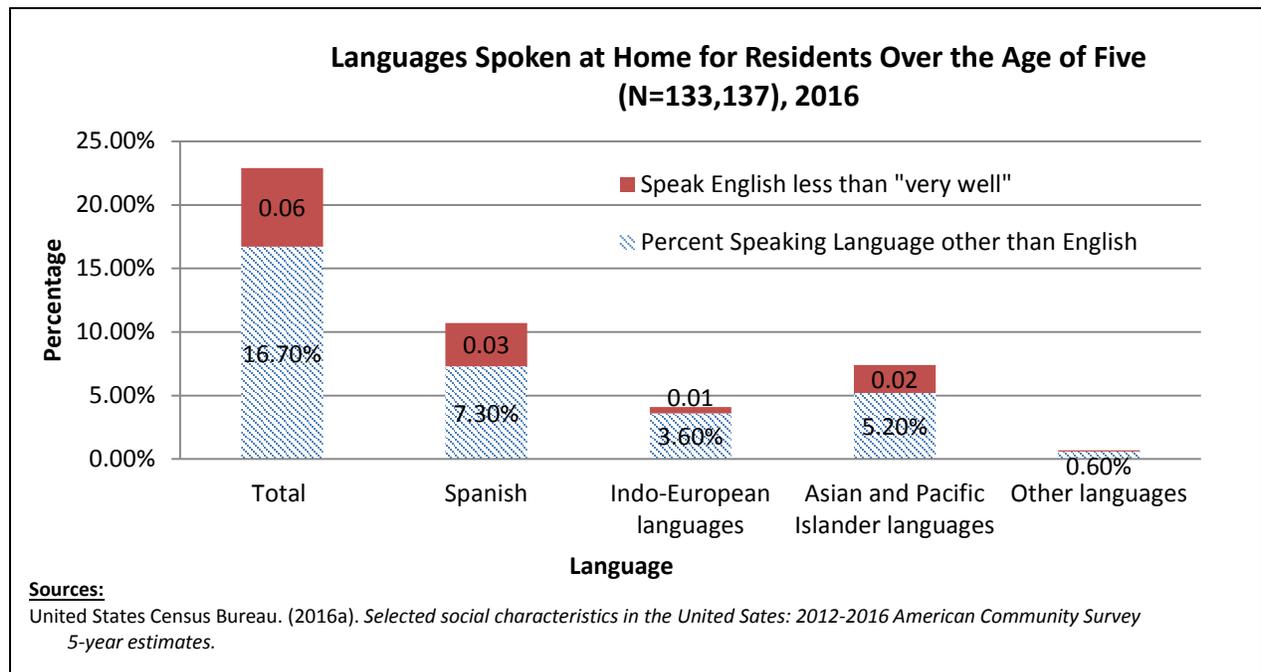
Figure AA.10



Language Spoken at Home

The national diversity in Orange County leads to differences in language preferences and proficiency. ^{5,16} More than 16% of Orange County speak another language at home. ^{5,14} The most common alternative language spoken at home in Orange County is Spanish (7.3%) (See Figure AA.11).¹⁴

Figure AA.11



Of the individuals who speak another language at home, roughly 37% are unable to speak English proficiently. ^{5, 14} According to the 2015 Community Health Assessment conducted by the Orange County Health Department, the residents in Orange County that are the most limited in speaking English tend to live in Carrboro and Chapel Hill. The survey also suggests that these individuals typically speak Spanish or an Asian-based dialect. ⁵

Data from the 2012-2016 American Community Survey¹² was used to create a GIS map to depict the distribution of residents who cannot speak English fluently for resident between the ages of 18 and 34 and for residents under the age of 18. The areas with the highest concentration of residents between the ages of 18 and 34 who do not speak English fluently, if at all, are located near Hillsborough (See Figure AA.12). The dark green shade suggests that in these areas 21-33% of 18 to 34 year olds cannot speak English well (if at all). The remaining areas within Orange County have higher concentrations of 18 to 34 year olds who can speak English fluently (over 80 %).

When Figure AA.12 (18 to 34 year olds) is compared to Figure AA.13 for residents under age 18, the differences between the maps suggests that a smaller percentage of children (ages 5 to 17 years old) do not speak English, or do not speak it very well, compared to adults (18 to 34 years old). The areas with the highest concentration (21 to 31 %) of children between the ages of 5 and

17 who are unable to speak English fluently are located in the northern section of Chapel Hill and southern section of Hillsborough (See Figure AA.13).

Figure AA.12

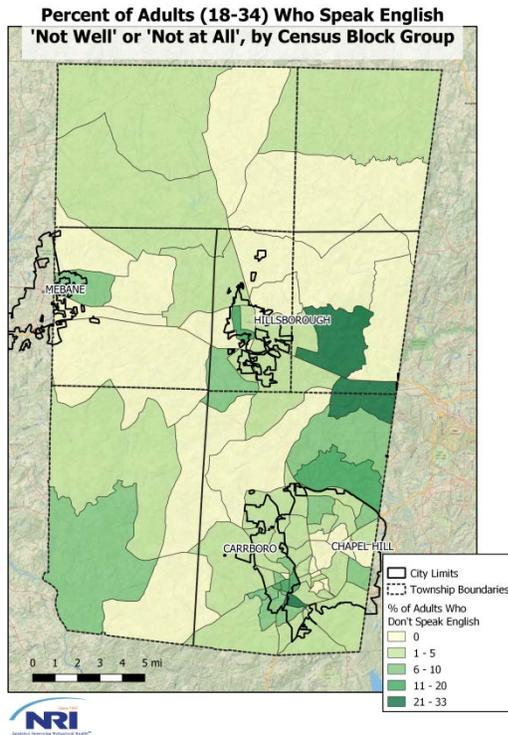
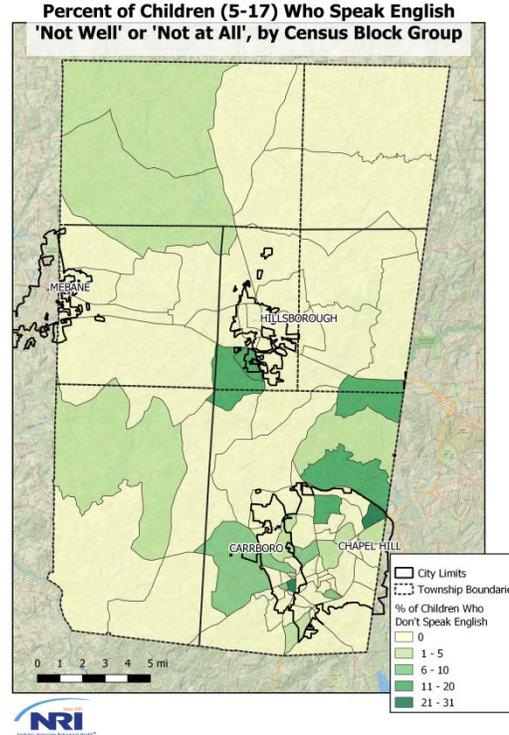


