



**COMMUNITY NEEDS ASSESSMENT
AHI NORTH COUNTRY PERFORMING PROVIDER
SYSTEM**

FINAL REPORT

December 2014

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Introduction

This document serves as the Community Needs Assessment (CNA) for the AHI North Country Performing Provider System (PPS). The needs identified through this assessment process underlie the projects selected for implementation by the AHI North Country PPS to achieve the Delivery System Reform Incentive Program (DSRIP) project goals of systems transformation, clinical improvement demonstrated through health metrics, and population-wide implementation strategies and including its focus on reducing avoidable hospital use among the Medicaid-insured and uninsured populations by 25 percent over 5 years. Through describing and assessing the community (i.e., the region that the PPS will serve), including its demographics, health services delivery structure, health status, health services utilization patterns, and its assets and resources, areas of need are identified. While focusing predominantly on health status, health services utilization, and health services structure, the partner organizations comprising the AHI North Country PPS recognize that health is intricately entwined with socio-economic and environmental factors and these are also captured and assessed as part of this CNA. Recognizing this interrelatedness across socio-economic, environmental, and health factors moves health care further toward a population accountability that emphasizes prevention and overall health rather than the current sole focus of most health systems only on patients who come through the door. This movement toward population health is an underlying and key premise of DSRIP.

The AHI North Country PPS is comprised of nine counties: Clinton, Essex, Franklin, Fulton, Hamilton, Saint Lawrence, Saratoga, Warren, and Washington. The region is located in the northern part of Upstate New York and with its mountainous topography and Adirondack Park area; it is one of the more naturally stunning regions in the State and within the US. It has been fortunate timing for this DSRIP CNA that a comprehensive assessment of the North Country's health system was completed in April 2014 by the North Country Health Systems Redesign Commission (NCHSRC)¹. The Commission was established in December 2013 with the goal “*to provide recommendations that would lead to an effective, integrated health care delivery system for preventive, medical, behavioral, and long-term care services for all communities in New York's North Country.*”² There is not a full overlap of the counties included in this CNA and the NCHSRC Report. The AHI North Country PPS does not include Jefferson and Lewis counties, which were included in the NCHSRC Report and does include Saratoga and Fulton, which were not included in the NCHSRC Report. However, given the substantial overlap, the AHI North Country PPS report draws extensively from the NCHSRC Report, and the majority of findings between the two are consistent. Perhaps more important is that the NCHSRC process began the open and transparent process of community engagement into assessing need, which has continued and been expanded through the DSRIP planning activities, including this CNA.

¹ North Country Health Systems Redesign Commission. *Toward an Integrated rural Health System: Building Capacity and Promoting Value in the North Country*. April 2014. Hereinafter referred to as the NCHSRC Report.

² NCHSRC Report, page 10.

This needs assessment follows the *Guidance for Conducting Community Needs Assessment Required for DSRIP Planning Grants and Final Project Plan Applications* (June 6, 2014) put forth by the New York Department of Health (DOH). This *Guidance* established the expectation of an extremely comprehensive and data driven needs assessment, including a comprehensive listing of resources on which to draw. This document reflects this comprehensive approach and has identified needs in the region from which DSRIP projects have been selected at this point in time. Recognizing that it is but a snapshot and that given these dynamic times in which we live, especially the fundamental changes in health care services delivery motivated by a multitude of national, state, and local reform efforts, this needs assessment must be considered a living document. The AHI North Country PPS is building on the community engagement process initiated by the NCHSRC. The DSRIP planning process will enable the AHI North country PPS to continue to address the quickly changing health care landscape and work with providers to address the needs of the communities it serves.

The partners of the AHI North Country PPS began this needs assessment in August 2014 using the NCHSRC work as a basis. Using the DOH's *Guidance*, the Adirondack Health Institute (AHI) began pulling and accumulating data from multiple sources. John Snow, Inc. (JSI), a health care consulting firm, was hired in November 2014 to write the needs assessment document, drawing from the NCHSRC Report and the AHI's work to date. JSI was also involved in the development of another PPS' needs assessment and the process developed to conduct that needs assessment is heavily drawn upon to finalize the AHI North Country PPS' needs assessment. Section A begins with a description of the community to be served at a population level, key population health metrics, and a description of the Medicaid-insured population including health status and health services utilization. Section B focuses on existing health care and community-based resources. Section C summarizes gaps in services and needs identified, and Section D summarizes the assets and resources that can be mobilized or must be developed to address need. Section E ties the needs identified to the DSRIP projects selected, and Section F documents the process, methods, and sources used to conduct the assessment.

A. Description of Community to Be Served

This section describes demographics and key health status and service utilization factors of the AHI North Country PPS. It begins with a description of the population broadly, including demographic, socio-economic, and health insurance characteristics, and a discussion of select population metrics. Health status and service utilization are then described, including a discussion of a select number of population health metrics. It then switches to a focus on the Medicaid-insured population in the AHI North Country PPS area, which includes a discussion of most prevalent health conditions, types of service utilization, and causes of hospitalization and emergency room use. This section concludes with a focus on hospital and ER ambulatory care sensitive conditions. Data for counties within the AHI North Country PPS are compared to data for Upstate NY (all areas excluding New York City) and/or NY State overall. The comparisons are used as benchmarks as a means of identifying potential areas of concern; thus, the assumption is that potential need is identified where metrics for the PPS indicate a poorer state of affairs than is observed in Upstate or NY State. One caveat to this approach is that it implies that the “benchmarks” are the standard to attain. This is not always the case, and it may be that Upstate and/or NY State metrics do not reflect the ideal state of affairs; thus, need would be understated. An additional caveat is there may be some circumstances where differences in metrics noted are not statistically significant. This needs assessment is not intended to be a statistical analysis of differences between PPS metrics and Upstate and/or NY State metrics, rather it is to assess potential areas of need based on data and rounded out by contextual and qualitative data from multiple stakeholders who live and work in the PPS area.

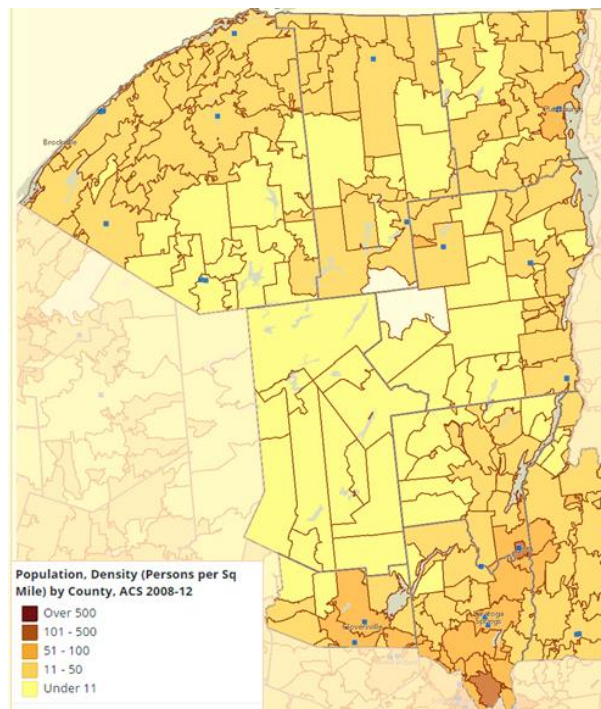
Demographic, Socio-Economic, and Insurance Characteristics

This section includes a description of the overall population characteristics of the region, including gender, urban/rural status, race, ethnicity, age, income, disability, educational attainment, employment status, and Medicaid/insurance status. Overall, AHI North Country is a predominantly rural area. The PPS counties have significant risk factors for vulnerability, poor health access, and poor health status; most notably with regard to educational attainment and proportion of population living with low-incomes and in poverty (although Saratoga is an exception).

A total of 693,954 people live in the 11,859 square mile AHI North Country PPS area, ranging from Hamilton County’s population of 4,835 to Saratoga County’s population of 219,832. The population density for this area is estimated at 59 persons per square mile, ranging from 3 to 271 persons per square mile in Hamilton and Saratoga respectively. The large majority of the populations of Clinton, Essex, Franklin, Hamilton, St. Lawrence and Washington counties live in rural areas and about half of Fulton’s population lives in rural areas. Saratoga and Warren counties have the majority of their populations living in urban designated areas; although both

counties have a higher proportion of their populations living in rural areas than is found in the overall Upstate NY area (35-34 percent of residents in these two counties compared to 21 percent in Upstate NY). Figure 1 is a map of population density illustrating that the population is found surrounding the Adirondack Mountains. With the exception of Saratoga, all other counties in the PPS are far more rural than the Upstate New York area generally, which has a rate of 239 persons per square mile. Many of the comparisons throughout this document are to the Upstate area broadly, but it is important to keep in mind that the PPS area is much more rural, which has an effect on health care access and utilization.

Figure 1. Population Density Map



The age distribution of children (under 18), adults (18 to 64), and older adults (age 65 plus) shows that the population in the PPS skews older than the Upstate and NY distributions. All nine counties have fewer children and five counties have more adults age 65 plus (see Table 1). Three counties have very high percentage of older adults, Warren at 17.3%, Essex at 18.4%, and Hamilton at 23.3%. The population in the region is predominantly White. Franklin County is the most racially and ethnically diverse, with 16 percent of its population identifying as other race/ethnicity than White, compared to 92 to 97 percent of the population in other counties identifying as White. In Franklin, 5 percent identify as American Indian/Alaskan Native, 6 percent as Black, and 3 percent Hispanic. The St. Regis Mohawk Indian Reservation is located in the northern part of Franklin and St. Lawrence counties and represents the majority of the American Indian/Alaskan Native population. The approximately 3300 member/residents have access to a health center on the reservation. Although other counties are less diverse, it is important to note even the small population numbers of persons identifying as minorities and/or foreign born because these are known risk factors for disparities in health care access and health status. From 2 through 5 percent of residents in each county are identified as foreign born.

The AHI North Country PPS has disproportionately more disabled than in NY State. The disabled population is in need of multiple health resources, and it is important in terms of quality care and cost that their health services are both accessible and well-coordinated. Proportions of disabled population range from 13 to 16 percent across the counties, with the exception of Saratoga that has 10 percent of its population as disabled, just under NY State at 11 percent.

Educational attainment and economic status are also key risk factor associated with vulnerability and disparities in health care access and health status. Saratoga and Warren counties have education and employment statistics very similar to (in the case of Warren County) or better than (in the case of Saratoga County) than Upstate NY overall. Hamilton County's statistics in these areas are also similar to Upstate NY, although with a lower percentage of unemployed (important to note that the population in Hamilton constitutes less than 1 percent of the region as a whole). The other counties (Clinton, Essex, Franklin, Fulton, St. Lawrence, and Washington), which constitute 58 percent of the population of the PPS, fare much worse than Upstate NY on these sets of statistics, indicating vulnerable and at-risk populations. Compared to 11 percent of the population in Upstate NY with less than a high school education, the range in this set of counties is from 13 to 16 percent. From 31 to 38 percent of the population in this set of counties have incomes below 200 percent of the federal poverty level (FPL) compared to 26 percent in Upstate NY. Franklin, Fulton, and St. Lawrence counties have notably higher percentages of their populations, 18, 17, and 19 percent respectively, living in poverty (below 100 percent FPL) compared to 11 percent in Upstate NY area and 15 percent in NY State overall. The percentage of Medicaid insured has a similar county pattern with rates in Franklin, Fulton, and St. Lawrence quite high at 22 to 26 percent and in Clinton, Essex, and Washington higher than the Upstate NY rate of 15 percent. The uninsured also outpace the Upstate frequency and mirror more closely the NY State frequency, with the exception of Clinton, Warren, and Saratoga, which have lower percentages of uninsured than both Upstate NY and NY State.

Table1: Demographic, Socio-Economic, and Insurance Characteristics

| | Clinton | Essex | Franklin | Fulton | Hamilton | Saratoga | St. Lawrence | Warren | Washington | Upstate New York | New York State |
|--|----------|----------|----------|----------|----------|----------|--------------|----------|------------|-----------------------|----------------|
| Total population size | 82,054 | 39,309 | 51,698 | 55,358 | 4,835 | 219,832 | 112,060 | 65,700 | 63,108 | 11,198,904 | 19,398,125 |
| Urban/Rural | | | | | | | | | | | |
| Urban* | 35.8% | 25.1% | 37.3% | 49.6% | 0% | 70.0% | 38.0% | 66.1% | 32.1% | 79% | 87.9% |
| Rural* | 64.2% | 74.9% | 62.7% | 50.4% | 100% | 30.0% | 62.0% | 33.9% | 67.9% | 21% | 12.1% |
| Gender | | | | | | | | | | | |
| Male | 51% | 52% | 55% | 50% | 51% | 49% | 51% | 49% | 52% | 49.1% | 48.4% |
| Female | 49% | 48% | 45% | 50% | 49% | 51% | 49% | 51% | 48% | 50.9% | 51.6% |
| Age | | | | | | | | | | | |
| Under age 18 | 19.3% | 18.9% | 20.6% | 22.0% | 16.7% | 22.5% | 21.0% | 20.5% | 20.8% | 22.7% | 22.3% |
| Age 18 to 64 | 67.3% | 62.7% | 66.0% | 61.9% | 60.0% | 63.7% | 65.1% | 62.2% | 63.6% | 62.7% | 64.1% |
| Age 65 and older | 13.4% | 18.4% | 13.4% | 16.1% | 23.3% | 13.8% | 13.9% | 17.3% | 15.6% | 14.6% | 13.6% |
| Race/Ethnicity | | | | | | | | | | | |
| White | 92.3% | 93.4% | 83.9% | 95.5% | 97.0% | 94.5% | 93.5% | 96.6% | 94.4% | 81.8% | 66% |
| Black | 4.2% | 3.0% | 6.4% | 1.6% | 0.8% | 1.5% | 2.7% | 1.0% | 3.1% | 8.7% | 15.7% |
| Asian | 1.0% | 0.4% | 1.1% | 0.7% | 0.2% | 1.7% | 1.0% | 0.8% | 0.5% | 3.5% | 7.5% |
| American Indian/Alaska Native (AI/AN) | 0.3% | 0.1% | 5.4% | 0.2% | 0.0% | 0.1% | 0.5% | 0.4% | 0.1% | 0.3% | 0.4% |
| Hispanic | 2.6% | 2.6% | 3.1% | 2.4% | 1.1% | 2.5% | 2.0% | 1.8% | 2.3% | 9.7% | 17.7% |
| Foreign-born population | 5.0% | 4.5% | 5.4% | 2.1% | 2.0% | 4.1% | 4.3% | 3.1% | 2.1% | 11.1% | 22% |
| Disabled*** | 12.8% | 14.4% | 13.1% | 16.4% | 13.4% | 10.1% | 15.2% | 12.8% | 12.6% | | 10.9% |
| Education | | | | | | | | | | | |
| Percent with less than high school education | 15.7% | 12.0% | 15.6% | 15.2% | 10.9% | 6.7% | 12.9% | 9.4% | 13.3% | 11.1% | 15.1% |
| Population with Associate's Level Degree of Higher** | 30.9% | 35.1% | 28.9% | 25.5% | 36.5% | 48.6% | 32.0% | 38.8% | 26.5% | NA | 41.1% |
| Employment and Income | | | | | | | | | | | |
| Median household income | \$50,522 | \$47,400 | \$45,702 | \$45,333 | \$51,595 | \$67,712 | \$43,745 | \$54,909 | \$50,864 | \$54,125 ^a | \$57,683 |
| Unemployed | 7.9% | 8.2% | 9.3% | 9.9% | 4.9% | 6.2% | 10.6% | 7.2% | 9.8% | 7.7% | 8.7% |
| In poverty (below 100% FPL) | 14.3% | 12.4% | 17.6% | 16.5% | 8.8% | 6.5% | 18.5% | 11.1% | 12.7% | 11.2% | 14.9% |
| Below 138% FPL | 21.0% | 19.2% | 25.6% | 24.6% | 13.0% | 10.6% | 25.9% | 17.0% | 19.9% | 16.6% | 21.5% |
| Below 200% FPL | 31.9% | 31.3% | 36.8% | 37.3% | 25.0% | 18.1% | 38.4% | 26.9% | 32.6% | 25.7% | 31.6% |
| Insurance | | | | | | | | | | | |
| Uninsured | 7.2% | 9.7% | 11.9% | 10.0% | 7.0% | 6.9% | 11.3% | 10.4% | 10.7% | 9.1% | 11.3% |
| Medicaid | 18.0% | 16.5% | 21.7% | 25.7% | 11.6% | 9.4% | 21.6% | 15.2% | 18.4% | 14.9% | 20.9% |

Data source: American Community Survey, 5-Year Estimate 2008-2012, Asterisk (*) Indicates *US Census Bureau, Decennial Census: 2010*. Source geography: Tract

^aAverage of median household incomes in Upstate New York counties.

Red indicates counties where rates compare unfavorably to Upstate NY (or NYS in the case of disability and educational attainment) rates and may be potential areas of concern.