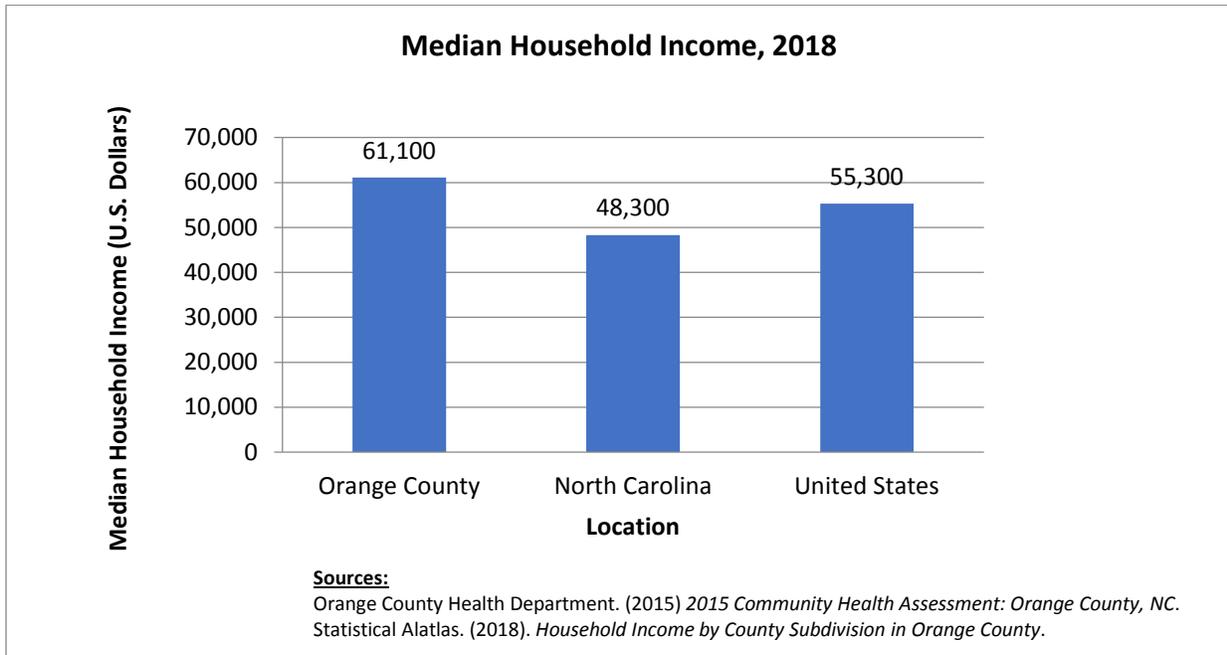
Figure AA.13



Poverty

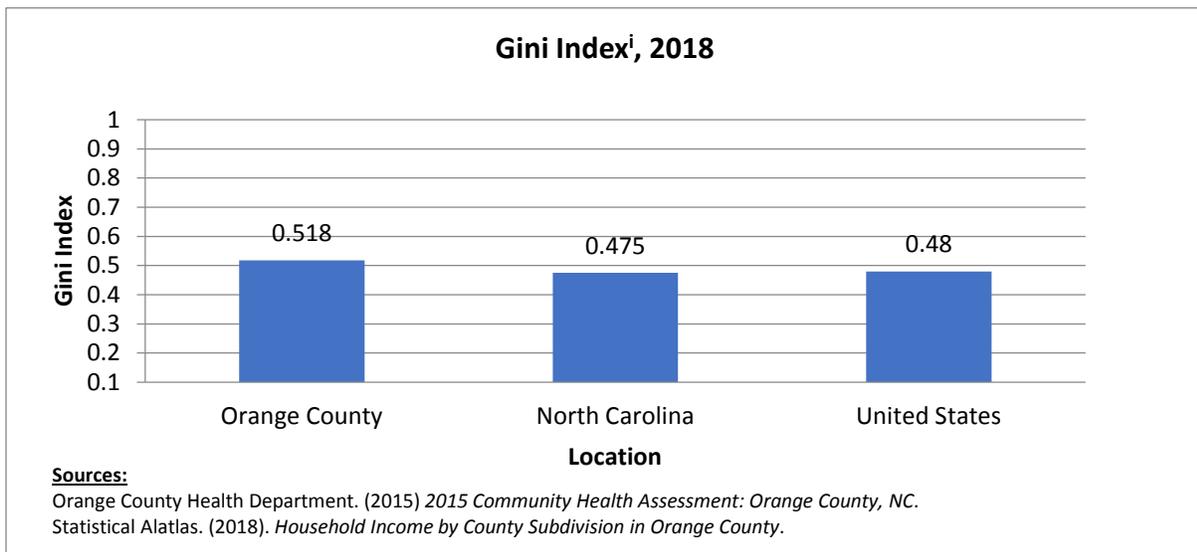
The median household income in Orange County is \$61,100.^{5,17} This level is higher than the median income in North Carolina (\$48,300) and the United States (\$55,300). Within Orange County, the Cedar Grove and Eno townships have the highest median household incomes (\$70,400 and \$65,000 respectively) (See Figure AA.14).^{5,17}

Figure AA.14



Orange County has a high level of income inequality. The Gini Index for inequality¹ for Orange County is 0.518.^{5, 17} This number is higher than North Carolina's index number (0.475) and the United States (0.48) (See Figure AA.15).¹⁷ This means that Orange County experiences a higher level of income inequality compared to North Carolina (as a whole) and the United States.

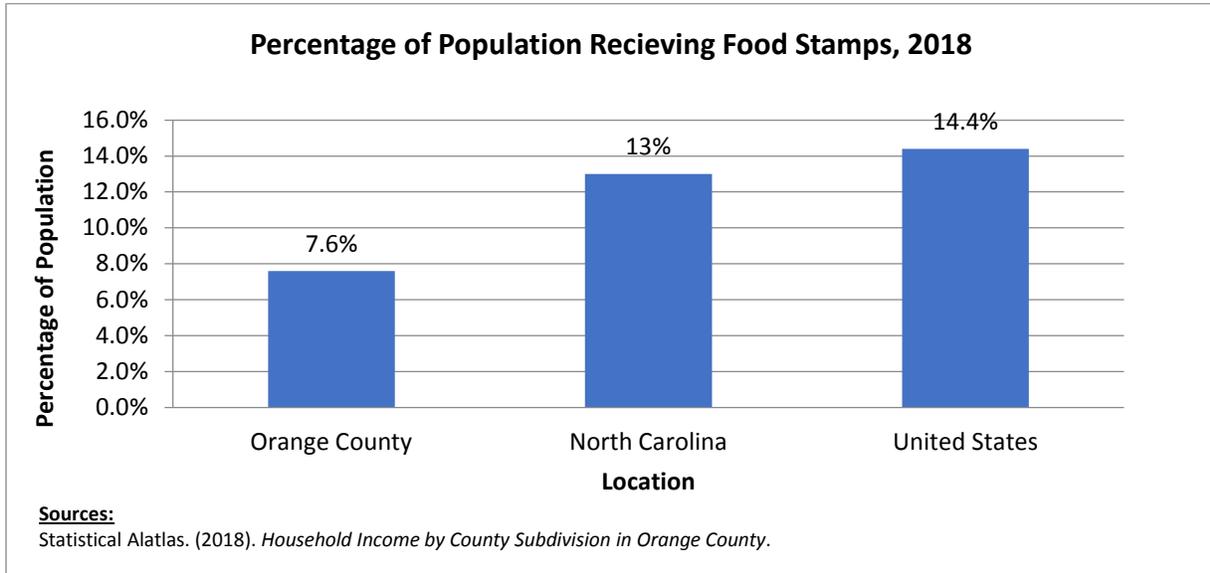
Figure AA.15



¹ Gini Index ranges from 0.00 (0%) to 1 (100%). The closer the number is to 1 (100%), the higher the level of inequality the location is experiencing.

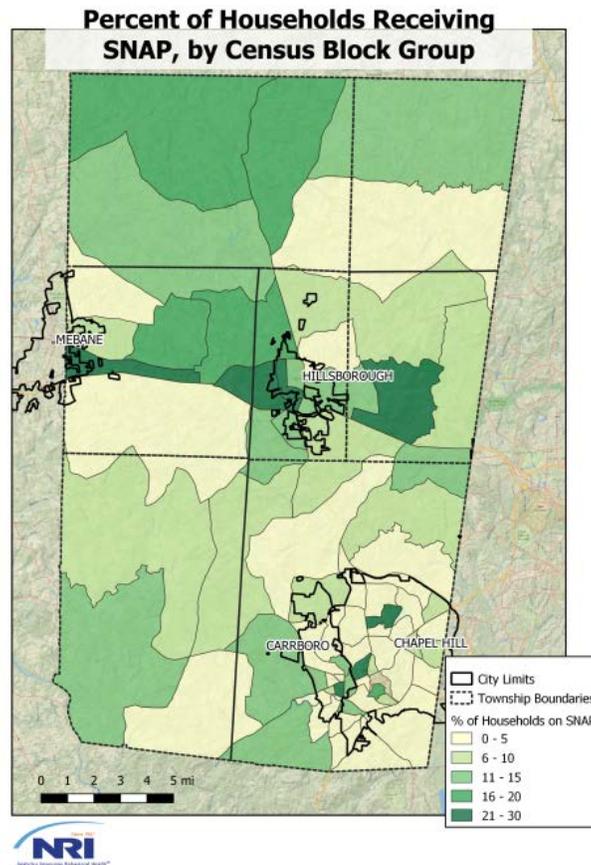
7.6% of Orange County residents are recipients of food stamps. This is lower than in the United States (13%) and North Carolina (14.4%) (See Figure AA.16).¹⁷ However, within Orange County, certain regions have higher percentages of residents receiving food stamps. For instance, the percentage of residents receiving food stamps is 13.5% in Hillsborough, 11.3%, in Eno, 10.7% in Cedar Grove, 9% in Cheeks, and 8.8% in Little River.¹⁷

Figure AA.16



One way to geographically map levels of poverty in a region is to examine the number of households receiving Supplemental Nutrition Assistance Program (SNAP). The 2012 to 2016 American Community Survey¹² collected information on the number of households in Orange County that receive SNAP. Using this information, a GIS map was created (See Figure AA.17). As can be seen from the map, the northwest region of Orange County is composed of a high proportion (11 to 30 %) of households receiving SNAP. Regions spanning between Mebane and Hillsborough, as well as an area to the east of Hillsborough, report that 16 to 30 % of their households receive SNAP. While a few other areas are comprised of 11 to 30 % of households that receive SNAP, most of the regions within Orange County are made up of households where 10 % or less receive SNAP (See Figure AA.17).

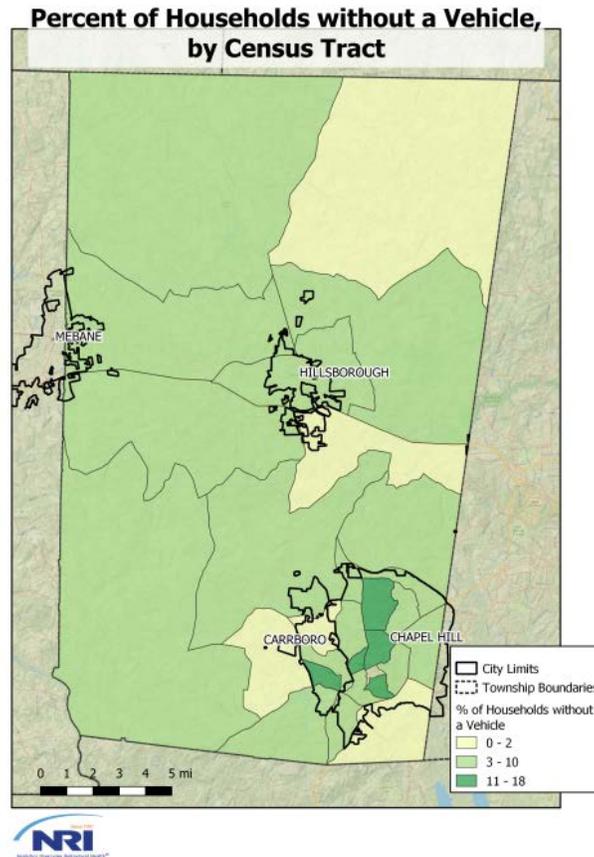
Figure AA.17



Transportation

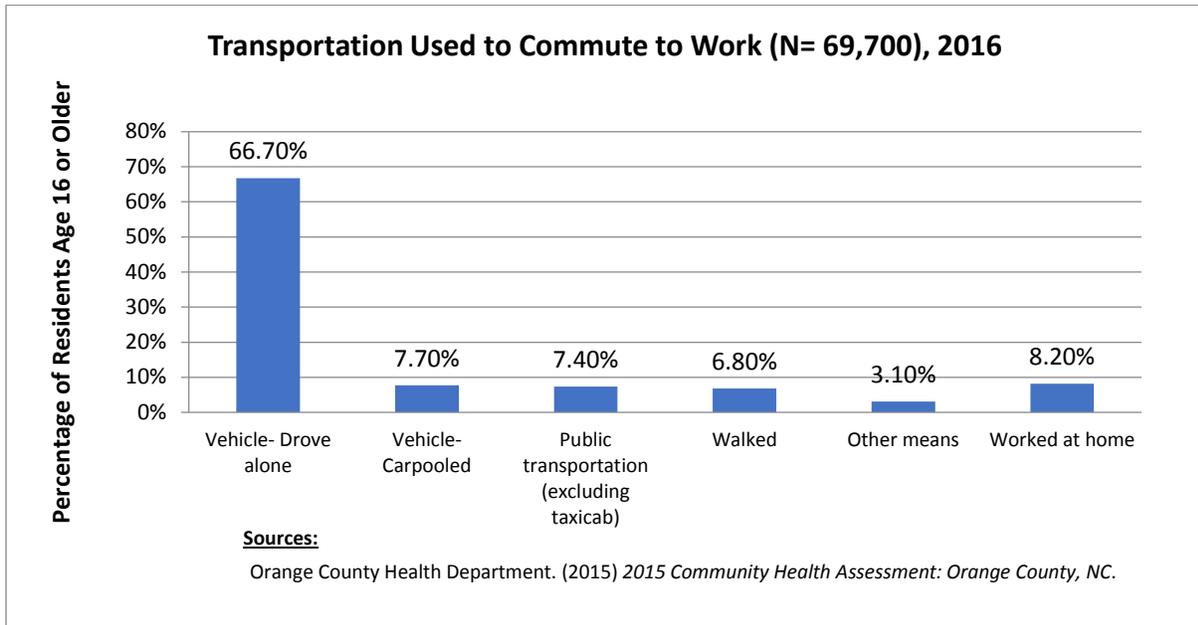
Poverty also impacts transportation options. Data suggests that, 9% of Orange County residents do not have a vehicle available.¹⁸ Using the data from the 2012-2016 American Community Survey¹² a GIS map can be created that displays the areas within Orange County that have the highest concentrations of residents without a vehicle. As can be seen from Figure AA.18, very few areas within Orange County have populations where more than 10 % of their residents do not own a vehicle. The two that indicated that more than 10 % of their residents did not have a vehicle were located in Chapel Hill and Carrboro (See Figure AA.18). This may be related to the fact that the University of North Carolina is located in Chapel Hill. It is plausible that a higher concentration of individuals without a vehicle is in this area because the survey may have collected data from college students who were living on campus or lived with close proximity. College students living on campus, or within close proximity, may not have a vehicle.

Figure AA.18



Transportation is an essential tool for commuting to work, especially in counties composed of pockets of rural communities. In 2016, approximately 67% of workers over the age of 16 residing in Orange County reported commuting to work by themselves using their own personal vehicle.¹⁹ A smaller percentage (8%) reported that they carpooled with other individuals to commute to work. A small percentage of individuals reported utilizing public transportation (7%) or walking (3%) as a method of commuting to work (See Figure AA.19).¹⁹ Certain public transportation systems (e.g. Chapel Hill transit system and the Hillsborough circulator) are free for the public.^{20,21,22} Other public transit options have fees but many offer discounts to residents who are disabled, under age 12, over age 65, a veteran, or are involved with the University of North Carolina.^{20,21} Orange County also has a program available that assists individuals living in rural areas access transportation to: work, employment opportunities (e.g. interviews, career fairs), court hearings, community meetings, shopping, medication pick-up and healthcare appointments. A one-way trip costs \$12.75.²³ While the program does offer a reduce cost for individuals on Medicaid who are elderly and disabled (\$3 each way), and the Demand Response Services website indicates that it has non-emergency Medicaid transportation services for Medicaid Beneficiaries who are deemed eligible for the services by the Department of Social Services, access to free or low-cost transportation services may be limited for individuals who are uninsured and residing in rural areas.²³

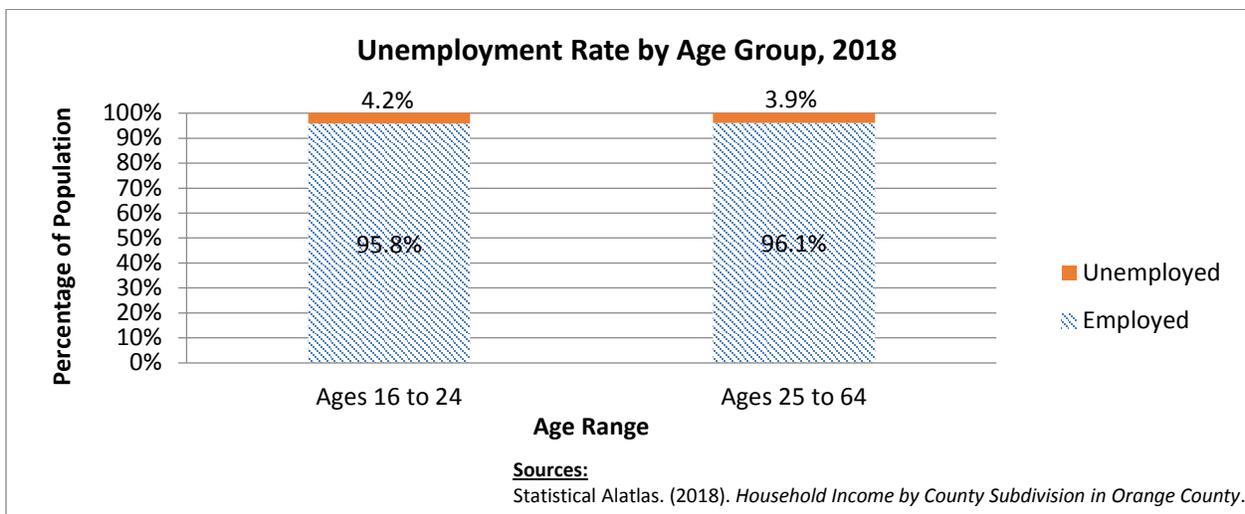
Figure AA.19



Employment

Unless individuals have an occupation that allows them to work from home, accessing transportation is vital to ensure that they arrive to work. While there are very few people who are unemployed in Orange County, a lack of transportation can impede the ability of this group to gain employment. As of September 2018, 3.9% of Orange County’s residents between the ages of 25 and 64 are unemployed.²⁴ Of the 14,600 Orange County residents between the ages of 16 and 24, 4.23% are unemployed (See Figure AA.20).²⁴