**Comparisons made to NY State.

***Data was collected at the tract level to provide county estimates

Population Health Status and Service Utilization

This section uses community indicators to assess overall population health status within the counties constituting the PPS. Understanding population health status and service utilization can shed light on the contextual factors related to health status and service utilization of Medicaid-insured and uninsured patients. It can also indicate points of intervention that will improve health of the overall population broadly; and thus, ultimately improving the health status of the Medicaid-insured and uninsured who are the focus of DSRIP. The needs assessment captures and reports a wide range of data primarily from state sources and supplements it with data from federal and local sources. New York State currently has an initiative, entitled *Prevention Agenda 2017* (PA 2017), which is a call to action for local communities to address these population health factors. Where applicable, the PA 2017 goals are also included as reference points.

Obesity, Smoking, Drinking, and Physical Inactivity

There is a large and growing body of evidence for the effects that certain health risk factors, such as obesity, lack of physical exercise, poor nutrition, tobacco use, and risky drinking/alcohol abuse have on health status and the burden of chronic disease. Over the past two decades, obesity rates in the United States have doubled for adults and tripled for children. These trends have spanned all segments of the population, regardless of age, sex, race, ethnicity, education, income, or geographic region although certainly poorer, less educated, and minority populations are more affected. According to data from the DOH's Expanded Behavioral Risk Factor Surveillance System (BRFSS), 27 percent of Upstate New York's adults (18+) are either obese or overweight. As shown in Table 3, on page 10, several of AHI North Country PPS counties have percentages higher than this, ranging from 28 percent in Washington to 34 percent in Franklin. Seven of nine counties have higher percentages of children and adolescents who are obese, ranging from 34 percent in Fulton to 43 percent in St. Lawrence compared to an Upstate rate of 34 percent. New York's PA 2017 goal is 22.2 percent for adults and 16.7 for children and adolescents.

Lack of physical fitness and poor nutrition are the leading factors associated with obesity and the leading risk factors associated with chronic diseases, such as heart disease, hypertension, diabetes, cancer, depression, and anxiety. Good nutrition helps prevent disease and is essential for healthy growth and development of children and adolescents. Overall fitness and the extent to which people are physically active reduce the risk for many chronic diseases and are linked to good emotional health. According to DOH's Expanded BRFSS, 28 percent of adults eat the recommended five servings of fruits and vegetables per day, and 21 percent report getting no physical activity in the past 30 days in the Upstate NY area. Six counties in the AHI PPS have vegetable and fruit consumption rate lower than Upstate NY, and three counties have adult exercise rates lower than Upstate NY.

Tobacco use is the single most preventable cause of death and disease in the United States, New York State, and the Central New York region. Each year, approximately 443,000 Americans in the United States die from tobacco-related illnesses. For every person who dies from tobacco use, 20 more people suffer with at least one serious tobacco-related illness, such as chronic airway obstruction, heart disease, stroke, or cancer.³ According to New York's Expanded BRFSS data, 17 percent of Upstate NY's residents are current tobacco smokers. In the AHI PPS, 8 counties had higher percentages of adults who smoke compared to Upstate, with a range from 18 percent in Saratoga to 29 percent in Fulton. New York's PA 2017 goal for cigarette smoking among adults is 15 percent.

Risky drinking or alcohol abuse are also strongly correlated with chronic medical and mental health issues. Alcohol abuse raises the risk of developing chronic illnesses and increases the severity level once the illnesses emerge. In Upstate New York approximately 17 percent adults reported binge drinking on a regular basis, as defined by having more than 5 drinks for men and more than 4 drinks for women at any one occasion. In the AHI all counties except Franklin and Washington had higher rates than the Upstate NY rate, ranging from 18 percent in Warren to 28 percent in St. Lawrence. New York's PA 2017 goal for adult binge drinking is 18.4.

Behavioral Health Issues (Mental Illness and Substance Abuse)

Mental illness and substance abuse are serious and prevalent issues in the U.S., in Upstate NY, and in the AHI North Country PPS. Data from the Centers for Disease Control and Prevention indicates that 25 percent of adults in the US has a mental health disorder⁴, and an estimated 22 million Americans struggle with drug or alcohol problems.⁵ Depression, anxiety, serious and persistent mental illness, and substance abuse also are often co-morbid with chronic disease.

With regard to alcohol abuse, binge drinking is one population level metric assessed. As mentioned above, most counties in the AHI North Country PPS reported higher levels of binge drinking than was found in Upstate NY. Additional data from five counties (Clinton, Essex, Franklin, Hamilton, and Saint Lawrence) highlight the high rates of chemical dependence in the AHI North Country PPS area as shown below in Table 2. Approximately 10 percent of the population in these five counties are "chemically dependent," either alcohol or alcohol and drugs. In Appendix C, there is further information about chemical dependency in these five counties, including estimates of youth dependency (approximately 10 percent for ages 12-17 across counties) and rates of opiate addiction in the 16 plus age group. Although rates are less than one percent of the population, heroin addiction is devastating and difficult to overcome. Participants in the AHI North Country PPS DSRIP process noted an increasing epidemic of heroin and opiates addiction throughout the AHI North Country region, placing a burden on the

³ <http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=41#five>

⁴ <http://www.nimh.nih.gov/health/publications/the-numbers-count-mental-disorders-in-america/index.shtml>

⁵ <http://www.healthypeople.gov/2020/topicsobjectives2020/overview.aspx?topicid=40>

already strained substance abuse services system and contributing to unnecessary ED visits and in-patient hospitalizations.

| | Clinton | Essex | Franklin | Hamilton | St. Lawrence |
|------------------------------------|---------|--------|----------|----------|--------------|
| Population ¹ | 72,085 | 34,713 | 44,811 | 4,313 | 96,144 |
| Prevalence of Problem ² | 7,737 | 3,608 | 4,819 | 420 | 9,986 |
| Percent of Population | 10.7% | 10.4% | 10.8% | 9.7% | 10.4% |
| Treatment Demand | 2,108 | 961 | 1,283 | 110 | 2,675 |
| Percent of Prevalence | 27.2% | 26.6% | 26.6% | 26.1% | 26.8% |
| Percent of Population | 2.9% | 2.8% | 2.9% | 2.5% | 2.8% |

¹U.S. Census Bureau, 2011
²County-level prevalence rates from the 2006 NYS School Survey, 2006 NYS Adult Household Survey

With respect to mental health, a population indicator tracked through BRFSS is percentage of the population reporting being in poor mental health 15 or more days in the past month. Twelve percent of the population in Upstate NY report this condition. There are three counties in the AHI North Country PPS area with higher rates. The PA 2017 goal for this indicator is 10 percent; all counties except Hamilton and Franklin are higher than this goal.

Table 3: Population Health and Prevention Indicators

| Indicators | Clinton | Essex | Franklin | Fulton | Hamilton | Saratoga | St. Lawrence | Warren | Washington | Upstate NY |
|--|---------|-------|----------|--------|----------|----------|--------------|--------|------------|------------|
| Maternal and Infant Health** | | | | | | | | | | |
| Births with late or no prenatal care (%) | 1.7 | 3.5 | 3.3 | 5.5 | 10.3 | 4.6 | 4.5 | 5.1 | 3.7 | 3.9 |
| Exclusive breastfeeding (%) | 69.3 | 70.0 | 57.2 | 54.5 | 65.8 | 64.6 | 59.5 | 59.9 | 57.4 | 48.1 |
| Cesarean section delivery (%) | 37.6 | 32.2 | 40.3 | 36.1 | 35.9 | 36.1 | 40.7 | 36.8 | 34.2 | 35.8 |
| Preterm births (%) | 10.7 | 8.3 | 13.5 | 10.3 | 2.6 | 9.8 | 10.8 | 11.2 | 8.6 | 11.0 |
| Low birth weight births (%) | 8.8 | 6.1 | 11.2 | 7.7 | 2.6 | 7.1 | 6.9 | 7.5 | 7.6 | 7.8 |
| Tobacco, Alcohol, and Substance Use | | | | | | | | | | |
| Adults who are current smokers (%)**** | 22.6 | 16.6 | 27.0 | 29.0 | 19.0 | 17.7 | 19.5 | 18.7 | 21.0 | 17.3 |
| Adults binge drinking during the past month (Age-adjusted, %)** | 20.5 | 21.9 | 15.9 | 22.8 | 23.9 | 19.7 | 28.0 | 18.2 | 15.2 | 17.4 |
| Alcohol related motor vehicle injuries and deaths (per 100,000)*** | 31.8 | 35.9 | 57.9 | 65.5 | 83.7 | 56.3 | 67.7 | 54.9 | 65.1 | 45.8 |
| Drug-related hospitalizations (Age-adjusted, per 10,000)*** | 23.1 | 10.8 | 19.5 | 20.6 | 10.5 | 10.8 | 39.5 | 11.1 | 9.7 | 20.8 |
| Mental Health | | | | | | | | | | |
| Percent of adults with poor mental health for 14 or more days in past month**** | 11.1 | 11.3 | 9.8 | 13.3 | 4.7 | 12.7 | 17.1 | 12.1 | 12.7 | 11.8 |
| Obesity and Related Indicators | | | | | | | | | | |
| Percent of children and adolescents (students) who are overweight or obese(%)*** | 39.0 | 36.0 | 40.7 | 33.8 | 18.6 | 29.8 | 42.9 | 35.6 | 38.6 | 33.7 |
| Adults who are obese (%)**** | 26.7 | 32.2 | 33.7 | 30.9 | 26.3 | 25.8 | 32.9 | 30.5 | 28.2 | 27.0 |
| Adults with diabetes (Age-adjusted, %)* | 10.0 | 10.4 | 11.7 | 8.0 | 8.0 | 8.4 | 10.8 | 9.8 | 8.1 | 8.5 |
| Adults consuming 5 fruits or vegetables per day (Age-adjusted %)* | 27.2 | 30.6 | 21.1 | 24.2 | 24.1 | 28.1 | 30.9 | 25.1 | 24.9 | 27.7 |
| Adults with no leisure-time physical activity (Age-adjusted, %)* | 20.6 | 19.2 | 23.8 | 24.3 | 13.2 | 15.4 | 21.1 | 17.8 | 23.4 | 21.1 |
| Safety | | | | | | | | | | |
| Age-adjusted rate of motor-vehicle mortalities per 100,000*** | 8.6 | 23.1 | 21.2 | 7.3 | 20.9 | 9.9 | 12.5 | 6.1 | 12.7 | 8.8 |
| Data sources: *BRFSS 2009, **CHAI 2011, *** CHAI 2012, ****BRFSS 2013 | | | | | | | | | | |
| Note: Other variables are available in complete data set. | | | | | | | | | | |

Maternal and child health outcomes

Maternal and child issues are of critical importance to the overall health and well-being of healthy, vibrant communities. Preterm births, low birth weight, exclusive breastfeeding, prenatal care, and cesarean deliveries are some of the population indicators tracked for maternal and child health and shown on Table 3. For most of these indicators, the AHI North Country region fares quite well in comparison to Upstate NY. The exception is cesarean delivery. There are four counties with higher percentages than Upstate NY average of 36 percent cesarean deliveries. The PA 2017 goal for preterm births is 10.2 percent and exclusive breastfeeding is 48.1 percent.

Leading Causes of Death, Premature Death, and Chronic Disease

Cardiovascular disease (heart disease) and cancer are the two leading causes of death in the United States, New York, and AHI North Country. Combined these diseases account for the vast majority of all deaths across all counties. With respect to DSRIP, the more relevant variable is premature death, many of which are considered preventable. Assessing premature death, rather than overall mortality, supports the underlying intention of DSRIP by focusing attention on the morbidity and mortality that can be prevented. The leading causes of premature death are similar to those of mortality overall, but there are important differences. The first and second leading causes of premature death in New York State, Upstate New York, and AHI North Country region are cancer and heart disease. Some combination of respiratory disease, unintentional injuries, diabetes, and suicide generally, with two exceptions, fill out the top five depending on the county. As shown in Table 4, premature death rates for these top five causes all have rates higher than the Upstate NY rates, across all counties and all conditions with one exception, which is Saratoga County. The fact that suicide is within the top five causes of premature death in five counties is of significant concern.

Table 4: Leading Causes of Premature Death (before age 75) in General County Population

| Rank | Clinton | | | | Essex | | | Franklin | | | Fulton | | | Hamilton | | |
|---------------|------------------------------------|------|---------------|------------------------------------|--------------|---------------|------------------------------------|----------|---------------|------------------------------------|------------|---------------|------------------------------------|------------------|------|--|
| | LEADING CAUSE | # | RATE | LEADING CAUSE | # | RATE | LEADING CAUSE | # | RATE | LEADING CAUSE | # | RATE | LEADING CAUSE | # | RATE | |
| 1 | Cancer | 287 | 391 | Cancer | 157 | 446 | Cancer | 159 | 328 | Cancer | 201 | 418 | Cancer | 24 | 896 | |
| 2 | Heart Disease | 153 | 182 | Heart Disease | 85 | 285 | Heart Disease | 105 | 236 | Heart Disease | 136 | 280 | Heart Disease | 17 | 602 | |
| 3 | Unintentional Injury | 60 | 81 | Unintentional Injury | 29 | 96 | Unintentional Injury | 47 | 110 | Chronic Lower Respiratory Diseases | 67 | 148 | Unintentional Injury | 6 | 212 | |
| 4 | Chronic Lower Respiratory Diseases | 55 | 105 | Suicide | 24 | 82 | Chronic Lower Respiratory Diseases | 41 | 102 | Unintentional Injury | 43 | 90 | Liver Disease | 5 | 184 | |
| 5 | Diabetes | 35 | 4 | Chronic Lower Respiratory Diseases | 22 | 91 | Diabetes | 21 | 44 | Stroke | 21 | 43 | Chronic Lower Respiratory Diseases | 4 | 143 | |
| | | | | | | | | | | | | | | | | |
| Rank | Saratoga | | | | St. Lawrence | | | Warren | | | Washington | | | Upstate New York | | |
| LEADING CAUSE | # | RATE | LEADING CAUSE | # | RATE | LEADING CAUSE | # | RATE | LEADING CAUSE | # | RATE | LEADING CAUSE | # | RATE | | |
| 1 | Cancer | 701 | 285 | Cancer | 418 | 447 | Cancer | 281 | 518 | Cancer | 259 | 454 | Cancer | 35,661 | 295 | |
| 2 | Heart Disease | 365 | 149 | Heart Disease | 263 | 276 | Heart Disease | 145 | 262 | Heart Disease | 138 | 233 | Heart Disease | 21,461 | 178 | |
| 3 | Chronic Lower Respiratory Diseases | 116 | 63 | Chronic Lower Respiratory Diseases | 95 | 123 | Chronic Lower Respiratory Diseases | 48 | 90 | Unintentional Injury | 47 | 85 | Unintentional Injury | 7,254 | 72 | |
| 4 | Unintentional Injury | 94 | 46 | Unintentional Injury | 80 | 82 | Diabetes | 32 | 54 | Chronic Lower Respiratory Diseases | 45 | 103 | Chronic Lower Respiratory Diseases | 4,998 | 38 | |
| 5 | Suicide | 75 | 42 | Diabetes | 40 | 40 | Suicide | 30 | 57 | Suicide | 32 | 61 | Diabetes | 3,112 | 26 | |

Red indicates where rates compare unfavorably to Upstate NY rates and may be potential areas of concern.
 Data Sources: Vital Statistics Data as of March, 2014
 Notes: Premature death data by county includes data from 2010-2012.
 Rate is the age-adjusted rate per 100,000.

Premature death before age 65 is a NY State Prevention Agenda 2017 indicator, with a goal of obtaining a rate of 21.8 or lower by 2017. Whereas Clinton, Essex, Fulton, and Saratoga have achieved this goal, Franklin, Hamilton, St. Lawrence, Warren, and Washington have not⁶.

Table 5 highlights the frequency of select chronic diseases in the AHI North Country population. With the exception of Hamilton County, the PPS population disproportionately suffers from chronic disease compared to residents of the State as a whole.

| County | % of Adults with Diabetes | % of Adults with Asthma | % of Adults with Heart Disease | % of Adults with High Blood Pressure |
|--------------|---------------------------|-------------------------|--------------------------------|--------------------------------------|
| Clinton | 10.0 | 15.3 | 11.2 | 33.1 |
| Essex | 10.4 | 11.7 | 7.9 | 28.2 |
| Franklin | 11.7 | 12.6 | 9.6 | 37.3 |
| Fulton | 8.0 | 12.5 | 8.6 | 32.8 |
| Hamilton | 8.0 | 9.4 | 5.0 | 25.3 |
| Saratoga | 8.4 | 11.0 | 9.1 | 28.3 |
| St. Lawrence | 10.8 | 11.9 | 8.3 | 28.8 |
| Warren | 9.8 | 13.0 | 9.3 | 30.2 |
| Washington | 8.1 | 9.6 | 8.9 | 29.5 |
| NY State | 9.0 | 9.7 | 7.6 | 25.7 |

Notes and data sources:
Red = Worse than NY State percentage
 Diabetes: 2009, BRFSS County-Specific Prevention Agenda Reports
 Asthma: 2009, age-adjusted rate, Expanded BRFSS July 2008 - June 2009
 Hypertension: 2009, age-adjusted rate, Expanded BRFSS July 2008 - June 2009
 Heart Disease: 2009, age-adjusted rate, Expanded BRFSS July 2008 - June 2009

Premature death data highlight the dramatic impact that chronic disease (e.g., heart disease, respiratory disease, and diabetes) has on population health. By focusing on reducing behavioral risk factors (e.g., tobacco use, lack of physical exercise, risky drinking/alcohol abuse, poor nutrition, and obesity/overweight) and chronic disease care management, many premature deaths are preventable.