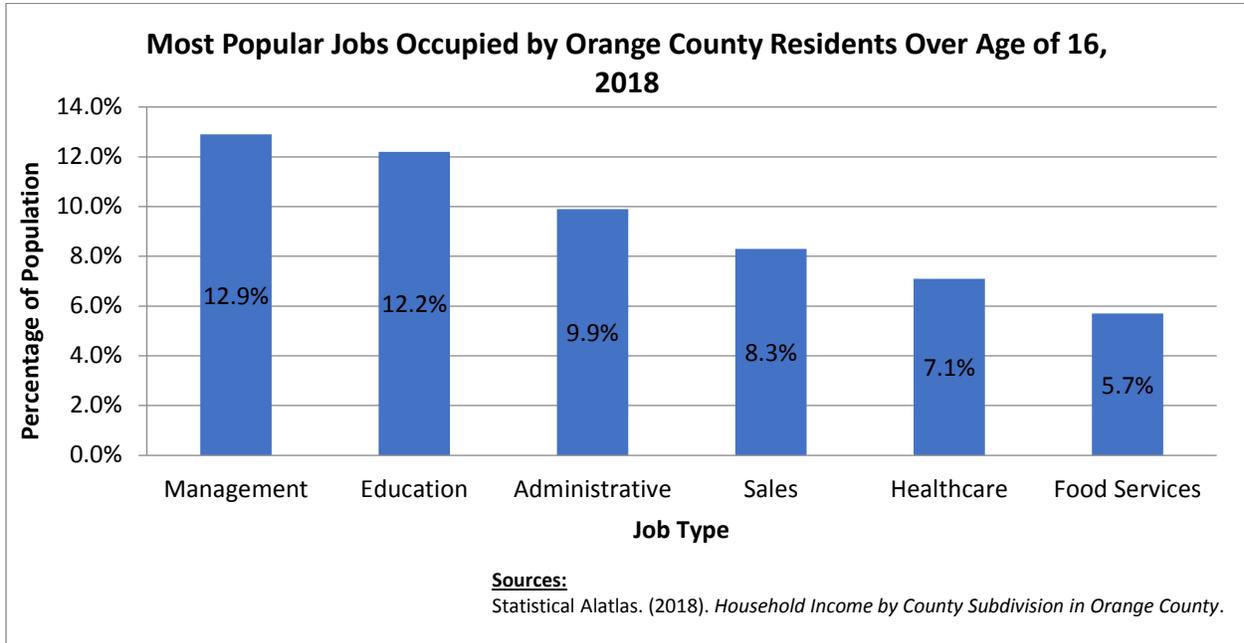
Figure AA.20



Many residents of Orange County who are employed are part of the civilian (non-military) labor force (62%)^{19,24} Most civilians are employed full-time. Data from September 2018 indicates that less than 40% of employed civilians residing in Orange County hold positions that are part-time

or seasonal.²⁵ In Orange County most residents over the age of 16 who are employed have management (12.9%), education (12.2%), administrative (9.9%), sales (8.3%) healthcare (7.1%) or food services (5.7%) positions (See Figure AA.21).²⁵

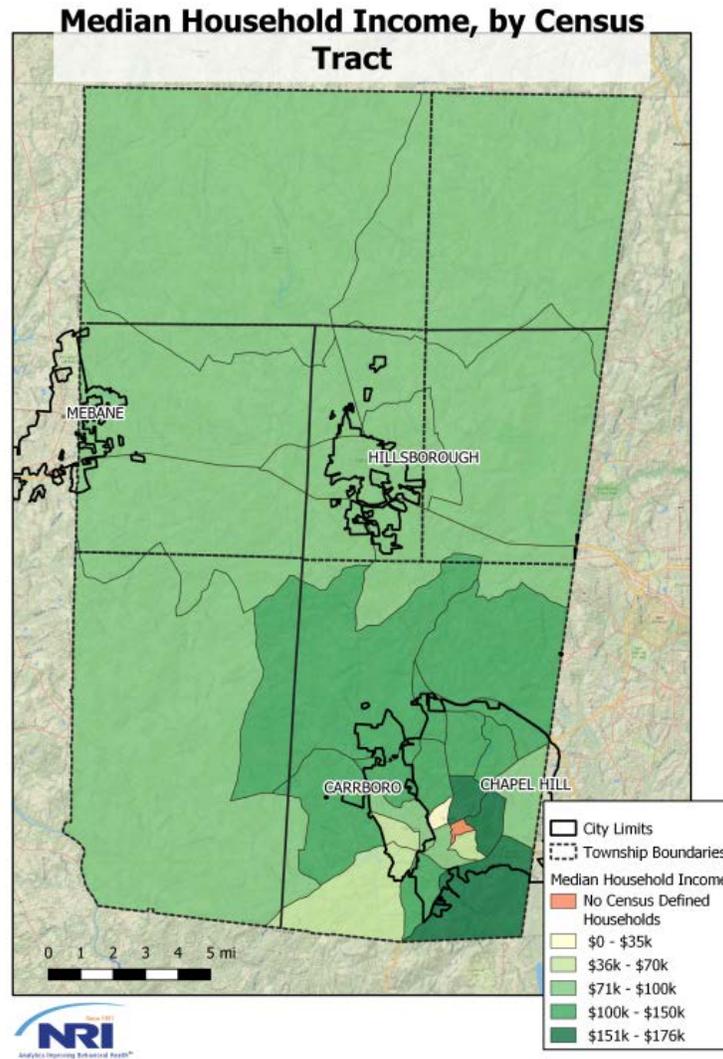
Figure AA.21



Distribution of Earnings

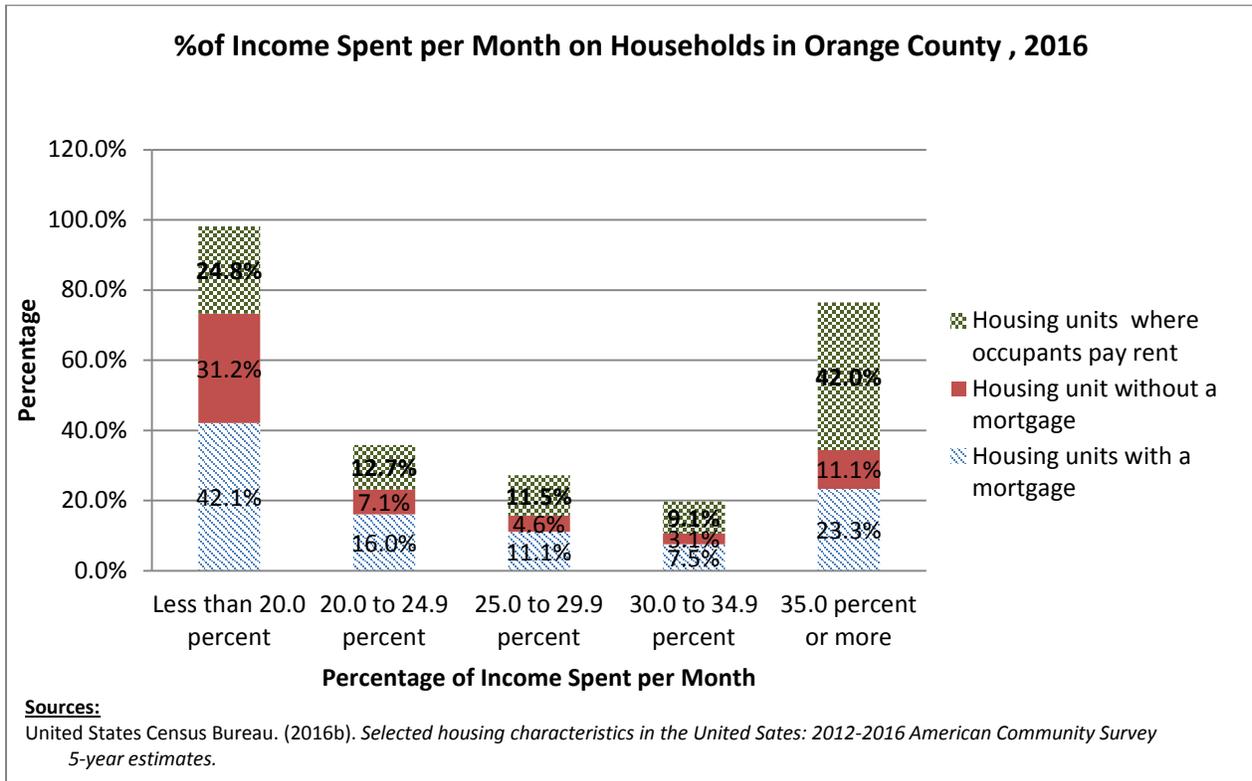
Families with difficulties paying rent and utilities are more likely to report barriers to access health care, higher use of the emergency department, and more hospitalizations.²⁶ Information compiled from the American Community Survey¹² indicates the median household income for most of the regions in Orange County's is between \$71,000 and \$100,000. As can be seen from Figure AA.22, differing median incomes can only be found within Orange County's southeast region.