⁶ New York State Prevention Agenda Dashboard: <https://apps.health.ny.gov/>. Based on Vital Statistics Data as of February 2014. Accessed 11/8/14.

Access to Health Care and Preventive Services

The extent to which a person has health insurance that contributes to paying for medical services as well as access to a full continuum of high quality, timely health care services is critical to overall health and well-being. Access to a usual source of primary care is particularly important as it greatly impacts one's ability to receive regular preventive, routine, and urgent care, as well as chronic disease management services for those in need.⁷ Nationally, low income, racial ethnic minority populations are less likely to have a usual source of primary care, less likely to have a routine check-up, and less likely to be screened for illnesses, such as breast cancer, prostate cancer, or colon cancer. Data also suggests that low income, racial/ethnic minority populations are more likely to use hospital emergency department and inpatient services for care that could be avoided or prevented altogether with better more accessible primary care services.

In general, data from New York's Expanded BRFSS shows that residents in the AHI North Country PPS' service area are less likely than Upstate NY population overall to have health insurance, have a regular primary care provider, and have had a dental visit. Most AHI North Country PPS counties (Franklin and St. Lawrence are the exceptions) fare better than Upstate NY for adults aged 50 and older having colonoscopies, although six of the nine counties fall below the PA 2017 goal of 71.4 percent. The remaining indicators of prevention access (e.g., pap tests, mammograms, flu shots, and pneumonia vaccines) are of more concern, especially the mammogram indicator. Seven of the nine counties have a lower percentage of women 40 years and older who have received a mammogram than the Upstate NY average. For pap tests, flu shots, and pneumonia vaccines, from three to five counties in the region fall below the Upstate NY average.

Table 6: Access to Health Care

| Service Utilization | Clinton | Essex | Franklin | Fulton | Hamilton | Saratoga | St. Lawrence | Warren | Washington | Upstate NY |
|---|---------|-------|----------|--------|----------|----------|--------------|--------|------------|------------|
| Adults with health insurance (Age-Adjusted, %)* | 88.2 | 86.5 | 80.4 | 84.9 | 86.7 | 90.1 | 88.1 | 91.3 | 88.1 | 89.9 |
| Adults with regular health care providers (%)**** | 83.7 | 77.8 | 76.8 | 82.4 | 78.9 | 90.2 | 81.9 | 85.1 | 86.2 | 84.6 |
| Adults with dental visits in past year (Age-adjusted, %)* | 67.3 | 68.0 | 64.9 | 64.9 | 66.1 | 71.8 | 66.4 | 74.3 | 61.0 | 72.7 |
| Women aged 40 and older who had mammograms in the past two years (Age-adjusted, %)* | 82.4 | 79.5 | 79.0 | 80.1 | 79.8 | 79.3 | 79.2 | 82.4 | 76.3 | 81.9 |
| Women who had pap tests in the past three years (Age-adjusted, %)* | 95.0 | 80.9 | 83.0 | 79.1 | 84.0 | 82.3 | 79.4 | 83.5 | 82.3 | 82.6 |
| Adults aged 50 and older who ever had sigmoidoscopies or colonoscopies (Age-adjusted, %)* | 75.8 | 69.0 | 67.2 | 68.9 | 69.9 | 71.8 | 65.8 | 72.2 | 69.3 | 68.4 |
| Adults age 65 and older who had flu shots in the past year (Age-adjusted, %)* | 78.6 | 72.6 | 64.6 | 69.6 | 75.6 | 70.1 | 74.1 | 77.8 | 74.0 | 76.0 |
| Adults age 65 and older who ever had pneumonia vaccinations (Age-adjusted, %)* | 81.0 | 76.2 | 63.8 | 64.8 | 76.3 | 70.8 | 70.2 | 75.8 | 72.2 | 71.2 |

Data source: * BRFSS 2009, ****BRFSS 2013; Note: Other variables are available in complete data set.

⁷ <http://iom.edu/~media/Files/Report%20Files/2003/Coverage-Matters-Insurance-and-Health-Care/Uninsurance8pagerFinal.pdf>

Medicaid-Specific Population

In the sections that follow, the discussion switches from a population-level description of need to a discussion and description of the Medicaid population. Table 7 describes the Medicaid population in AHI North Country PPS. There are a total of 142,655 Medicaid beneficiaries (as of 2012), 20 percent of whom are dual eligible (having both Medicaid and Medicare coverage), and 32 percent of whom are children. The PPS has a higher rate of dually eligible than NY State as a whole. The dually eligible population primarily represents seniors on Medicare who have long-term care support through Medicaid and persons with developmental and other disabilities. The percentages of persons falling into the dually eligible, children, and adult Medicaid categories within the counties are fairly consistent with the AHI North Country PPS percentages (i.e., the counties have similar statistics).

Table 7: Medicaid Total, Dual and Non-Dual Eligible, Children, and Adult Beneficiaries

| | Total Beneficiaries | | Dual Eligible Beneficiaries | | Non Dual Beneficiaries | | Child Beneficiaries | | Adult Beneficiaries | |
|----------------|---------------------|---|-----------------------------|-----|------------------------|-----|---------------------|-----|---------------------|-----|
| | # | % | # | % | # | % | # | % | # | % |
| Clinton | 19,355 | | 4,108 | 21% | 15,247 | 79% | 5,796 | 30% | 13,559 | 70% |
| Essex | 8,194 | | 1,917 | 23% | 6,277 | 77% | 2,444 | 30% | 5,750 | 70% |
| Franklin | 12,680 | | 2,583 | 20% | 10,097 | 80% | 3,958 | 31% | 8,722 | 69% |
| Fulton | 17,888 | | 3,675 | 21% | 14,213 | 79% | 5,924 | 33% | 11,964 | 67% |
| Hamilton | 684 | | 136 | 20% | 548 | 80% | 229 | 33% | 455 | 67% |
| Saratoga | 30,722 | | 5,986 | 19% | 24,736 | 81% | 9,918 | 32% | 20,804 | 68% |
| St. Lawrence | 28,013 | | 5,256 | 19% | 22,757 | 81% | 9,224 | 33% | 18,789 | 67% |
| Warren | 13,031 | | 2,971 | 23% | 10,060 | 77% | 4,240 | 33% | 8,791 | 67% |
| Washington | 12,088 | | 2,262 | 19% | 9,826 | 81% | 4,316 | 36% | 7,772 | 64% |
| ANC PPS | 142,655 | | 28,894 | 20% | 113,761 | 80% | 46,049 | 32% | 96,606 | 68% |
| New York State | 5,835,794 | | 853,866 | 15% | 4,981,928 | 85% | 1,979,039 | 34% | 3,856,755 | 66% |

Source: www.health.data.ny.gov; accessed 11/4/14

Table 8 below shows the 10 most prevalent conditions among Medicaid beneficiaries across the PPS. Depression and hypertension are the most common. What is striking is that behavioral health conditions represent 7 of the 10 most common conditions, representing 62 percent of the top 10 conditions.

Tables 1a and 1b in Appendix A have the top 10 most prevalent conditions by county. For all counties, depression and hypertension ranked number one or two, generally followed by diabetes. Similarly to the aggregated table above, behavioral health conditions represent the majority of top 10 conditions. With the exception of Hamilton County, for the majority of top 10 conditions in each county, the percentage of Medicaid beneficiaries with those conditions ranked higher than the percentage of Medicaid beneficiaries with those conditions in NY State.

| Rank | Condition | # |
|------|--|--------|
| 1 | Depression | 23,288 |
| 2 | Hypertension | 21,407 |
| 3 | Diabetes | 12,574 |
| 4 | Chronic Stress and Anxiety Diagnoses | 9,059 |
| 5 | Drug Abuse | 9,055 |
| 6 | Schizophrenia | 6,697 |
| 7 | ADHD | 6,569 |
| 8 | Chronic Mental Health Diagnosis | 4,479 |
| 9 | COPD and Major Other Chronic Pulmonary Diagnoses | 3,535 |
| 10 | Chronic Alcohol Abuse | 2,076 |

Data Source: Health Data NY, 2012

Medicaid Beneficiaries Service Utilization

The next series of tables explores primary care, emergency room, and inpatient utilization overall, by age group, and longitudinally. This section then covers the drivers of emergency room and inpatient utilization followed by a focus on ambulatory sensitive conditions, on emergency department and inpatient usage that might have been prevented were there a strong primary care infrastructure, sufficient primary care access, and sufficient usage of primary care services.

Table 9 shows primary care, emergency room, and inpatient service utilization by Medicaid beneficiaries by county compared to NY state statistics. Primary care utilization tends to be slightly lower than NY State averages. In five counties, emergency department use is at least five percentage points higher than the NY State average. Visits per beneficiary for each visit type were close to the NY State rates.

| Service Utilization | Clinton | | | Essex | | | Franklin | | | Fulton | | | Hamilton | | |
|--|--------------|----------------|---------------------|--------------|----------------|---------------------|--------------|----------------|---------------------|--------------|----------------|---------------------|--------------|----------------|---------------------|
| | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION |
| Percent of County Beneficiaries With a Visit | 61.49 | 31.48* | 11.55* | 61.53 | 31.57* | 10.31 | 61.65 | 30.58* | 11.91* | 62.03 | 32.59* | 10.84 | 58.48 | 15.06 | 8.63 |
| Total Number of Visits | 59,385 | 13,981 | 2,985 | 28,065 | 5572 | 1,133 | 33,960 | 8,726 | 2,207 | 51,795 | 12,454 | 2,721 | 2,384 | 158 | 85 |
| Visits per Beneficiary | 2.77 | 0.72 | 0.15 | 3.25* | 0.68 | 0.14 | 2.54 | 0.69 | 0.17 | 2.92 | 0.7 | 0.15 | 2.59 | 0.23 | 0.12 |

Table continues on next page.

| Service Utilization | St. Lawrence | | | Saratoga | | | Warren | | | Washington | | | NY State | | |
|--|--------------|----------------|---------------------|--------------|----------------|---------------------|--------------|----------------|---------------------|--------------|----------------|---------------------|--------------|----------------|---------------------|
| | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION |
| Percent of County Beneficiaries With a Visit | 61.08 | 36.94* | 11.98* | 62.04 | 22.4 | 10.43 | 67.87* | 23.47 | 11.96* | 63.44 | 23.08 | 9.32 | 64.19 | 25.1 | 11.4 |
| Total Number of Visits | 73,761 | 24,440 | 4,831 | 84,901 | 14,284 | 4,399 | 56,150 | 6,552 | 2,121 | 45,522 | 5,468 | 1,508 | NA | NA | NA |
| Visits per Beneficiary | 2.47 | 0.87 | 0.17 | 2.57 | 0.46 | 0.14 | 3.83* | 0.5 | 0.16 | 2.94 | 0.45 | 0.12 | 3.11 | 0.5 | 0.2 |

*Rate higher than state; Data sources: Health Data New York 2013 (Primary Care), Health Data New York 2012 (ER/Inpatient)

The next group of tables explores this same data by age range. Table 10 explores primary care, emergency department, and inpatient utilization by Medicaid beneficiaries aged 0-17 years and compares visit rates to NY State rates. These tables show that for the 0-17 age group, primary care visit rates are higher in the AHI North Country PPS overall compared to the NY State rate and are higher in 7 of the 9 counties constituting the PPS. (Although shown in red, it is not necessarily the case that higher rates of primary care utilization are bad; for instance, it may be better to have higher rates of primary care utilization, which has the potential of decreasing emergency department and inpatient use.) Additionally, emergency department visit rates are higher overall in the PPS counties compared to the state driven by three of the nine counties: Essex, Fulton, and St. Lawrence. Inpatient admission rates are similar or lower than NY State rates in the PPS overall as well as all counties with the exception of Warren County, which has a higher rate relative to the PPS and the NY State rate.

| Service Utilization | Clinton | | | Essex | | | Franklin | | | Fulton | | | Hamilton | | |
|-----------------------------|---------------|----------------|---------------------|--------------|----------------|---------------------|--------------|----------------|---------------------|--------------|----------------|---------------------|--------------|----------------|---------------------|
| | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION |
| Unique Members enrolled | 6,902 | | | 2,869 | | | 4,512 | | | 6,209 | | | 306 | | |
| Total Number of Visits | 23,077 | 2,409 | 703 | 9,952 | 1,414 | 244 | 12,294 | 1,658 | 410 | 20,602 | 2,872 | 641 | 828 | 73 | 24 |
| Unique Members w/ Visit | 5,453 | 1,570 | 578 | 2,027 | 844 | 192 | 3,255 | 1,069 | 351 | 4,651 | 1,743 | 505 | 224 | 57 | 19 |
| Visit Rate per 1000 Members | 332.17 | 34.67 | 10.12 | 371.38 | 52.77 | 9.11 | 4,651 | 37.44 | 9.26 | 342.25 | 47.71 | 10.65 | 284.73 | 25.10 | 8.25 |
| Service Utilization | St. Lawrence | | | Saratoga | | | Warren | | | Washington | | | | | |
| | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | | | |
| Unique Members enrolled | 10,458 | | | 11,272 | | | 5,113 | | | 5,813 | | | | | |
| Total Number of Visits | 26,560 | 7,417 | 904 | 34,399 | 2,769 | 953 | 21,114 | 1,659 | 570 | 19,277 | 1,725 | 469 | | | |
| Unique Members w/ Visit | 7,200 | 3,858 | 776 | 8,369 | 1,802 | 807 | 4,003 | 1,015 | 451 | 4,319 | 1,142 | 394 | | | |
| Visit Rate per 1000 Members | 252.92 | 70.63 | 8.61 | 327.71 | 26.38 | 9.08 | 446.97 | 35.12 | 12.07 | 345.58 | 30.92 | 8.41 | | | |
| Service Utilization | AHI PPS Total | | | NY State | | | | | | | | | | | |
| | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | | | | | | | | | |
| Unique Members enrolled | 52,231 | | | 2,236,162 | | | | | | | | | | | |
| Total Number of Visits | 168,103 | 20,338 | 4,918 | 7,236,625 | 884,958 | 244,844 | | | | | | | | | |
| Unique Members w/ Visit | 38,962 | 11,978 | 4,064 | 1,658,154 | 526,638 | 178,904 | | | | | | | | | |
| Visit Rate per 1000 Members | 325.37 | 43.05 | 9.52 | 322.24 | 39.41 | 10.90 | | | | | | | | | |

NYS Medicaid DSRIP Dashboard. DSRIP Dashboards include utilization and enrollment data from NYS Medicaid paid fee for service claims, reported managed care encounters, and the member enrollment file.

Red = Rates higher than NY State rate

A similar table is provided below for Medicaid beneficiaries falling into the 18-64 year old range. Within this adult age range, there is lower utilization of primary care in the PPS region overall and most counties (with the exception of two) have higher rates of emergency department use than equivalent NY State rates. Inpatient visit rates are lower in the PPS overall and in all counties than the equivalent NY State rates.

Table 11. Primary Care, Emergency Room, and Inpatient Service Utilization (Ages: 18-64)

| Service Utilization | Clinton | | | Essex | | | Franklin | | | Fulton | | | Hamilton | | |
|-----------------------------|---------------|----------------|---------------------|--------------|----------------|---------------------|--|----------------|---------------------|--------------|----------------|---------------------|--------------|----------------|---------------------|
| | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION |
| Unique Members enrolled | 12,619 | | | 4,766 | | | 7,571 | | | 9,930 | | | 490 | | |
| Total Number of Visits | 33,520 | 10,327 | 2,003 | 16,211 | 3,788 | 755 | 18,883 | 5,619 | 1,320 | 29,073 | 7,708 | 1,632 | 1,411 | 121 | 62 |
| Unique Members w/ Visit | 7,141 | 4,441 | 1,327 | 2,962 | 1,591 | 470 | 4,438 | 2,322 | 861 | 5,959 | 3,319 | 1,110 | 291 | 76 | 36 |
| Visit Rate per 1000 Members | 270.73 | 83.41 | 16.18 | 367.29 | 85.82 | 17.11 | 258.39 | 76.89 | 18.06 | 307.13 | 81.45 | 17.25 | 327.38 | 28.07 | 14.39 |
| Service Utilization | St. Lawrence | | | Saratoga | | | Warren | | | Washington | | | | | |
| | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | | | |
| Unique Members enrolled | 16,772 | | | 18,761 | | | 8,173 | | | 8,425 | | | | | |
| Total Number of Visits | 42,973 | 15,929 | 3,445 | 47,083 | 9,909 | 3,026 | 32,190 | 4,571 | 1,474 | 24,715 | 3,942 | 1,179 | | | |
| Unique Members w/ Visit | 10,014 | 6,363 | 2,112 | 11,340 | 4,321 | 1,968 | 5,472 | 1,944 | 1,007 | 5,166 | 1,913 | 793 | | | |
| Visit Rate per 1000 Members | 258.51 | 95.82 | 20.72 | 272.33 | 57.31 | 17.50 | 437.20 | 62.08 | 20.02 | 315.21 | 50.28 | 15.04 | | | |
| Service Utilization | AHI PPS Total | | | NY State | | | NYS Medicaid DSRIP Dashboard. DSRIP Dashboards include utilization and enrollment data from NYS Medicaid paid fee for service claims, reported managed care encounters, and the member enrollment file. Red = Rates higher than NY State rate | | | | | | | | |
| | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | | | | | | | | | |
| Unique Members enrolled | 85,672 | | | 3,437,729 | | | | | | | | | | | |
| Total Number of Visits | 246,059 | 61,914 | 14,896 | 10,777,863 | 1,838,435 | 715,219 | | | | | | | | | |
| Unique Members w/ Visit | 52,073 | 26,037 | 9,628 | 2,125,226 | 860,075 | 399,223 | | | | | | | | | |
| Visit Rate per 1000 Members | 296.05 | 74.49 | 17.92 | 336.32 | 57.37 | 22.32 | | | | | | | | | |

For the third age group of older adults, age 64+, there is a similar story. Primary care visit rates tend to be lower, ER visit rates higher in the PPS overall and most counties, and inpatient admission rates lower.

Table 12. Primary Care, Emergency Room, and Inpatient Service Utilization (Ages: 64 +)

| Service Utilization | Clinton | | | Essex | | | Franklin | | | Fulton | | | Hamilton | | |
|-----------------------------|---------------|----------------|---------------------|--------------|----------------|---------------------|--|----------------|---------------------|--------------|----------------|---------------------|--------------|----------------|---------------------|
| | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION |
| Unique Members enrolled | 2,252 | | | 1,128 | | | 1,485 | | | 1,848 | | | 131 | | |
| Total Number of Visits | 2,815 | 524 | 433 | 1,908 | 471 | 156 | 3,070 | 434 | 272 | 2,135 | 539 | 323 | 145 | | 17 |
| Unique Members w/ Visit | 708 | 302 | 330 | 365 | 209 | 129 | 599 | 232 | 209 | 459 | 285 | 254 | 26 | | 14 |
| Visit Rate per 1000 Members | 120.98 | 22.52 | 18.61 | 165.11 | 40.76 | 13.50 | 196.34 | 27.76 | 17.40 | 113.11 | 28.55 | 17.11 | 104.02 | | 12.20 |
| Service Utilization | St. Lawrence | | | Saratoga | | | Warren | | | Washington | | | | | |
| | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | | | |
| Unique Members enrolled | 3,071 | | | 3,473 | | | 1,622 | | | 1,500 | | | | | |
| Total Number of Visits | 5,351 | 882 | 538 | 3,462 | 812 | 503 | 2,861 | 380 | 284 | 1,558 | 293 | 207 | | | |
| Unique Members w/ Visit | 1,159 | 499 | 407 | 912 | 421 | 400 | 560 | 189 | 213 | 414 | 145 | 169 | | | |
| Visit Rate per 1000 Members | 166.45 | 27.44 | 16.74 | 100.34 | 23.53 | 14.58 | 176 | 23.50 | 17.57 | 101.66 | 19.12 | 13.51 | | | |
| Service Utilization | AHI PPS Total | | | NY State | | | NYS Medicaid DSRIP Dashboard. DSRIP Dashboards include utilization and enrollment data from NYS Medicaid paid fee for service claims, reported managed care encounters, and the member enrollment file. Red = Rates higher than NY State rate | | | | | | | | |
| | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | PRIMARY CARE | EMERGENCY ROOM | INPATIENT ADMISSION | | | | | | | | | |
| Unique Members enrolled | 16,438 | | | 686,109 | | | | | | | | | | | |
| Total Number of Visits | 23,305 | 4,348 | 2,733 | 1,436,580 | 153,873 | 162,777 | | | | | | | | | |
| Unique Members w/ Visit | 5,183 | 2,288 | 2,123 | 261,270 | 88,606 | 115,097 | | | | | | | | | |
| Visit Rate per 1000 Members | 138.00 | 25.75 | 16.18 | 202.26 | 21.66 | 22.92 | | | | | | | | | |

More specific service metrics that are indicative of access to care are shown in Tables 13 and 14 below. For chlamydia testing, all counties perform poorer than the Upstate averages with the exceptions of Fulton and Washington counties. Well-child visits are a concern in Essex, Franklin, Hamilton, and St. Lawrence. The AHI North Country PPS counties do relatively better than all of Upstate with regard to asthma hospitalizations, with the exception of Fulton county that has a higher rate. Medicaid beneficiaries dental service utilization is of concern for children and for the Medicaid population overall in comparison to Upstate NY statistics.

Table 13: Select Medicaid Service Utilization Metrics

| Service Utilization | Clinton | Essex | Franklin | Fulton | Hamilton |
|--|----------|--------------|----------|------------|------------|
| % of sexually active young women aged 16-24 with at least one Chlamydia test in Medicaid program (2012)* | 35.2% | 41.8% | 50.0% | 67.1% | 57.1% |
| % of children with recommended number of well child visits in government sponsored insurance programs (2012)** | 78.9% | 65.0% | 62.6% | 69.7% | 55.1% |
| Asthma Hospitalization Rate per 10,000 (age adjusted)*** | 9.8 | 5.4 | 7.0 | 12.9 | 5.6 |
| Service Utilization | Saratoga | St. Lawrence | Warren | Washington | Upstate NY |
| % of sexually active young women aged 16-24 with at least one Chlamydia test in Medicaid program (2012)* | 60.9% | 38.7% | 57.7% | 64.5% | 64.7% |
| % of children with recommended number of well child visits in government sponsored insurance programs (2012)** | 70.8% | 50.2% | 75.8% | 68.0% | 67.9% |
| Asthma Hospitalization Rate per 10,000 (age adjusted)*** | 5.3 | 9.6 | 9.9 | 10.4 | 11.1 |

Data source: *Medicaid Program Data 2012, **NYS Medicaid and Child Health Plus Data, ***CHAI 2012; Red indicates counties worse off than Upstate NY

Table 14: Select Medicaid Dental Service Utilization Metrics

| Service Utilization | Clinton | Essex | Franklin | Fulton | Hamilton |
|--|----------|--------------|----------|------------|------------|
| % of Medicaid enrollees with at least one dental visit within the last year # | 25.1% | 29.6% | 24.8% | 28.5% | 25.2% |
| % of Medicaid enrollees with at least one preventive dental visit within the last year # | 18.3% | 22.1% | 13.8% | 22.2% | 20.0% |
| % of Medicaid enrollees (aged 2-20 years) who had at least one dental visit within the last year # | 36.0% | 44.6% | 33.7% | 38.5% | 42.7% |
| % of Medicaid enrollees (aged 2-20 years) with at least one preventive dental visit within the last year # | 30.3% | 38.6% | 24.5% | 33.7% | 37.9% |
| Service Utilization | Saratoga | St. Lawrence | Warren | Washington | Upstate NY |
| % of Medicaid enrollees with at least one dental visit within the last year # | 29.7% | 25.8% | 32.8% | 29.7% | 31.8% |
| % of Medicaid enrollees with at least one preventive dental visit within the last year # | 24.5% | 19.7% | 24.9% | 22.2% | 26.0% |
| % of Medicaid enrollees (aged 2-20 years) who had at least one dental visit within the last year # | 44.9% | 35.3% | 52.9% | 48.0% | 45.6% |
| % of Medicaid enrollees (aged 2-20 years) with at least one preventive dental visit within the last year # | 41.0% | 30.9% | 47.0% | 42.4% | 40.9% |

Data source: NYS Medicaid Program Data 2013; Red indicates percentages lower than Upstate NY

Figures 2 through 4 show trend data on primary care, emergency department, and inpatient use for a three year period by age groups. There has not been much movement with regard to primary care visit rates, although for the last few months of 2013, they appear to be trending downward for the 0-17 and 18-64 age groups. Emergency department visits for 0-17 and 18-64 year olds also seem to be decreasing in the latter part of 2013, but increasing for older adults (65+). Inpatient utilization has trended downward from 2011, but there has not been much difference from mid 2012 forward for all three age groups. (Note: the source of the trend data is the same as the sources cited above for Tables 10 through 12.)

Figure 2. Trend of Primary Care Visit Rates per 1000 Member Months (AHI North Country PPS)

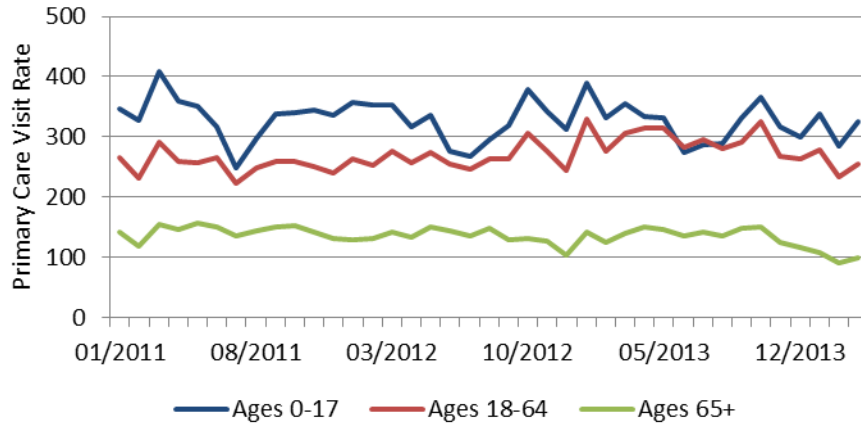


Figure 3. Trend of Emergency Room Visit Rates per 1000 Member Months (AHI North Country PPS)

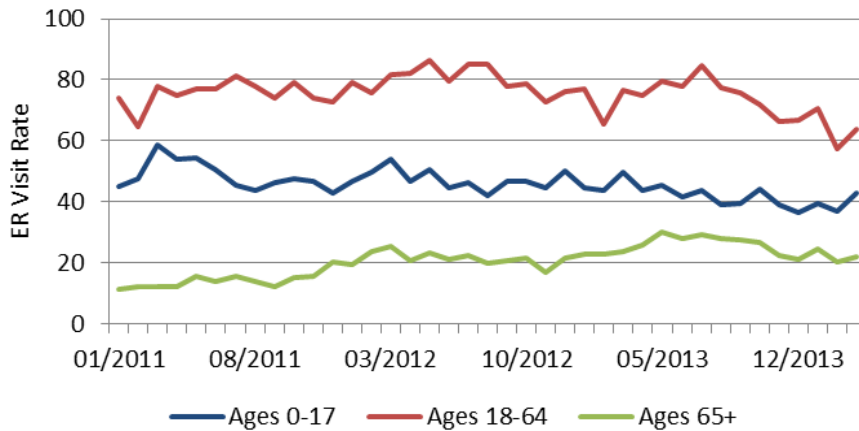
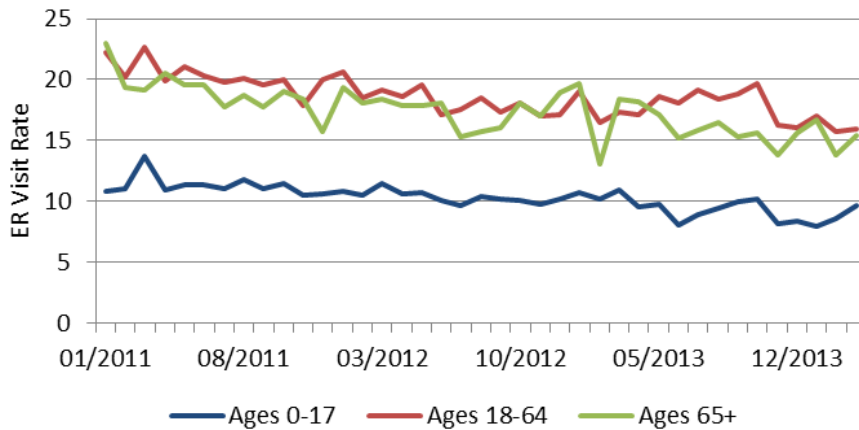


Figure 4. Trend of Inpatient Admission Rates per 1000 Member Months (AHI North Country PPS)



The leading causes of inpatient admission and emergency department visits are described below using data drawn from the New York State DOH’s Medicaid Beneficiary Chronic Health Conditions, Inpatient and Emergency Room Utilization data set⁸, which reviews hospital inpatient and emergency department utilization specifically for the low income, Medicaid insured population. This dataset was provided by DOH to guide DSRIP planning and analyzes the chronic and episodic conditions that are thought to be most significant drivers of hospital use⁹. This methodology categorizes patients into 8 specific critical risk groups (CRGs) based upon a combination of diagnosis codes, demographic information, and pharmacy data.

As shown in Table 15, in the AHI North Country PPS’ service area overall the underlying conditions that were at the root of most inpatient admissions for Medicaid recipients were mental diseases and disorders and diseases and disorders of the cardiovascular system. These conditions account for 64 percent of admissions when grouped by major diagnostic categories (MDC). The behavioral health MDCs (mental diseases and disorders and substance abuse) accounted for nearly half (49%) of admissions by MDCs. This data is consistent with the data on prevalence of disease conditions reported earlier, where depression and hypertension were the two most prevalent conditions in the Medicaid beneficiary population.

Table 15: Leading Causes of Hospital Admissions

| Major Diagnostic Categories | Members within Category | Unique Members Admitted | Total Admissions/MDC |
|---|-------------------------|-------------------------|----------------------|
| Mental Diseases And Disorders | 60,427 | 17,231 | 31,829 |
| Diseases And Disorders Of The Cardiovascular System | 39,246 | 16,583 | 28,887 |
| Diseases And Disorders Of The Respiratory System | 18,697 | 6,459 | 11,398 |
| Substance Abuse | 13,342 | 7,081 | 14,418 |
| Diabetes Mellitus | 12,574 | 4,383 | 7,734 |
| Newborns and other neonates and HIV infection are two other major diagnostic categories not reported because data was suppressed given small numbers. | | | |

Further detail on these admissions is shown in Table 16 by county. The table shows the five conditions for each county that result in the highest number of admissions per member. Generally these tend to be cardiac conditions although “major personality disorders” is also among the top five for each county. For the most part, the number of hospital admissions per member condition is lower than rates found for the same conditions in NY State (higher rates are indicated in red). Franklin, Fulton, and St. Lawrence counties are the exception with one or two conditions that result in a higher number of admissions than is found in NY State overall. The top ten conditions are reported in the Appendix A.

⁸ https://health.data.ny.gov/api/views/m2wt-pje4/files/W8jiVDb7hRW8ThuXcnMEd0tn0NCVQPhIFziBWsqhew8?download=true&filename=NYSDOH_MedicaidPopulation_overview.pdf

⁹ The 3M CRG software uses a proprietary categorical risk adjustment model which hierarchically assigns individuals to clinically meaningful risk categories. Each Medicaid beneficiary is assigned to a mutually exclusive CRG based on their most significant diagnosis or diagnoses. CRGs use standard demographic, diagnostic, procedure, and pharmacy data from encounters and claims to conditionally assign risk categories. Each CRG risk category provides the basis for the prediction of health care utilization and cost.