Figure AA.22



Data from the 2012-2016 American Community Survey (2016) suggest that Orange County residents who have a household with a mortgage, report spending between \$1,000 and \$1,999 per month on their mortgage.¹⁸ For those who pay rent for their residence, many report spending between \$500 and \$1,499 per month on rent. To put this in perspective, this means that 23.3% of Orange County residents that have a mortgage and 42% of residents that pay rent spend more than 35.0% or more of their monthly income on these costs (See Figure AA.23).³⁵

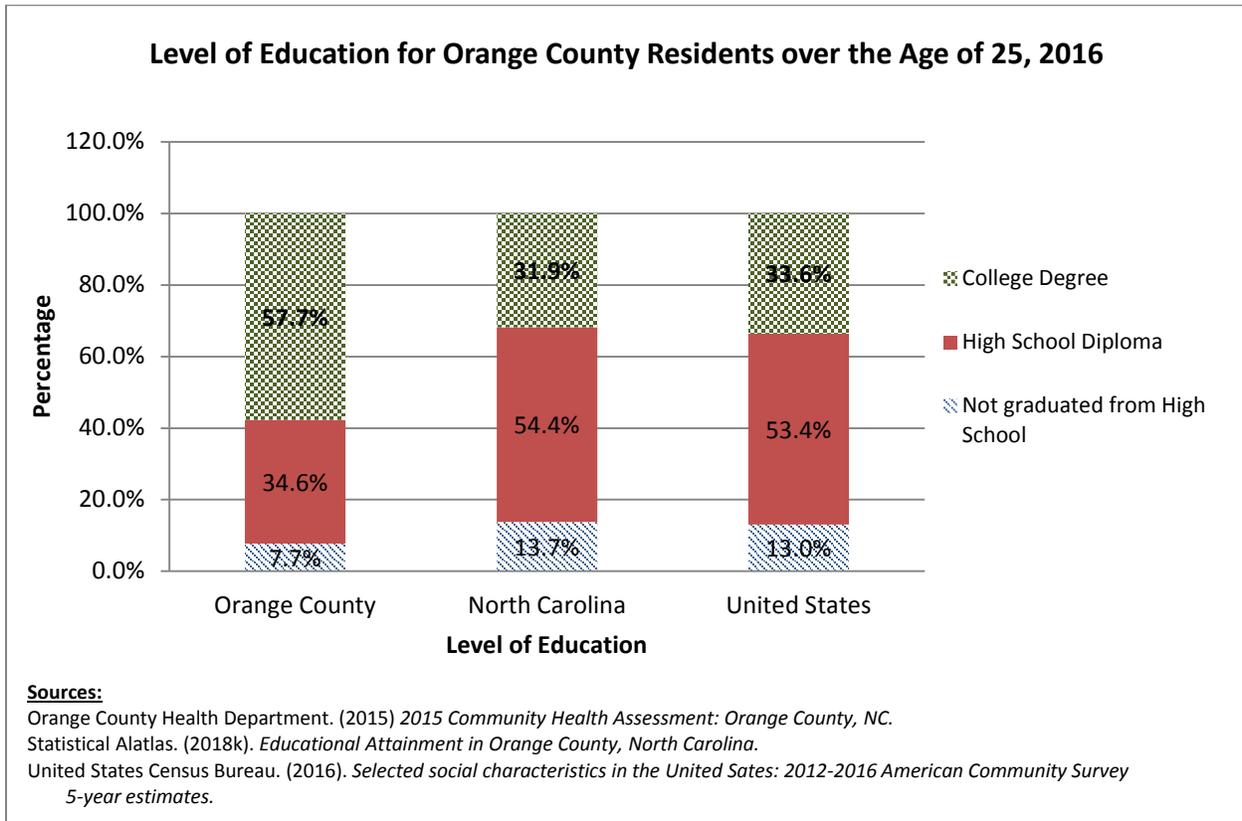
Figure AA.23



Education

Most Orange County residents over the age of 25 have gone to college. Approximately 35% have a high school diploma and 58% have a Bachelor's degree or higher (See Figure AA.24).^{5, 14, 27} According to the 2012-2016 American Community Survey, of the Orange County residents over the age of 25 who has a college degree, 26.10% had a Bachelor's Degree and 31.60% had an advanced degree.¹⁴ This means that a little less than 8 % of Orange County's residents who are over the age of 25 do not have a high school diploma.²⁷ In general, individuals over the age of 25 living in Orange County, have a higher level of educational attainment compared to other North Carolinians (13.7% have no high school degree, only 29% have received a Bachelor's, and less than 2.9% have an advanced degree) and the United States (13.0% do not have a high school degree, only 30.3% have received a Bachelor's, and roughly 3.3% have received an advanced degree).²⁷

Figure AA.24

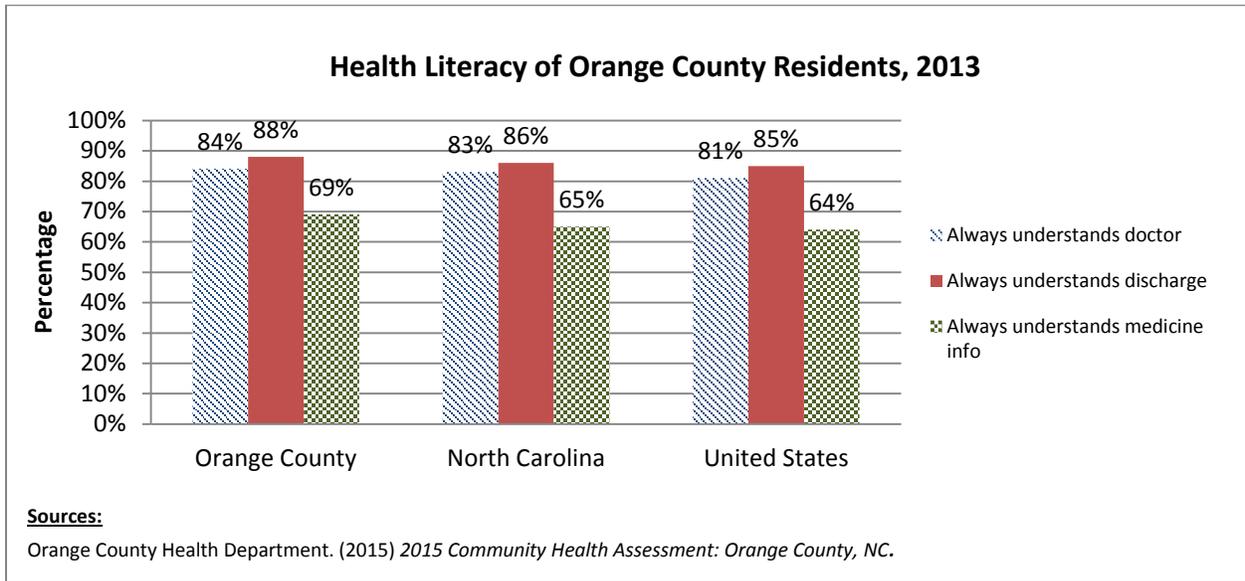


Areas within Orange County vary based on educational attainment. Residents living in Chapel Hill that are over the age of 25 have the highest level of educational attainment (5.4% have not graduated high school, 70.7% have a bachelor’s degree, and 19.8% have an advanced degree). Orange County as a whole has 7.6% of residents without a high school education. Comparatively, data from September 2018 suggest that Eno has the highest percentage of residents without a high school degree (17.6%) and Little River has the lowest percentage of residents with a Bachelor’s degree (28.2%) and advanced degrees (2.7%).²⁷

Health Literacy

Once an individual has access to health care services, he/she must understand their health condition(s) to improve his/her health outcomes.⁵ As a result, health literacy is essential. Health literacy is defined as the ability to understand the doctor, comprehend why he/she is being discharged (if applicable), and understanding information related to prescribed medication (if applicable). Within Orange County 84% of residents typically understand their doctor, 88% that are being discharged typically understand why, and 69% of residents who are provided with medicine understand what the medicine does and its purpose (See Figure AA.25).⁵ Across all three domains, the percentage of County residents who are health literate is higher than North Carolina and the United States.⁵