Table 16. Member Conditions that Drive Hospital Inpatient Admissions

| Rank | Clinton | | Essex | | Franklin | | Fulton | | Hamilton | |
|------|---|----------------------|---|----------------------|---|----------------------|---|----------------------|--------------------------------------|----------------------|
| | Condition | Admission per Member | Condition | Admission per Member | Condition | Admission per Member | Condition | Admission per Member | Condition | Admission per Member |
| 1 | Chronic Cardiovascular Diagnoses - Minor | 1.54 | History of Myocardial Infarction | 1.65 | Major Personality Disorders | 2.92 | Chronic Cardiovascular Diagnoses - Minor | 2.17 | Depression | 0.62 |
| 2 | History of Percutaneous Transluminal Coronary Angioplasty | 1.5 | Major Personality Disorders | 1.51 | Chronic Cardiovascular Diagnoses - Minor | 1.7 | Major Personality Disorders | 1.61 | Schizophrenia | 0.4 |
| 3 | History of Myocardial Infarction | 1.43 | Cardiomyopathy | 1.24 | History of Percutaneous Transluminal Coronary Angioplasty | 1.69 | History of Percutaneous Transluminal Coronary Angioplasty | 1.33 | Hypertension | 0.36 |
| 4 | History of Coronary Artery Bypass Graft | 1.39 | Angina and Ischemic Heart Disease | 1.1 | History of Myocardial Infarction | 1.62 | Atrial Fibrillation | 1.25 | Chronic Stress and Anxiety Diagnoses | 0.26 |
| 5 | Major Personality Disorders | 1.27 | Atrial Fibrillation | 1.09 | Cardiomyopathy | 1.52 | Cardiomyopathy | 1.24 | Asthma | 0.11 |
| Rank | Saratoga | | St. Lawrence | | Warren | | Washington | | | |
| 1 | Condition | Admission per Member | Condition | Admission per Member | Condition | Admission per Member | Condition | Admission per Member | | |
| 2 | Major Personality Disorders | 1.59 | Major Personality Disorders | 1.95 | History of Myocardial Infarction | 1.38 | Major Personality Disorders | 1.42 | | |
| 3 | History of Coronary Artery Bypass Graft | 1.18 | History of Percutaneous Transluminal Coronary Angioplasty | 1.51 | History of Percutaneous Transluminal Coronary Angioplasty | 1.29 | History of Myocardial Infarction | 1.2 | | |
| 4 | Delirium Tremens | 1.18 | Chronic Cardiovascular Diagnoses - Minor | 1.44 | Major Personality Disorders | 1.23 | Valvular Disorders | 1.05 | | |
| 5 | History of Percutaneous Transluminal Coronary Angioplasty | 1.17 | Opioid Abuse | 1.42 | History of Coronary Artery Bypass Graft | 1.21 | Atrial Fibrillation | 1.03 | | |
| | Defibrillator Status | 1.16 | History of Myocardial Infarction | 1.32 | Cardiomyopathy | 1.16 | Angina and Ischemic Heart Disease | 0.97 | | |

Red indicates value higher than state. Beneficiaries may be in more than one category. Data Source: Health Data NY, 2012

Column Definitions: Condition = ; Admission per Member = Hospital inpatient admissions per Medicaid beneficiary in the county with condition

Other Notes: Beneficiaries can be in more than one category, Red indicates rate higher than rate found in state

Similar data is shown for ER utilization in Tables 17 and 18. In the AHI North Country PPS’ service area overall the underlying conditions that were at the root of most emergency department visits for those insured by Medicaid were mental diseases and disorders and diseases and disorders of the cardiovascular system, accounting for 67 percent of visits by MDC. The behavioral health MDCs (mental diseases and disorders and substance abuse) accounted for 58 percent of emergency department visits by MDCs.

Table 17: Leading Causes of Emergency Room Utilization

| Condition | Members with Condition | Unique Members with ER Visits | Total ER Visits |
|---|------------------------|-------------------------------|-----------------|
| Mental Diseases And Disorders | 60,427 | 30,701 | 101,343 |
| Diseases And Disorders Of The Cardiovascular System | 39,246 | 16,231 | 47,269 |
| Diseases And Disorders Of The Respiratory System | 17,690 | 9,621 | 32,811 |
| Substance Abuse | 14,349 | 8,044 | 27,069 |
| Diabetes Mellitus | 12,574 | 5,146 | 14,915 |

Newborns and other neonates and HIV infection are two other major diagnostic categories not reported because data was suppressed given small numbers.

The top five conditions that lead to emergency department admissions show a different story than the one for inpatient admissions. The drivers are predominantly mental health and substance abuse, including major personality disorder, bi-polar disorder, post-traumatic stress disorder, and drug abuse related diagnoses. The rates of ER utilization per condition for nearly all conditions across all counties are higher than the NY State rates, Hamilton, Warren, and Washington as the exceptions. The table in Appendix A lists the top ten drivers of emergency department utilization. The patterns for the lower five of the top ten are the same, comprised of mental health conditions and generally with rates of ER utilization per condition higher than is found in NY State overall.

Table 18. Member Conditions that Drive ER Utilization

| Rank | Clinton | | Essex | | Franklin | | Fulton | | Hamilton | |
|------|--|----------------------|--|----------------------|---|----------------------|--|----------------------|--------------------------------------|----------------------|
| | Condition | ER Visits per Member | Condition | ER Visits per Member | Condition | ER Visits per Member | Condition | ER Visits per Member | Condition | ER Visits per Member |
| 1 | Major Personality Disorders | 3.5 | Major Personality Disorders | 3.71 | Major Personality Disorders | 7.08 | Major Personality Disorders | 3.26 | Schizophrenia | 1.16 |
| 2 | Chronic Cardiovascular Diagnoses - Minor | 3.4 | Bi-Polar Disorder | 2.36 | Post Traumatic Stress Disorder | 2.95 | Drug Abuse Related Diagnoses | 2.62 | Chronic Stress and Anxiety Diagnoses | 0.57 |
| 3 | Eating Disorder | 2.7 | History of Myocardial Infarction | 2.32 | Other Significant Drug Abuse - Continuous | 2.8 | Chronic Cardiovascular Diagnoses - Minor | 2.48 | Depression | 0.54 |
| 4 | Post Traumatic Stress Disorder | 2.6 | Atrial Fibrillation | 2.09 | History of Percutaneous Transluminal Coronary Angioplasty | 2.79 | Bi-Polar Disorder - Severe | 2.35 | Asthma | 0.49 |
| 5 | Drug Abuse Related Diagnoses | 2.4 | Cocaine Abuse | 2.05 | Bi-Polar Disorder | 2.63 | Post Traumatic Stress Disorder | 2.15 | Hypertension | 0.37 |
| Rank | Saratoga | | St. Lawrence | | Warren | | Washington | | | |
| | Condition | ER Visits per Member | Condition | ER Visits per Member | Condition | ER Visits per Member | Condition | ER Visits per Member | | |
| 1 | Major Personality Disorders | 3.66 | Major Personality Disorders | 2.23 | Major Personality Disorders | 2.23 | Major Personality Disorders | 4.25 | | |
| 2 | Post Traumatic Stress Disorder | 2.85 | Bi-Polar Disorder - Severe | 1.87 | Bi-Polar Disorder - Severe | 1.87 | Chronic Mental Health Diagnoses - Moderate | 1.98 | | |
| 3 | Bi-Polar Disorder - Severe | 2.74 | Cocaine Abuse | 1.82 | Cocaine Abuse | 1.82 | Bi-Polar Disorder - Severe | 1.93 | | |
| 4 | Opioid Abuse | 2.43 | Post Traumatic Stress Disorder | 1.6 | Post Traumatic Stress Disorder | 1.6 | Post Traumatic Stress Disorder | 1.79 | | |
| 5 | Chronic Mental Health Diagnoses - Moderate | 2.43 | Chronic Mental Health Diagnoses - Moderate | 1.51 | Chronic Mental Health Diagnoses - Moderate | 1.51 | Opioid Abuse | 1.78 | | |

Red indicates value higher than state. Beneficiaries may be in more than one category. Data Source: Health Data NY, 2012
Column Definitions: Condition = ; ER Visits per Member = ER visits per Medicaid beneficiary in the county with condition
Other Notes: Beneficiaries can be in more than one category, Red indicates rate higher than rate found in state

Rates of Ambulatory Care Sensitive Conditions and the Leading Causes of Preventable Hospitalizations

To assess potentially preventable hospital inpatient and emergency department utilization, the New York DOH provided data to DSRIP PPSs on an extensive series of Prevention Quality Indicators (PQIs)¹⁰, Pediatric Quality Indicators (PDIs)¹¹, and Potentially Preventable Visits (PPVs) to the ER.¹² These measures allow one to identify when a patient is being admitted to the hospital inpatient setting or the hospital emergency department setting for a condition that likely could have been prevented or avoided with more timely, higher quality primary care services. With respect to PQIs there are 14 specific disease indicators (e.g., diabetes, hypertension, asthma, heart failure, etc.) that identify the extent to which these conditions are being well managed for adults in the primary care setting. There are also three composite PQI measures (i.e., acute, chronic, and diabetes) that group multiple PQIs together, providing insight into the overall strength of the primary care system and its ability to manage chronic and acute illness. Similarly, there are series of roughly 20 PDIs, along with an overall, acute, and chronic composite that serve the same function for children. Finally, with respect to inappropriate emergency department utilization the DOH provided PPV data, which is an aggregated analysis of a series of conditions that could be reduced or eliminated with adequate primary care services, patient monitoring, and follow up. Below are a series of figures that detail the PQI, PDI, or PPV rates by county for the years 2011 and 2012 with comparison to the NY State data. Within the appendices, further detail data is presented in tabular form for each measure, including a zip code analysis highlighting within each counties zones where indicator rates are highest.

For PQI data (adult inpatient), Figures 5 through 10 show the PQI overall composite measures and the acute, chronic, diabetes, respiratory, and circulatory composites. The pattern for all is fairly consistent. The counties of Franklin, Clinton, St. Lawrence, and Fulton show higher rates than the NY State for the overall composite PQI and each sub-composite score. The counties of Saratoga, Washington, and Warren show lower rates for the overall composite PQI and each composite score. Essex County had an overall composite better than the state in 2011, but worse than the state in 2012. An examination of the sub-composite scores shows that this is driven primarily by high rates within the acute composite score, which are higher than the state. Essex' other sub-composite scores are lower than the state. The rates in Hamilton, given its small population, are unstable, meaning a small number of cases can cause wide fluctuations in rates; thus, they are less useful for insight.

¹⁰ http://www.qualityindicators.ahrq.gov/modules/pqi_overview.aspx

¹¹ http://www.qualityindicators.ahrq.gov/Modules/pdi_resources.aspx

¹² <http://www.healthdata.gov/data/dataset/all-payer-potentially-preventable-emergency-visit-ppv-rates-patient-zip-code-sparcs>

Figure 5. PQI 90: Overall Composite by County with Comparison to NYS (2011 and 2012)

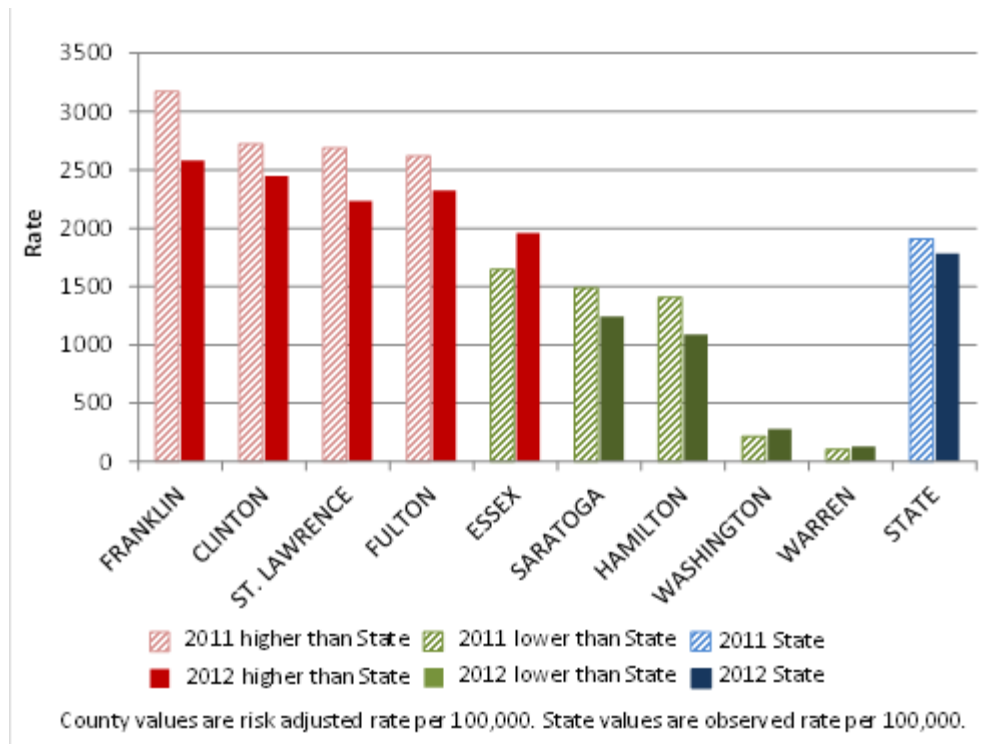


Figure 6. PQI 91: Acute Composite by County with Comparison to NYS (2011 and 2012)

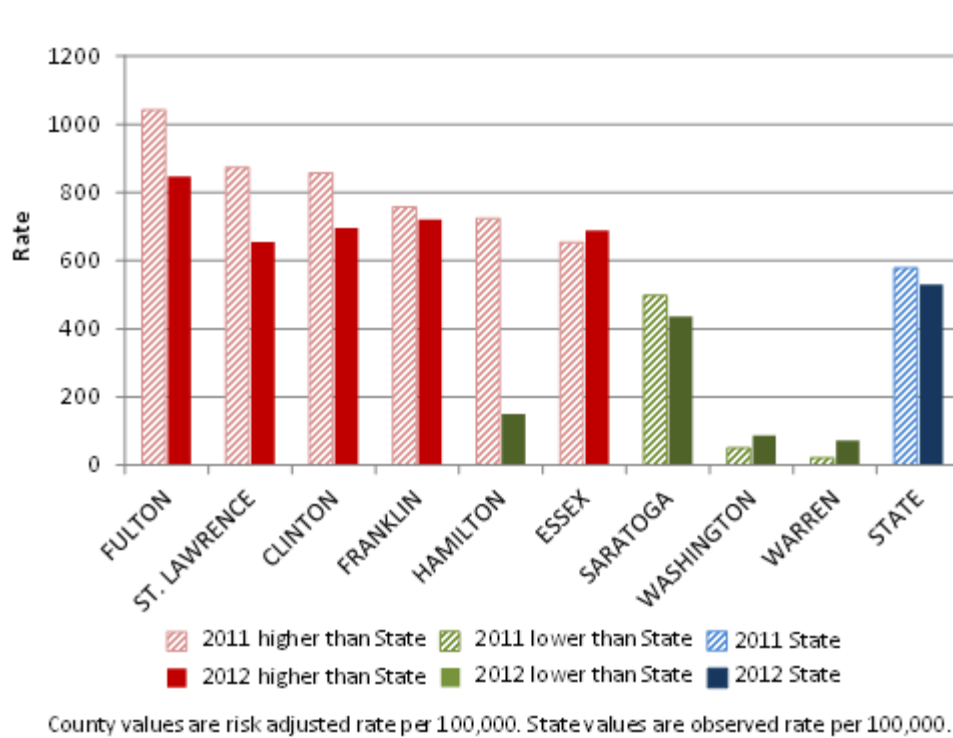


Figure 7. PQI 92: Chronic Composite by County with Comparison to NYS (2011 and 2012)

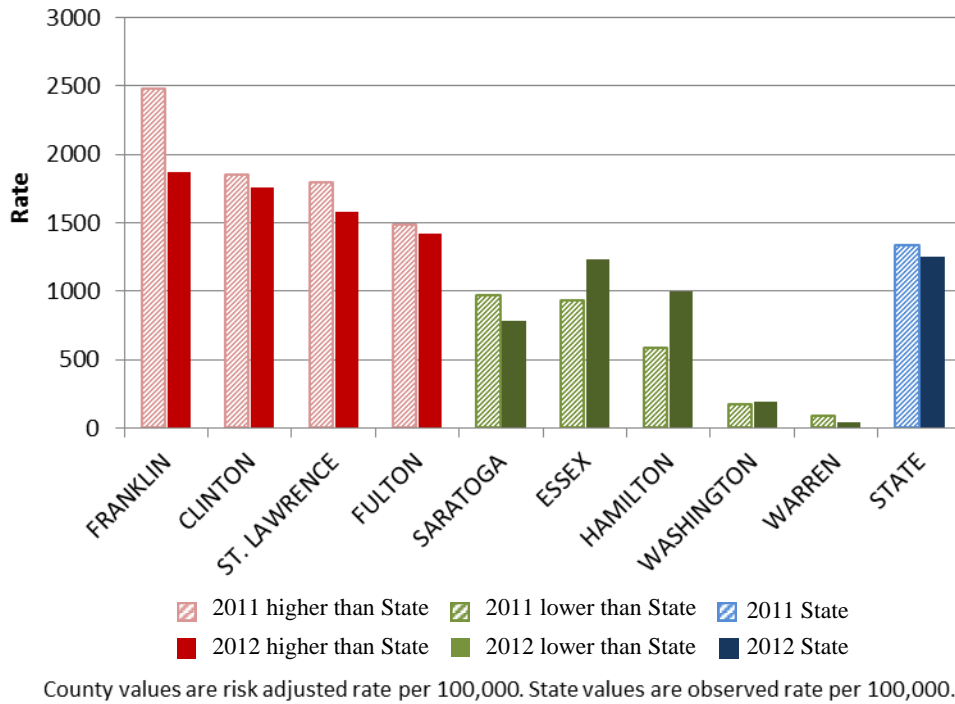


Figure 8. PQI 501: All Diabetes Composite by County with Comparison to NYS (2011 and 2012)