Figure AA.25



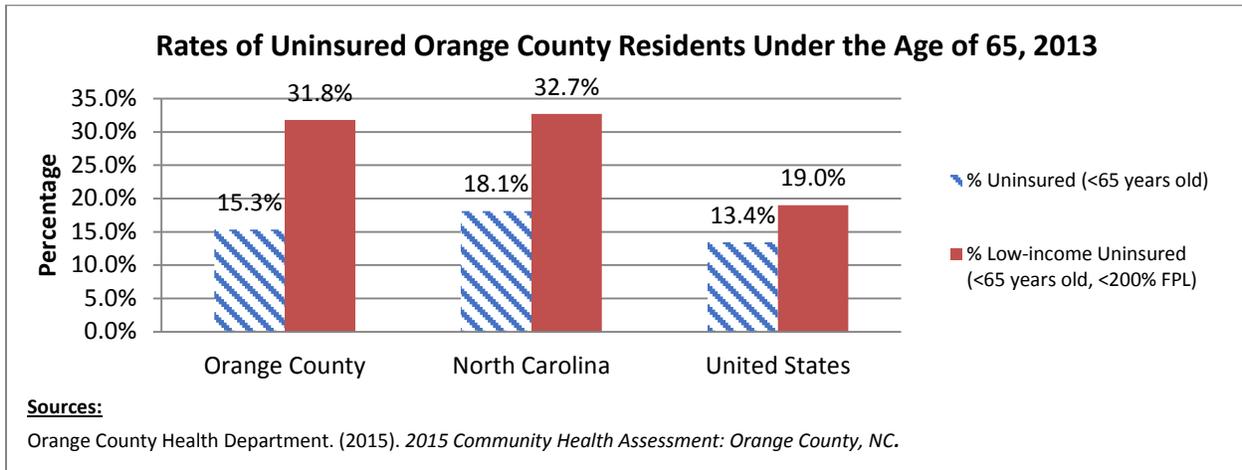
Insurance Coverage

Whether or not an individual has health insurance, affects his/her access to care. Orange County has struggled with increasing access to health care in the past because of its residents that are uninsured or underinsured. Recently, Orange County has been working to decrease the number of individuals who are uninsured.⁵

Based on information collected from the 2012-2016 American Community Survey (2016), 91.6% of Orange County residents² reported having health insurance (8.40% are uninsured) (See Figure AA.26).¹⁴ This percentage is lower than the percentage that was reported in 2015 in the 2015 Community Health Assessment. The reported indicated that in 2013 approximately 15% of Orange County residents under the age of 65 were uninsured.⁵ One component that the 2015 Community Health Assessment examined that was not presented in the 2012-2016 American Community Survey was the relationship between poverty and health insurance. In 2015, 31.8% of Orange County residents under the age of 65 who were below 200% on the federal poverty level were uninsured.⁵ This was slightly lower than the percentage for North Carolina (32.7%) but higher than that of the United States (19.0%).⁵

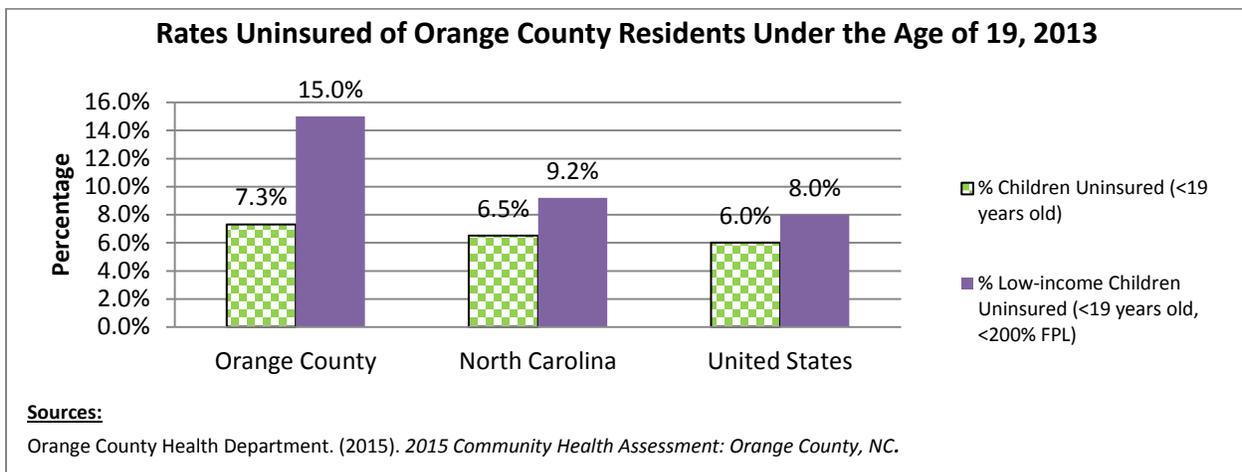
² Residents are defined as non-institutionalized civilians (United States Census Bureau, 2016).

Figure AA.26



As of September 2018, 5.1% of Orange County residents under the age of 18 did not have health insurance.¹⁴ Once again, this number was lower than the number reported in the 2015 Community Health Assessment. According to the 2015 Community Health Assessment, data from 2013 suggested that, for youth, 7.3% of residents below the age of 19 were uninsured (See Figure AA.27). Looking at the relationship between insurance coverage and poverty, data presented in the 2015 Community Health Assessment suggests that the rate of being uninsured is higher for children living in poverty. Fifteen % of children/adolescents under the age of 19 who live below 200% on the federal income level were uninsured.⁵ This percentage of youth under the age of 19 who live below the poverty line was higher than the percentage reported for North Carolina (9.2%) and the United States (8%).⁵

Figure AA.27



Two separate maps were generated using data from the 2012-2016 American Community Survey¹² to visually depict lack of insurance coverage based on age (18 to 34 year olds versus residents under the age of 18). Figure AA.28 indicates that the largest concentration of 18 to 34 year olds lacking insurance can be found in a region located just outside of Chapel Hill's

boundaries. In this dark green region, 25 to 52 % of residents between the ages of 18 and 34 are without insurance. A smaller proportion of regions reported having high concentrations of residents under the age of 18 without insurance (located mainly in Chapel Hill). In these areas, uninsured youth made up between 15 to 28 % of their population (See Figure AA.29).

Figure AA.28

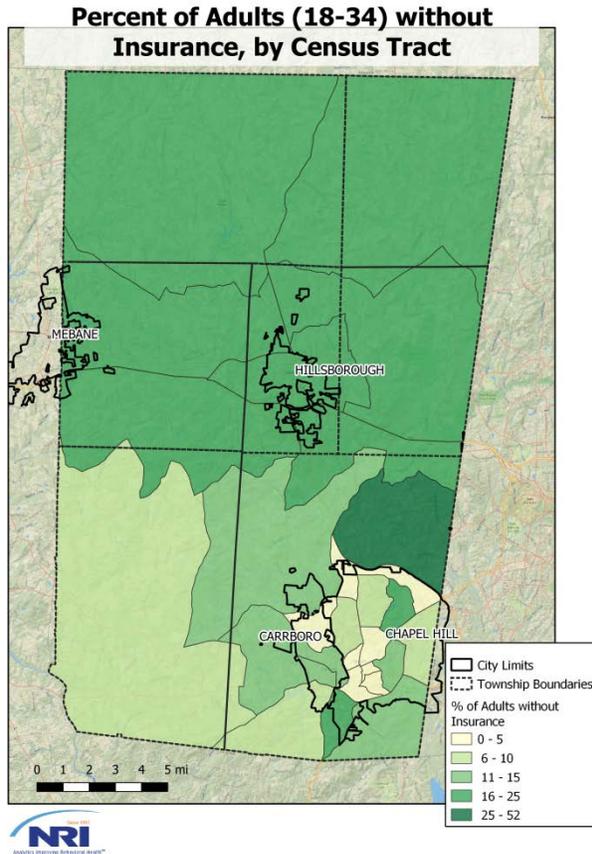
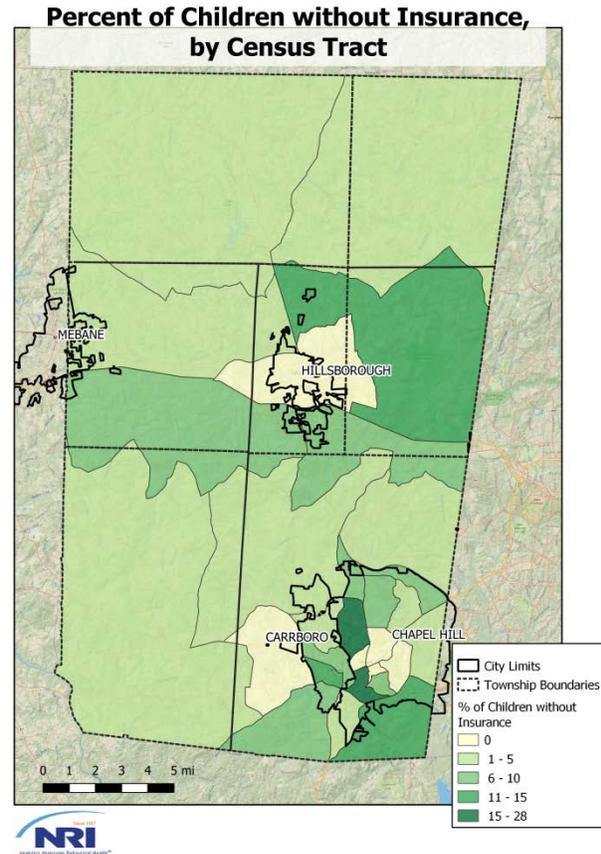


Figure AA.29



When it comes to acquiring behavioral health services, some children/adolescents/young adults may be eligible for Medicaid. For residents between the ages of 18 to 34 years old, data from the 2012-2016 American Community Survey¹² suggests that very few Orange County residents in this age range are receiving Medicaid (See Figure AA.30). The largest concentration (15 to 19 %) of 18 to 34 year olds receiving Medicaid can be found between Mebane and Hillsborough (See Figure AA.30). Comparatively, a larger proportion of residents under the age of 18 appear to be eligible for Medicaid. The highest concentration (51 to 70 %) of children between the ages of 0 and 18 receiving Medicaid are located in Chapel Hill and in Carrboro (See Figure AA.31). While a small proportion of Orange County’s southeast population of children between the ages of 0 and 18 do not receive Medicaid (areas in and surrounding Chapel Hill and Carrboro), a majority of Orange County is composed of areas where 21 to 50 % of their children receive Medicaid.