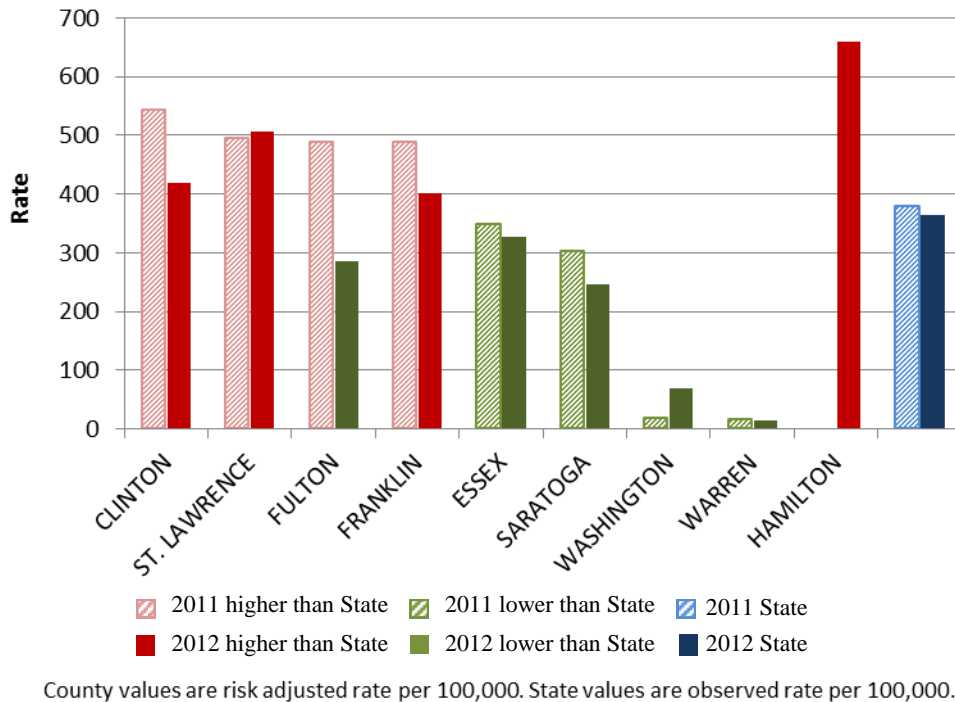


Figure 9. PQI 502: All Circulatory Composite by County with Comparison to NYS (2011 and 2012)

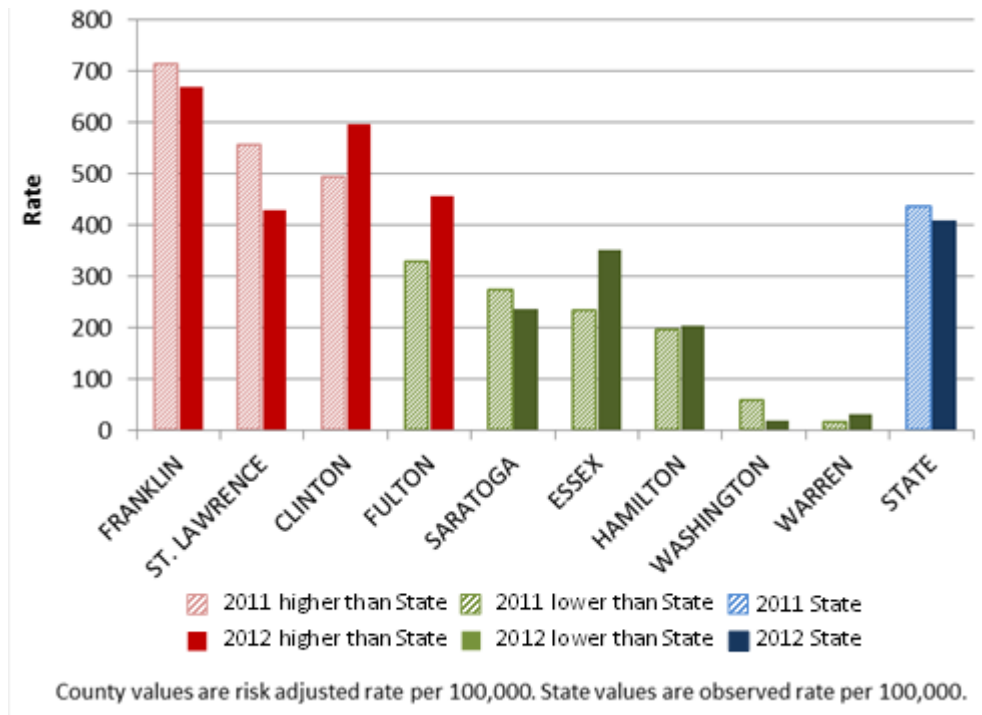
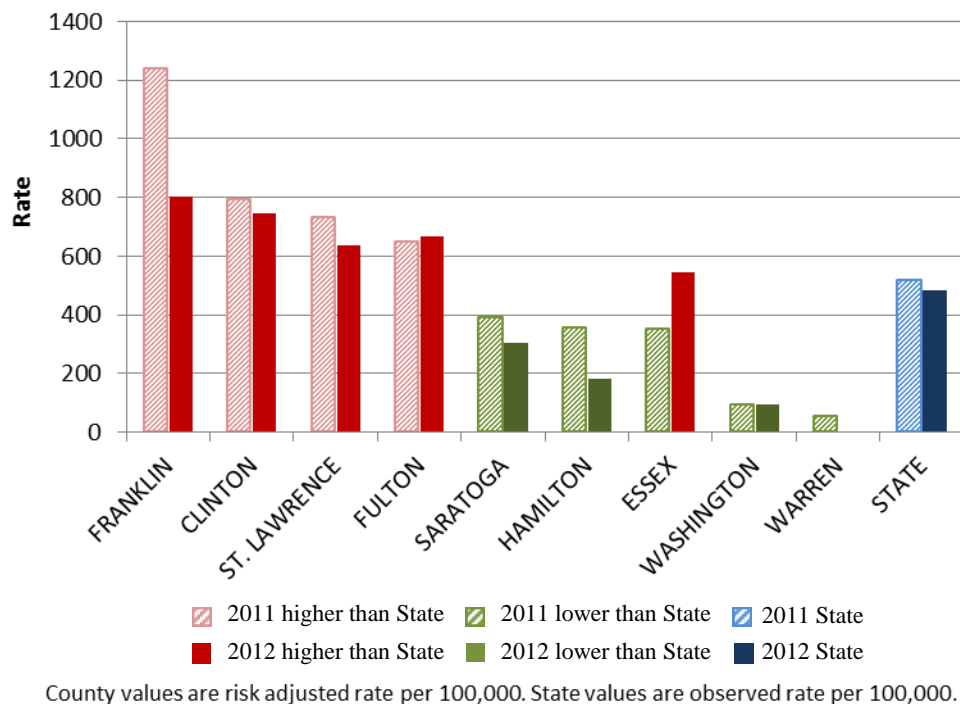
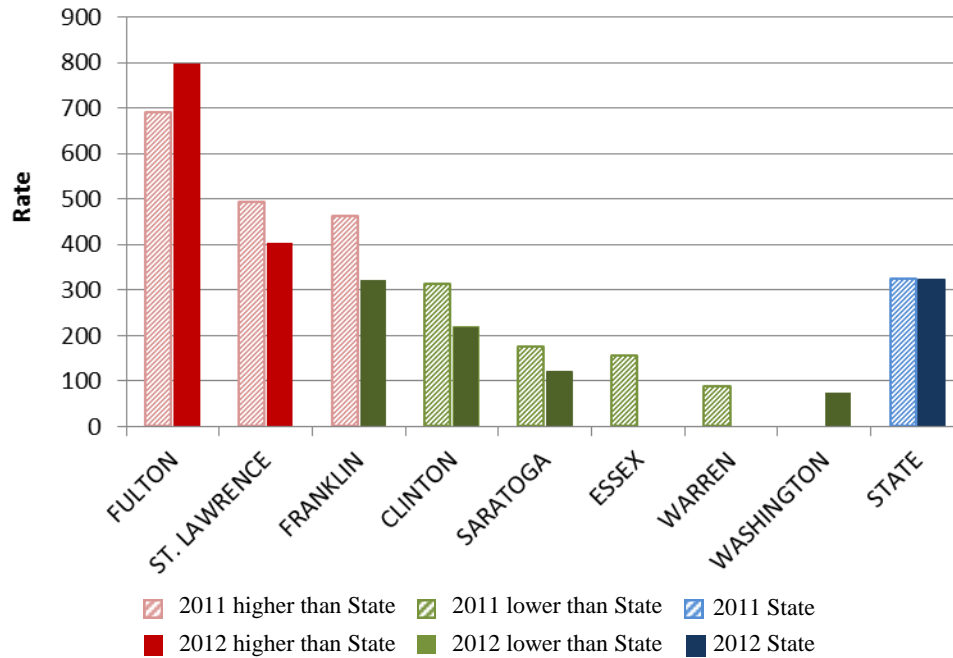


Figure 10. PQI 503: All Respiratory Composite by County with Comparison to NYS (2011 and 2012)



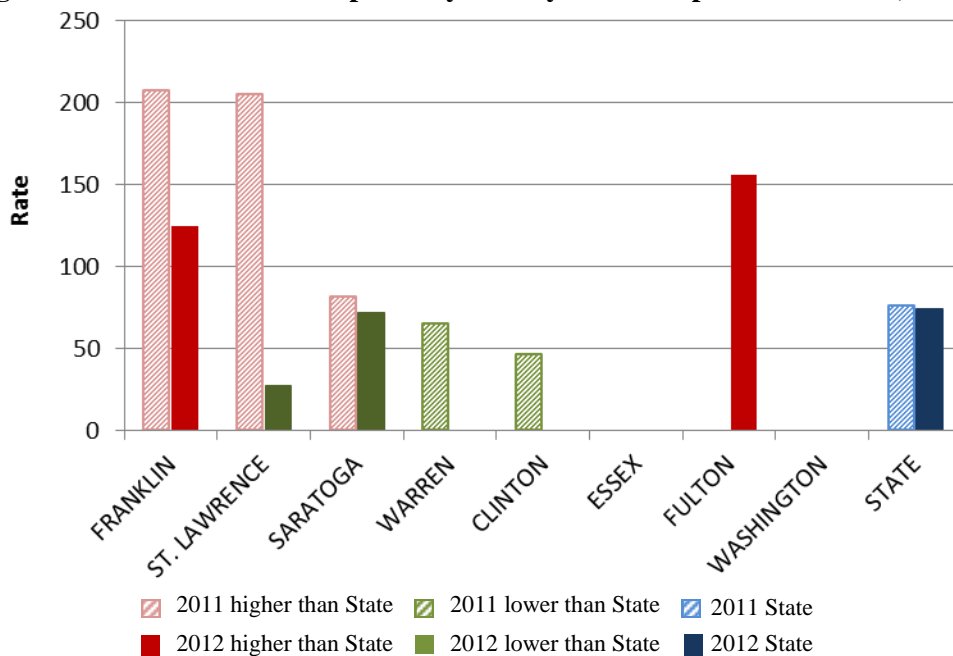
The PDI overall composite, Figure 11, shows Fulton and St. Lawrence with higher rates than NY State rates. Franklin had a higher composite rate in 2011 but it was brought down below the NY State rate in 2012. The acute and chronic composite rates are shown in Figures 12 and 13, although, given the small number of children hospitalized in any one year and the relatively small populations of most counties, these rates fluctuate widely.

Figure 11. PDI 90: Overall Composite by County with Comparison to NYS (2011 and 2012)



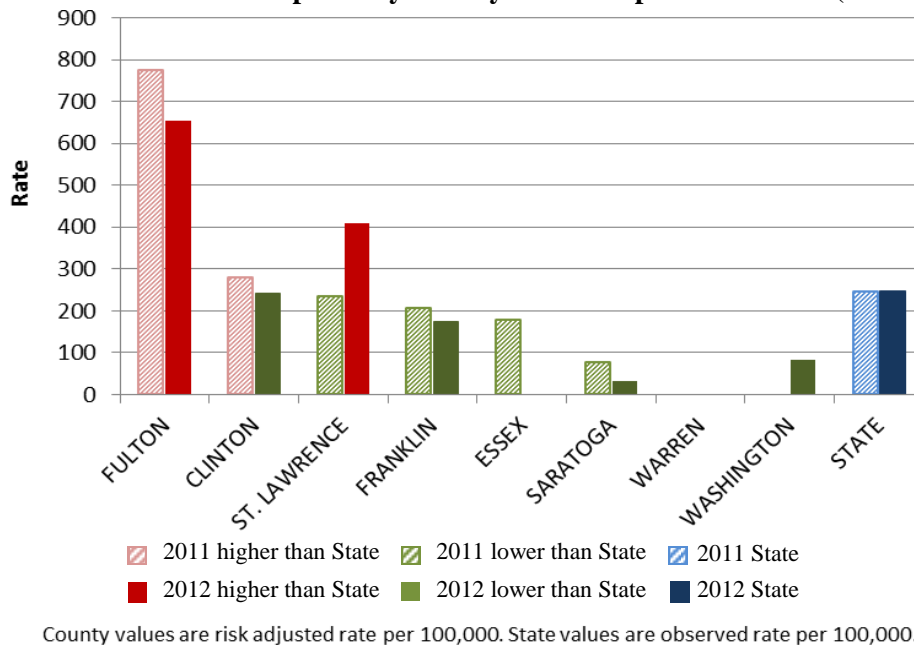
County values are risk adjusted rate per 100,000. State values are observed rate per 100,000.

Figure 12. PDI 91: Acute Composite by County with Comparison to NYS (2011 and 2012)



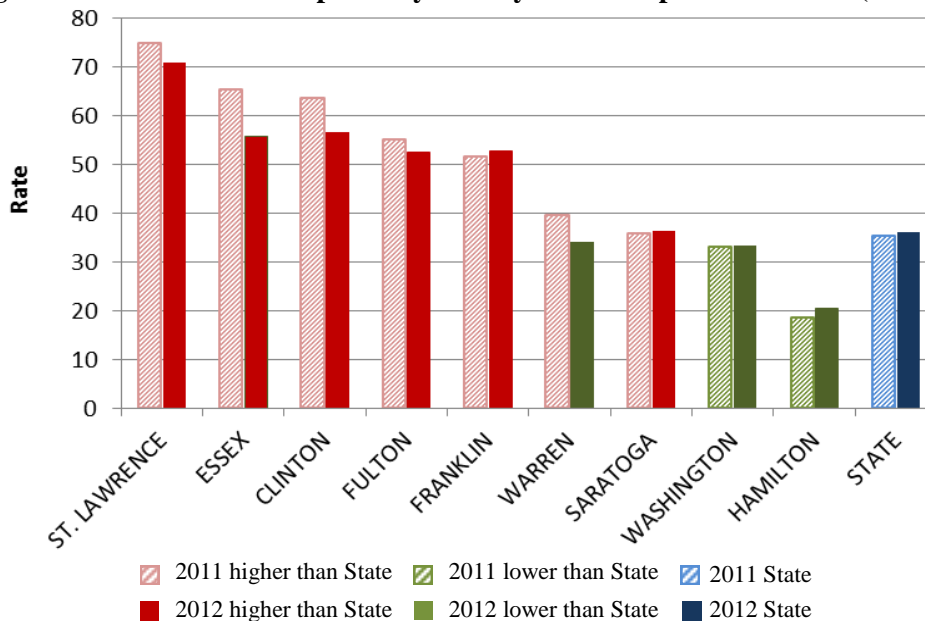
County values are risk adjusted rate per 100,000. State values are observed rate per 100,000.

Figure 13. PDI 92: Acute Composite by County with Comparison to NYS (2011 and 2012)



The last set of ambulatory care sensitive indicators is the PPV rates, which shows potentially inappropriate ER usage (Figure 14). All counties, with the exceptions of Washington and Hamilton, show rates higher than NY State, although Warren County’s rate fell below that of the state in 2012. St. Lawrence, Essex, Clinton, Fulton, and Franklin have particularly high rates. With the exception of Essex, these are the same counties with high PQI rates as well. Essex County fares poorly regarding potentially inappropriate ER use, but has similar or better rates than the state with regard to potentially inappropriate inpatient use.

Figure 14. PPV: Acute Composite by County with Comparison to NYS (2011 and 2012)



Rates of Potentially Preventable Readmissions

Facility data on potentially preventable readmissions is shown below for all payers and for Medicaid specifically. The calculation is based on 3M All Patient Refined (APR) DRGs, a methodology derived from Medicare but that includes non-Medicare patients and adjusts for severity of illness and risk of mortality. The all-payer observed rate for all AHI North Country facilities combined is 7.93 percent, lower than the expected rate of 8.26 percent given patient assigned DRGs. The all payer rate is fairly consistent between observed and expected with one exception. For Medicaid-insured patients the observed PPR of 5.98 percent is lower than the expected PPR of 7.48 percent and both are lower than the all payer rate. There is more variability, however, between the expected and observed rate for Medicaid patients.

Table 20: Potentially Preventable Readmissions By Facility (2013)

| Facility Name | All Payers | | Medicaid | |
|---|--------------|--------------|--------------|--------------|
| | Obs PPR Rate | Exp PPR Rate | Obs PPR Rate | Exp PPR Rate |
| Glens Falls Hospital | 7.96% | 8.96% | 5.01% | 7.48% |
| Champlain Valley Physicians Hospital Medical Center | 7.41% | 8.08% | 10.37% | 10.26% |
| Canton-Potsdam Hospital | 8.05% | 7.65% | 6.28% | 7.69% |
| Nathan Littauer Hospital | 9.02% | 7.92% | 4.17% | 5.02% |
| Adirondack Medical Center - Saranac Lake Site | 7.84% | 7.05% | 7.46% | 8.43% |
| Alice Hyde Medical Center | 8.03% | 7.66% | 12.64% | 9.06% |
| Edward John Noble Hospital of Gouverneur | 11.60% | 8.46% | 8.33% | 7.44% |
| Elizabethtown Community Hospital | 5.66% | 8.15% | 14.29% | 4.08% |
| Moses-Ludington Hospital | 6.43% | 9.44% | 40.00% | 14.40% |
| Total | 7.93% | 8.26% | 5.98% | 7.48% |

B. Community Assets and Resources

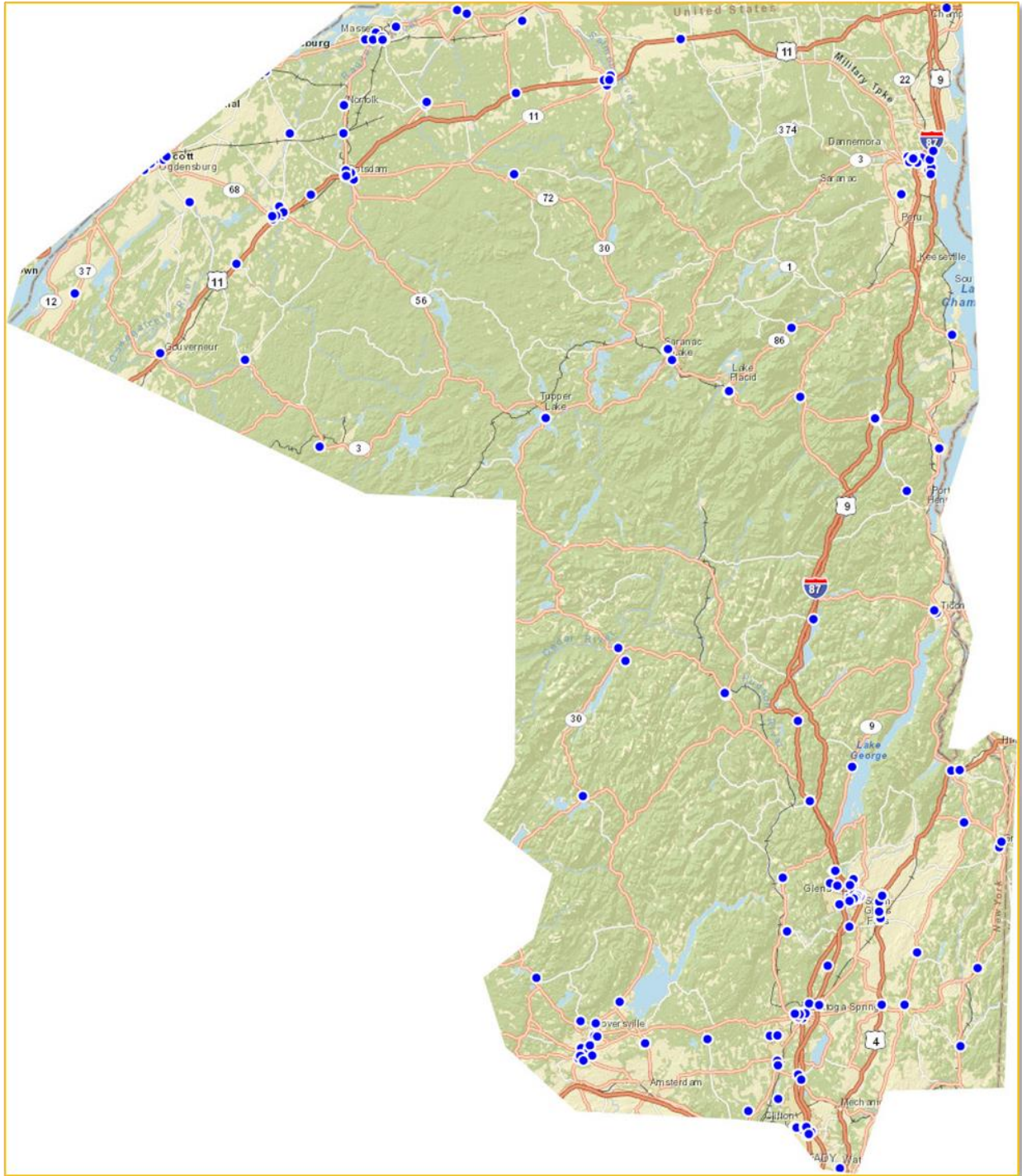
This section describes the resources available for each of the service components and considers their scope of service, distribution, and capacity. This description touches on the range of services available to the population at-large in each category but is focused on the system of care for low-income, Medicaid insured, and uninsured residents of the region. This information will inform the PPS' understanding of availability, affordability, quality, and accessibility of services as a way of identifying access barriers, shortages, care coordination, and service gaps.

This section is divided into the following components: 1) hospital and specialty care services; 2) primary care services; 3) behavioral health services; 4) oral health services; 5) post-acute services (e.g., skilled nursing facilities, nursing homes, and other long-term care facilities); 6) healthy and safe environments; and 7) public health and community-based resources.

This information was informed by a quantitative and qualitative data sources, including; 1) the North Country Health System Redesign Commission (NCHSRC) Report – Toward an Integrated Rural Health System: Building Capacity and Promoting Value in the North Country; 2) results of the Adirondack Regional Health Network (ARHN) Survey Regional Results Summary; 3) resource data from the New York State Department of Health; and 4) individual county assessments that were completed as part of the NY Prevention Agenda 2013-2017.

Figure 15 shows the distribution of the leading health and community providers identified by the Adirondack Health Institute DSRIP Advisory Committee and confirmed and augmented by a review of the complete and systematic information distributed by New York DOH. A listing of regional resources, organized by county, can be found in Appendix B. Below is a description of each service component.

Figure 15. AHI North Country PPS Facilities Map



Description of Health Care Resources

Hospital Services

Summary Description of Available Resources and Resource Capacity

There are 13 hospitals in the nine county PPS region that provide a broad range of hospital inpatient, emergency, and ambulatory care services.¹³ This includes community hospitals, regional medical centers, and psychiatric hospitals. There are an estimated 1475 beds across these 13 hospitals. The list of hospitals in the region is included in Appendix B.

Table 20: Hospital Occupancy Rates for Hospitals in AHI North Country PPS Service Area by County – 2012 (Including psychiatric beds)

| County | Number of Beds | Average Beds per 1,000 residents | Total Inpatient Days (SPARCS) | Hospital Occupancy Rate (Percent) |
|-----------------------|----------------|----------------------------------|-------------------------------|-----------------------------------|
| Clinton | 300 | 3.7 | 59,615 | 54.4 |
| Essex | 30 | 0.8 | 1,477 | 13.5 |
| Franklin | 171 | 3.3 | 23,458 | 37.6 |
| Fulton | 74 | 1.3 | 14,214 | 52.6 |
| Hamilton | 0 | 0.0 | 0 | 0 |
| Saratoga | 171 | 0.8 | 46,755 | 74.9 |
| St. Lawrence | 319 | 2.8 | 56,242 | 48.3 |
| Warren | 410 | 6.2 | 78,054 | 52.2 |
| Washington | 0 | 0.0 | 0 | 0 |
| AHI North Country PPS | 1,475 | 2.1 | 279,815 | 51.8 |
| New York State | 56,191 | 2.9 | 14,042,431 | 68.5 |

Notes: Numbers include beds in facilities designated as 'Hospitals' or 'Primary Care Hospital -Critical Access Hospitals', but exclude psychiatric beds. Total inpatient days data for 2012 were obtained from SPARCS Health Data Query System - <https://apps.health.ny.gov/pubdoh/sparcsqry/>, accessed on 11/3/2014. Number of beds data were obtained from Health Data NY - <https://health.data.ny.gov/Health/Health-Facility-Certification-Information/2g9y-7kqm>, accessed 10/31/2014. Average beds per 1,000 population was calculated using formula: (Number of beds*1000)/population. Hospital occupancy rates were calculated using this formula: (Total number of inpatient days/(Number of beds x 365 days))*100; red indicates lower average beds and occupancy rates than NY State.

The overall capacity with respect to beds per 1,000 residents varies across the counties in the PPS' service area but on a regional basis is lower than the New York State average. Per Table 20 above, the average # of beds per 1,000 residents by county ranges from a high of 6.2 beds per 1,000 residents in Warren to 0 beds per 1,000 residents in Hamilton and Washington. The beds per 1,000 figures for Clinton County and Franklin County are also high, relative to the other

¹³ Hospital information, including bed capacity, available at: <http://profiles.health.ny.gov/>

counties in the region. The average # of beds per 1,000 residents for the AHI North Country PPS service area overall is 2.1 beds per 1,000, which is lower than the New York State rate of 2.9 beds per 1,000.

With respect to hospital occupancy rates, the data suggests a similar pattern. There is considerable variation in occupancy rates by county but regionally the PPS service area average occupancy rate is lower than the State average. The occupancy rates by county range from a high of 74.9 in Saratoga County to as low as 13.5 in Essex. There are no beds in Hamilton or Washington Counties. The average occupancy rate for the nine county service area is 51.8 compared to a New York State average of 68.5, both of which are low.

Quality, Care Coordination, and Care Transitions

Based on quantitative data compiled from the DOH, the measured and perceived quality across the hospitals throughout the region is mixed.

Below is a table showing selected quality metrics for the hospitals that operate within the region drawn from the Quality Improvement Organization (QIO) Clinical Warehouse. The data is compiled from hospitals that voluntarily submit data to the QIO Clinical Warehouse, which is a national data repository for private healthcare data. The QIO validates the information, provides feedback to the hospitals, and makes data available to the public through the Centers for Medicare & Medicaid Services (CMS) and the New York State Department of Health¹⁴. A wide range of quality data is presented including recommended care, mortality rates, customer satisfaction, emergency department timeliness, and readmission rates. The following is a review of selected indicators as well as a composite measure that assess the overall timeliness and effectiveness of care.

The composite measure figures across all the hospitals were very high. The average across the hospitals in the region was 95.75 percent, although one hospital, Moses-Ludington was low with 79.6 percent. On an indicator by indicator basis there was some variation, particularly across some of the measures. There was particular variation with respect to emergency department wait times, which ranged from as high as 43 minutes to as low as 10 minutes. There was also considerable variation with respect to patient satisfaction, which ranged from a high of 82 percent to a low of 51 percent. The range of variation with respect to percentage of patients readmitted within 30 days for selected conditions were consistent across the hospitals.

¹⁴ <http://profiles.health.ny.gov/hospital/pages/technotes>

Table 21: Selected Hospital Quality Data Metrics Drawn from the Quality Improvement Organization (QIO) Clinical Warehouse as Reported by the NYS Department of Health – 2012

| Hospital | Emergency Department Wait Time (in minutes) | Patient Satisfaction | Readmissions Within 30 Days | Heart Attack Patients Readmitted within 30 Days | Heart Failure Patients Readmitted within 30 Days | Pneumonia Patients Readmitted within 30 Days | Timely and effective care (composite measure) |
|---------------------------------|---|----------------------|-----------------------------|---|--|--|---|
| Adirondack Medical Center | 21 | 72% | 20% | 18% | 23% | 18% | 96% |
| Alice Hyde Medical Center | 31 | 51% | 21% | 19% | 24% | 18% | 96.8% |
| Canton-Potsdam | 24 | 66% | 20% | n/a | 24% | 17% | 97.6% |
| Champlain Valley Medical Center | 42 | 57% | 21% | 21% | 24% | 18% | 98.3% |
| Claxton-Hepburn | 22 | 60% | 20% | 19% | 23% | 18% | 98.4% |
| Clifton-Fine | n/a | 82% | n/a | n/a | n/a | n/a | n/a |
| Elizabethtown Community | 10 | 75% | 18% | n/a | 22% | 17% | 95.8% |
| Glens Falls | 46 | 66% | 20% | 18% | 25% | 16% | 97.2% |
| Gouverneur | n/a | 64% | n/a | n/a | n/a | n/a | n/a |
| Massena Memorial | 24 | 59% | 21% | n/a | 22% | 20% | 99.2% |
| Moses-Ludington | n/a | 72% | 17% | n/a | n/a | 17% | 79.6% |
| Nathan Littauer | 35 | 67% | 20% | 19% | 21% | 19% | 96.6% |
| Saratoga Hospital | 43 | 74% | 21% | 18% | 26% | 16% | 97.8% |

Emergency department wait time: Average time patients spent in the emergency department before they were seen by a healthcare professional. Lower is better.

Patient Satisfaction: This measure is used to assess adult inpatients' perception of their hospital. Patients rate their hospital on a scale from 0 to 10, where 0 is the worst hospital possible and 10 is the best hospital possible. Higher is better.

Readmissions Within 30 Days: A composite average of the 30-day readmission rates for heart attack, heart failure, and pneumonia. Lower is better.

Heart Attack Patients Readmitted within 30 Days: This measure shows the all-cause 30-day readmission rate for patients discharged from a previous hospital stay for heart attack. Lower is better.

Heart Failure Patients Readmitted to Hospital within 30 Days: This measure shows the all-cause 30-day readmission rate for patients discharged from a previous hospital stay for heart failure. Lower is better.

Pneumonia Patients Readmitted within 30 Days: This measure shows the all-cause 30-day readmission rate for patients discharged from a previous hospital stay for pneumonia. Lower is better.

Timely and effective care (Composite measure): This measure is a weighted average of all of the process-of-care, or "core" measures, reported on CMS Hospital Compare. Higher is better.

Outpatient Primary Care Services

Summary Description of Available Resources and Resource Capacity

Federally qualified health centers (FQHCs), and New York State Article 28, Article 36 and Article 40 health care facilities constitute the bulk of primary care providers serving Medicaid insured and uninsured residents. These providers are relatively easily identified and are included in our list of core primary care providers by county in Appendix B.¹⁵ Article 28 facilities are hospitals, nursing homes, and diagnostic treatment centers. Article 36 facilities are certified home health care agencies and long term home health care programs. Article 40 facilities are hospices.

Region-wide, there are 25 FQHCs and look-alike sites in the AHI North Country PPS: 13 in Warren County, 4 in Essex County, 2 each in St. Lawrence and Washington counties, and 1 apiece in Clinton, Franklin, Hamilton and Saratoga counties.¹⁶ There are no FQHC clinics or look-alike sites in Fulton County. In addition to the hospitals already discussed, facilities under Article 28 include 20 diagnostic and treatment centers, 34 diagnostic and treatment center extension clinics, 117 hospital extension clinics, one mobile dental van, 31 nursing homes, and 5 school-based clinics. Home health care and hospices (Article 36 and Article 40 facilities) are discussed further at a later point in this section.

Private, solo, and group primary care practices may serve some Medicaid insured patients, but are generally smaller percentages given that some providers may be hesitant about serving Medicaid patients due to lower relative reimbursement rates. Individually, these practices do not serve a significant volume of Medicaid insured individuals, but in the aggregate they play an important role in the system. Lists of these organizations are difficult to generate as are other providers, such as faith-based or free clinics, also important contributors to the safety net. These groupings of practices are not represented in the county listing of resources.

Given the difficulty in identifying the full primary care system that is responsible for serving the low income Medicaid insured and uninsured population, it is difficult to assess capacity and the extent to which there are gaps in coverage for the Medicaid-insured and uninsured populations. In 2013-2014, the North Country Health Systems Redesign Commission (NCHSRC) set out to assess the capacity and strength of the Adirondack/North Country region's primary care safety net.¹⁷ The report concluded that the rural setting affected access to services because of longer transport times for EMS that is located in the sparsely populated areas of the Adirondack Park, Hamilton County and parts of Essex and Warren counties. Also larger and specialty hospitals are further away from those areas. Their data also showed that sizable areas were "lacking key health

¹⁵ Title 28, 36, and 40: <https://health.data.ny.gov/dataset/Health-Facility-General-Information/vn5v-hh5r>

¹⁶ FQHC and look alike listing - http://findahealthcenter.hrsa.gov/Search_HCC.aspx?byCounty=1

¹⁷NCHSRC Report

and behavioral services, with a lack of transportation, and significant geographic and socio-demographic factors exacerbating problems of access.”