Figure AA.30

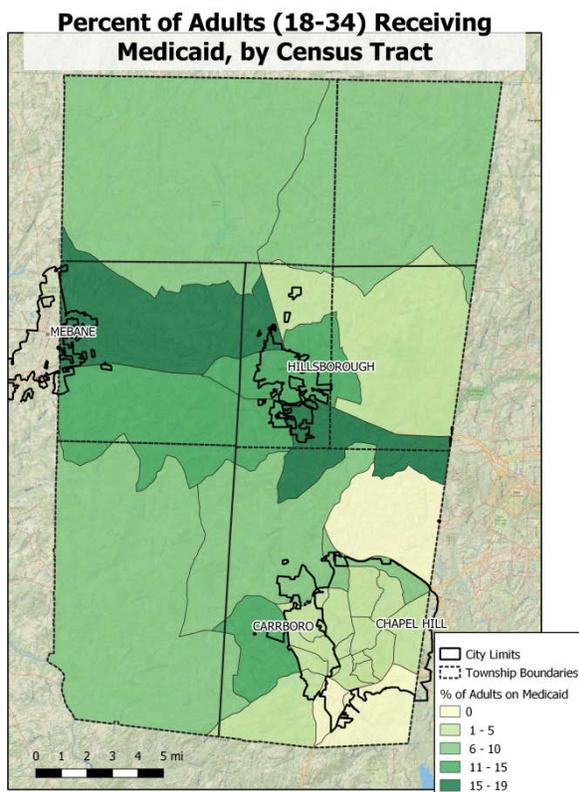
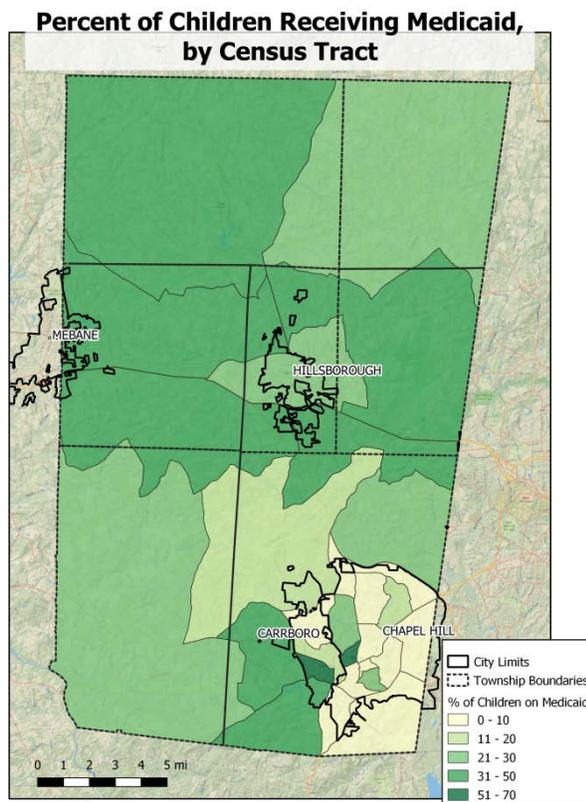


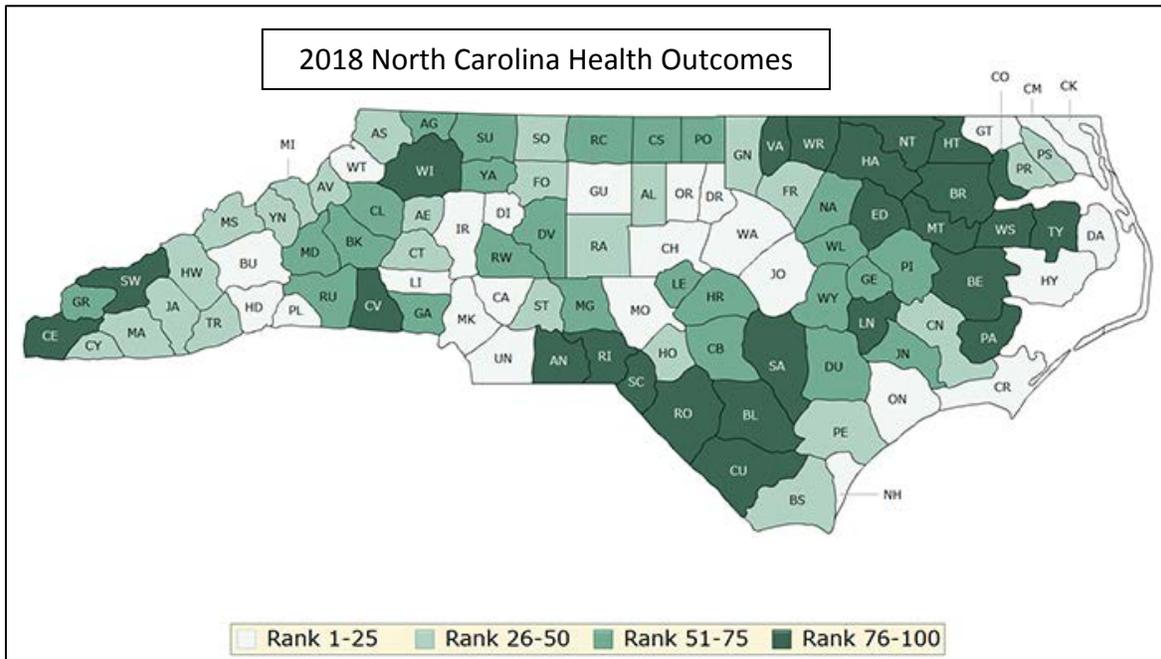
Figure AA.31



Health Rankings

According to the 2018 county health rankings report, of the 100 ranked counties in North Carolina, Orange County ranked #2 for health outcomes and #1 for health factors.²⁸ The maps created for the *North Carolina: 2018 county health rankings report*²⁸ demonstrate where each of North Carolina's counties rank. The counties with lower ranks (illustrated using lighter colors) had better performance measures.²⁸ The first map (Figure AA.32) illustrates how the counties compare on health outcomes. Health outcomes included measures of health behaviors, clinical care, social factors, economic factors, and physical environmental factors.

Figure AA.32



The second map (Figure AA.33) depicts how the counties ranked in regards to health factors. This concept was measured using variables that measures duration and quality of life.²⁸

Figure AA.33

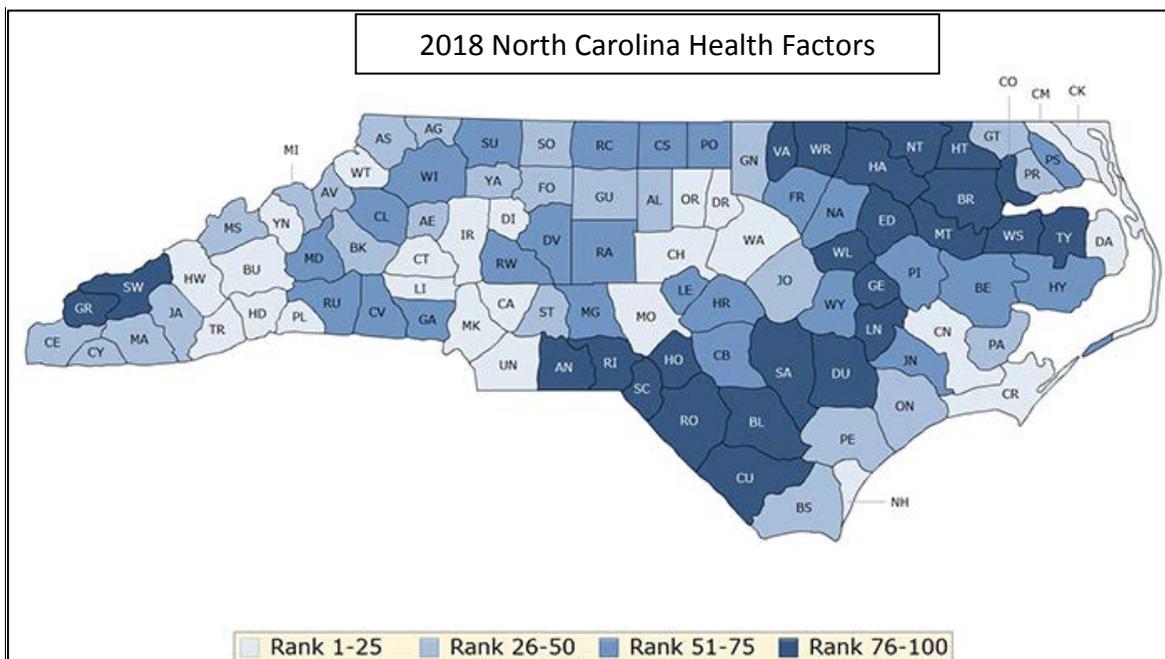


Image Source: County Health Rankings and Roadmaps. (2018). *North Carolina: 2018 county health rankings report*. Madison, WI: County Health Rankings and Roadmaps. Retrieved from: <http://www.countyhealthrankings.org/explore-health-rankings/reports/state-reports/2018/north-carolina>

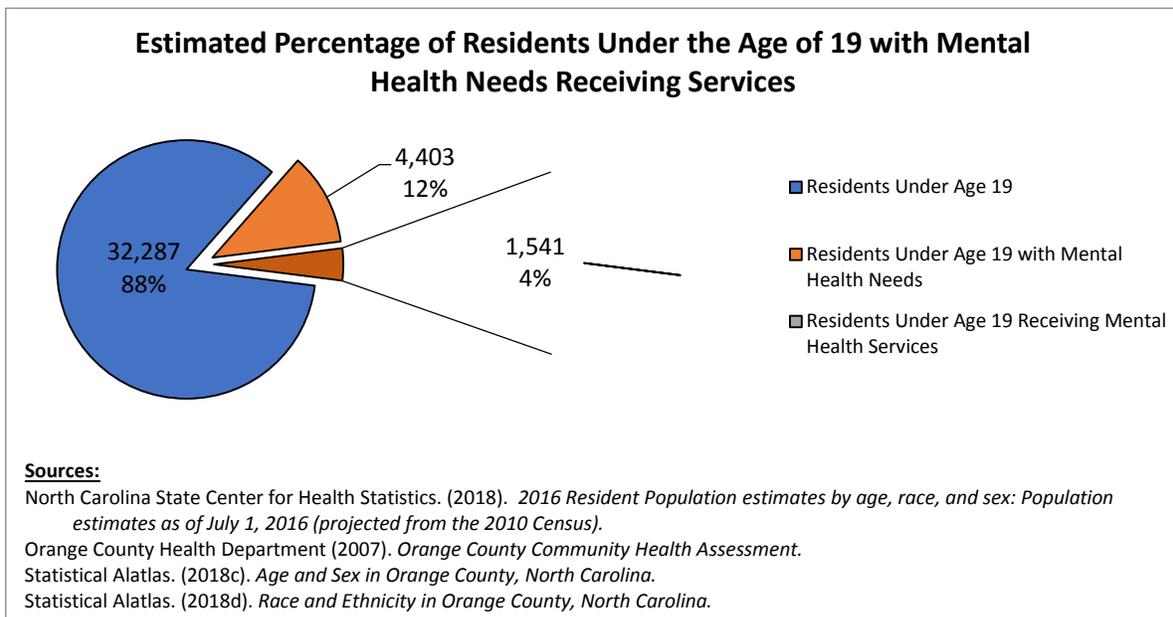
Prevalence Data

From 2009 to 2015, Orange County saw a rise in the number of residents under the age of 24 being admitted to hospitals for mental health services.⁶ Over this time period, Orange County residents between the ages of 0 and 24 were responsible for a 5% increase in the total number of mental health visits.⁶ This trend is important since residents between the ages of 0 to 24 were estimated to account for 38% (54,454 residents) of Orange County's population in July of 2016.¹

It is hard to estimate how many individuals living in Orange County between the ages of 0 to 24 have mental health, substance use, and/or intellectual/developmental disorders. This difficulty is because data on this population is scarce, especially with the changes that were put in place to move North Carolina to a Medicaid managed care state.²⁹ Nonetheless, data from a variety of sources can be used to paint a picture of the behavioral health needs in Orange County North Carolina.

Data from 2007 suggested that approximately 12% of North Carolina's 0 to 18-year old had mental health needs.²⁹ Applying this percentage to the 2016 population estimate for Orange County's 0 to 18-year-old population, there would be approximately 4,403 Orange County residents between the ages of 0 to 18 with mental health needs. The data from 2007 also suggests that only 35% of these individuals receive mental health services.²⁹ To put this in perspective, this would mean that approximately 1,541 individuals in Orange County between the ages of 0 and 18 with mental health needs received mental health services in 2016 (See Figure AA.34).

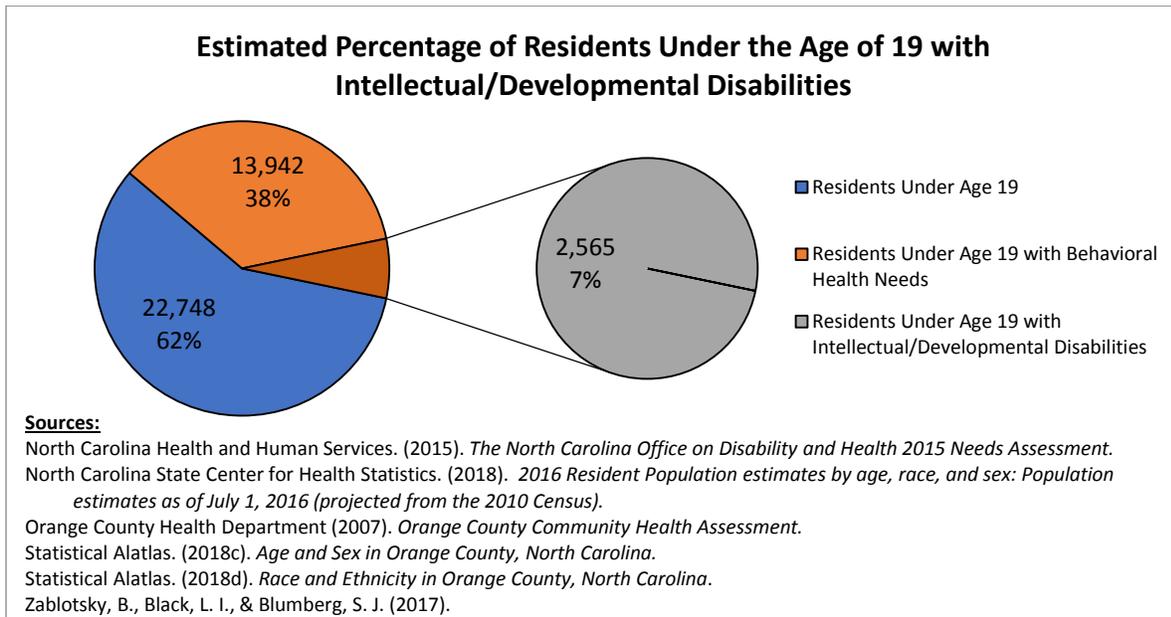
Figure AA.34



In general, estimates from North Carolina suggest that 38% of North Carolina's residents between the ages of 0 and 17 have mental health, behavioral health, or emotional health disorders.³⁰ This would mean that approximately 14,000 residents between the ages of 0 and 17 have mental health, behavioral health, or emotional health disorders in Orange County.

As of 2017, the national estimate for developmental disabilities³ was 6.99% for individuals between the ages of 3 and 17.³¹ Based on Orange County’s population, this would mean that approximately 2,500 residents between the ages of 3 and 17 have an intellectual/developmental disability in Orange County (See Figure AA.35).

Figure AA.35



While the estimates provided may not be exact based on the age ranges being examined and the changes that have occurred to Orange County's population since 2016, the information suggests that many children, adolescents, and young adults have mental health, substance use, and/or intellectual/developmental needs. Providing comprehensive, effective services for these individuals is essential. With an absence of services, the ability for these individuals to function within society can worsen/deteriorate as they get older and their disorder remains undiagnosed or untreated.²⁹ A lack of services and supports could potentially lead to these individuals having issues obtaining and/or holding a job, remaining in school, avoiding involvement with the justice system, and developing social connections.²⁹

³ Defined as individuals diagnosed with autism spectrum disorder, intellectual disability, and other developmental delays (Zablotsky, Black, & Blumberg, 2017).

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