The Health Resources and Services Administration disseminates data related to primary care capacity on a county-basis through the Area Health Resources Files (AHRF), drawn from over 50 sources. One of the sets of measures that are part of this resource is a compilation of ambulatory care capacity measures that reports on the number of physicians per 100,000 populations by physician-type, including primary care. Reviewing this data shows that in each of the nine counties that are part of the AHI North Country PPS, the number of full-time-equivalent primary care providers per 100,000 populations is lower than the New York State overall figure Table 22 below shows the rates for each county. In some cases this rate is as much as one/fifth the State rate, indicating a general shortage of primary care physicians in the AHI North Country PPS, with the exception of Warren County.

| County | # Primary Care Physicians | FTE Providers per 100,00 Population |
|----------------|---------------------------|-------------------------------------|
| Clinton | 56 | 68.6 |
| Essex | 16 | 41.1 |
| Franklin | 37 | 71.4 |
| Fulton | 25 | 45.5 |
| Hamilton | 1 | 20.9 |
| Saratoga | 170 | 76.5 |
| St. Lawrence | 60 | 53.5 |
| Warren | 71 | 108.3 |
| Washington | 22 | 35 |
| New York State | 16,171 | 109.58 |
| United States | 233,892 | 82.6 |

Data source: Health Resources Services Administration, Area Health Resources Files (AHRF), 2012; red indicates rates lower than the NY State rate.

The lack of primary care providers is further evidenced by the large number of Health Professional Shortage Area (HPSA) designations covering a majority of the AHI North Country PPS’ service area. The entire counties of Clinton and Fulton, and various areas of Essex, Franklin, Hamilton, St. Lawrence, Washington and Warren are designated primary care

HPSAs.¹⁸ These areas include 87 towns, 6 health center service areas, and 2 correctional facilities. There is no primary care HPSA in Saratoga County. A map of the HPSA areas is included as Appendix D.

Patient-Centered Medical Home Accreditation and Quality

Patient-Centered Medical Home Accreditation

Patient-Centered Medical Home (PCMH) transformation requires attention to a range of factors that dramatically impact the quality, efficiency, safety, and effectiveness of care. Thus, PCMH certification can be considered a proxy indicator for quality of primary care. As reported by the United Hospital Fund in 2012 and shown in Table 23, there are 337 PCMH practice sites in the counties constituting the AHI North Country PPS, although it is not known from this data source the level of certification (PCMH level one, two, or three) that has been achieved.

| County | # PCMH Providers, September 2012 |
|---------------|---|
| Clinton | 65 |
| Essex | 48 |
| Franklin | 22 |
| Fulton | 2 |
| Hamilton | 5 |
| Saratoga | 67 |
| St. Lawrence | 5 |
| Warren | 116 |
| Washington | 7 |
| Total | 337 |

Source: "The Evolution of Patient-Centered Medical Homes in New York State: Current Status and Trends as of September 2012." United Hospital Fund. 2012. page 38.
<http://www.chhs.ca.gov/PRI/Burke-PCMH%20in%20NYS%20-%20Status%20and%20Trajectory%20-%202012.pdf>

Healthcare Effectiveness Data and Information Set. Another important measure of quality is the Healthcare Effectiveness Data and Information Set (HEDIS). HEDIS is a tool used by more than 90 percent of America's health plans to measure performance on important dimensions of care and service.

While HEDIS is not strictly a tool to measure quality of primary care services, most of the measures are either directly or indirectly related to the level of quality of services in the primary care setting. Altogether, HEDIS consists of 81 measures across 5 domains of care. Because so many plans collect HEDIS data, and because the measures are so specifically defined, HEDIS makes it possible to compare the performance of health plans and service delivery performance on an "apples-to-apples" basis.

¹⁸ Designated HPSAs can be found at: <http://hpsafind.hrsa.gov/HPSASearch.aspx>

According to HEDIS data drawn from the revised DSRIP Clinical Process of Quality Measures Chartbooks, 33% (32 out of 97) of the indicators across all 16 HEDIS metrics and across all nine of the PPS counties were worse off compared to the upstate rates. (See Table 24 below). This calculation excludes the data points where the data is unreportable due to the number of recipients included in the metric being less than 30 or where data was unavailable.

Table 24: HEDIS Measures from DSRIP Clinical Process of Quality Measures Chartbooks 11.26.14

| | Clinton | Essex | Franklin | Fulton | Hamilton | Saratoga | ST. Lawrence | Warren | Washington | Upstate New York | New York State |
|---|---------|-------|----------|--------|----------|----------|--------------|--------|------------|------------------|----------------|
| A. Behavioral Health | | | | | | | | | | | |
| Adherence to Antipsychotic Medications for People Living with Schizophrenia | 65 | 79 | 73 | 63 | 71 | 72 | 57 | 71 | 70 | 66 | 64 |
| Antidepressant Medication Management - Effective Treatment for Acute Phase | 54 | 73 | 48 | 56 | 47 | 54 | 61 | 63 | 68 | 52 | 50 |
| Diabetes Monitoring for People with Diabetes and Schizophrenia | U | U | 77 | U | U | 68 | 79 | 63 | 78 | 65 | 68 |
| Diabetes Screening for People with Schizophrenia/BPD Who are Using Antipsychotic Med. | 70 | 82 | 90 | 77 | 83 | 68 | 80 | 79 | 74 | 77 | 79 |
| Follow-up after hospitalization for Mental Illness within 30 days | 41 | 75 | 74 | 74 | 61 | 68 | 35 | 74 | 69 | 59 | 55 |
| Follow-up care for Children Prescribed ADHD Medications - Initiation Phase | 54 | 53 | 41 | 48 | 52 | 42 | 45 | 48 | 38 | 51 | 56 |
| Initiation of Alcohol and Other Drug Dependence Treatment | 78 | 81 | 75 | 71 | 82 | 73 | 79 | 82 | 78 | 78 | 78 |
| C. Diabetes Mellitus | | | | | | | | | | | |
| Comprehensive Diabetes Care HbA1c Testing | 79 | 78 | 72 | 72 | 81 | 71 | 79 | 76 | 80 | 76 | 80 |
| E. HIV/AIDS | | | | | | | | | | | |
| Cervical Cancer Screening | 64 | 63 | 62 | 67 | 66 | 54 | 58 | 66 | 62 | 63 | 67 |
| Chlamydia Screening Among Young Women | 31 | 37 | 47 | 60 | 38 | 48 | 46 | 43 | 51 | 58 | 66 |
| Comprehensive Care for People Living with HIV or AIDS - Engagement in Care | NA | NA | NA | U | U | 88 | NA | U | U | 88 | 89 |
| Comprehensive Care for People Living with HIV or AIDS - Syphilis Screening | NA | NA | NA | U | U | 51* | NA | U | U | 57 | 68 |
| Comprehensive Care for People Living with HIV or AIDS - Viral Load Monitoring | NA | NA | NA | U | U | 52* | NA | U | U | 64 | 66 |
| F. Perinatal Care | | | | | | | | | | | |
| Well-Child Visits in the First 15 Months of Life | 90 | 91 | 83 | 95 | 92 | 92 | 80 | 91 | 92 | 87 | 85 |
| Other Clinical Improvement Process Metrics | | | | | | | | | | | |
| Breast Cancer Screening Among Women | 49 | 48 | 50 | 61 | 59 | 57 | 49 | 58 | 55 | 55 | 63 |
| Colorectal Cancer Screening | 44 | 40 | 39 | 45 | 42 | 41 | 39 | 45 | 42 | 41 | 49 |
| Red = Worse than Upstate value | | | | | | | | | | | |
| (U) Unreportable due to number of recipients in these data being <30 | | | | | | | | | | | |
| (NA) Data not available | | | | | | | | | | | |
| Data Source: Revised DSRIP Clinical Process of Quality Measures Chartbooks | | | | | | | | | | | |

Uniform Data System Clinical Measures of FQHCs

Another measure of quality is how well the region's FQHCs perform with respect to their standard set of clinical measures that are reported on their annual FQHC Uniform Data System (UDS) report. All FQHCs are required to track and report approximately 15 clinical measures related to maternal and child health, preventive services, and chronic disease management. Table 25 below provides specific detail on how well the FQHCs fared against New York State averages. The FQHCs in the larger region consistently screen for tobacco use and manage diabetes at higher rates than the NYS average for health centers. Four of the six FQHCs screen for cervical cancer and manage blood pressure at rates higher than the state average. However, only the Whitney M. Young CHC consistently screens for child obesity and provides follow-up. The United Cerebral Palsy Association of the North Country reports only 3 percent in this area.

Table 25: FQHC, Uniform Data System (UDS), Selected Clinical Measure Rates for FQHCs in the AHI North Country Service Area 2013

| FQHC | Hudson Healthwaters Health Network, Inc. | Schenectady Family Health Services | Whitney M. Young Community Health Center | Community Health Center of the Rutland Region | North Country Family Health Center | United Cerebral Association of the North Country, Inc. | All New York State Health Center Data |
|--|--|------------------------------------|--|--|------------------------------------|--|---------------------------------------|
| Counties served | Clinton, Essex, Warren, Washington, Saratoga, St. Lawrence, Hamilton, Fulton, non-PPS counties | Saratoga, non-PPS counties | Saratoga, non-PPS counties | Warren, Washington, Saratoga, non-PPS counties and counties in Vermont | St. Lawrence, non-PPS counties | St. Lawrence, non-PPS counties | All NYS |
| Dental services provided | Yes | Yes | Yes | Yes | Yes | Yes | n/a |
| 2013 UDS Clinical Quality Data | | | | | | | |
| % of patients with timely prenatal care | 62.4% | 78.9% | 68.9% | n/a | n/a | n/a | 77% |
| % of births low birth weight | 5.4% | 6.2% | 9.2% | n/a | n/a | n/a | 6.7% |
| Cervical cancer screening | 68.6% | 67.8% | 77.1% | 61.4% | 78.6% | 51.3% | 61.8% |
| Child weight screening and follow up | 54.8% | 53.2% | 98.6% | 52.9% | 52.9% | 3.0% | 55.7% |
| Adult weight screening and follow up | 53.0% | 57.3% | 61.4% | 48.6% | 50.0% | 31.7% | 53.3% |
| Screened for tobacco use | 96.7% | 99.9% | 87.1% | 94.3% | 100% | 97.9% | 90.4% |
| Colorectal cancer screening | 51.4% | 22.6% | 32.9% | 66.0% | 40.0% | 32.0% | 35.6% |
| Asthma treatment (appropriate treatment plan) | 70.1% | 67.2% | 98.6% | 51.4% | 74.3% | 88.0% | 75.6% |
| Blood pressure control (hypertensive patients with blood pressure <140/80) | 76.5% | 68.2% | 58.3% | 73.5% | 52.9% | 70.4% | 68% |
| Diabetes Control (diabetes patients with HbA1C <=9%) | 79.5% | 74.8% | 75.7% | 86.1% | 82.9% | 77.1% | 74.7% |

Behavioral Health Services

Summary Description of Available Resources and Resource Capacity

According to the New York Office of Mental Health¹⁹ there are 284 providers of mental and behavioral health services in the PPS service area. This includes 7 inpatient mental health programs, 25 outpatient mental health programs, 8 emergency mental health programs, 45 residential mental health programs, and 199 supportive mental health programs. Support programs include care coordination, vocation, forensics, general support, self-help, and education services.

These organizations are not well distributed throughout the region and results from the ARHN Regional Survey strongly indicate that both mental health and substance abuse are problematic for the region, and second only to obesity in emerging health issues for the area. At the same time, survey results indicated that a third of the health care and service professionals surveyed did not know the effectiveness of the programs and more than half believed these programs were only slightly to moderately effective.

Service need profiles for chemical dependence were created for five of the counties in the region, using data from the NYS Office of Alcoholism and Substance Abuse Services (OASAS). The county service need profiles are included in Appendix C. None of the five profiled counties (Clinton, Franklin, Essex, Hamilton, and St. Lawrence) had any capacity for methadone treatment. Four of the counties had no capacity for crisis services. Crisis services include medically managed detoxification, medically supervised withdrawal, (both inpatient and outpatient), and medically monitored withdrawal. The only county that had some capacity for medically managed detoxification is St. Lawrence with seven beds which serve residents of that county as well as Clinton, Essex, Franklin, and Hamilton.

With regard to outpatient services for chemical dependence, two counties had a higher percentage of needs met than the state averages of services to adolescents (12-17) at 41.2 percent, and 69.9 percent for adults (18+). Franklin County met 88.9 percent of adolescent need and 72.7 percent of adult need. Clinton County met 86.6 percent of adolescent need and 91.1 percent of adult need. The other counties were well below the state averages with Hamilton County having no capacity at all for outpatient chemical dependence services.

HRSA's Area Health Resources Files compile data on the number of psychiatrists per 100,000 population. A review of this data shows that in each of the nine counties the number of full-time-equivalent psychiatrists per 100,000 population is dramatically lower than the New York State overall figure. Table 26 shows the rates for each county. In three counties, there are no psychiatrists, and in four cases this rate is a small fraction of the overall New York State rate.

¹⁹ Mental health programs in the state are available at: http://bi.omh.ny.gov/bridges/directory?region=&prog_selection=

| County | Psychiatrists | |
|-------------------------------------|---------------|------|
| | # | Rate |
| Clinton | 10 | 12.2 |
| Essex | 0 | 0 |
| Franklin | 5 | 9.7 |
| Fulton | 1 | 1.8 |
| Hamilton | 0 | 0 |
| Saratoga | 28 | 12.6 |
| St. Lawrence | 12 | 10.7 |
| Warren | 9 | 13.7 |
| Washington | 0 | 0 |
| NY State | 3,586 | 18.3 |
| USA | 29,521 | 9.4 |
| *Rate per 100,000 population | | |
| Data source: AHRF 2012 | | |

There are 10 mental health HPSAs in the PPS Region. Four counties are designated full county: Clinton, Essex, Fulton, and Hamilton. There are three correctional facilities (Clinton Correctional, Ray Brook, and Great Meadow), two health center service areas (Community Action of Northeast Adirondack and Hudson Headwaters Health Network), and one Native American tribal designations (St. Regis Mohawk Health Services). There are no mental health HPSAs in Saratoga and St. Lawrence Counties.

Dental Services

Summary Description of Available Resources and Resource Capacity

According to the New York State Department of Health list of Article 28 Dental Health Facilities, there are six organizations that provide dental services at seven distinct sites across the PPS Service area. These six organizations include: Champlain Valley Physicians Hospital, Adirondack Medical Center, Alice Hyde Medical Center, Fulton County Public Health Department, North Country Children's Clinic, and Warrensburg Health Center

This lack of dental providers is evidenced by HPSA designations, of which there are many in the PPS service area. Designated dental HPSAs in the region include the entire county of Essex, low income populations in Essex and Warren, tribal populations in Franklin and Hamilton, and the correctional facilities in Clinton, Essex, Franklin and Washington.²⁰

²⁰ Designated HPSAs can be found at: <http://hpsafind.hrsa.gov/HPSASearch.aspx>

| County | Dentists | |
|-------------------------------------|----------|------|
| | # | Rate |
| Clinton | 36 | 43.8 |
| Essex | 15 | 38.1 |
| Franklin | 19 | 36.8 |
| Fulton | 16 | 28.8 |
| Hamilton | 0 | 0 |
| Saratoga | 152 | 69.2 |
| St. Lawrence | 39 | 34.8 |
| Warren | 48 | 73.1 |
| Washington | 13 | 20.6 |
| NY State | 14,035 | 72.4 |
| USA | 183,286 | 59.4 |
| *Rate per 100,000 population | | |
| Data source: AHRF 2012 | | |

According to the HRSA AHRF, the number of dentists per 100,000 population across all but one of the nine counties in the PPS' service area is lower than the state rate. Only Warren County has a dental provider to population rate that is higher than the State average. Table 27 shows the rates for each county.

Post-Acute and Long-term care Services

Summary Description of Available Resources and Resource Capacity

Nursing Homes. According to data available by the New York State DOH, there are 31 nursing homes in the PPS service area.²¹ A listing of these nursing home facilities by county is included in Appendix B. Of the 31 nursing homes that have 2012 data available from the Nursing Home Quality Initiative²², all but two nursing homes are certified by both Medicare and Medicaid. Across these sites, there are 3,883 beds (approximately 125 beds per site) and an average self-reported occupancy rate of 92.8 percent. Three sites did not have occupancy rates available. The lowest occupancy reported of the remaining 28 was 42.2 percent of beds.²³

According to the DOH, there will be a need for 4,272 residential health care facility (RHCF) beds in 2016.²⁴ Currently, there are 3,715 beds across the PPS service area, a shortage of 557 nursing home beds. This is a fairly dramatic shortage which will be felt particularly in Saratoga, Clinton, Franklin and Fulton counties. St. Lawrence County has a slight surplus of 45 beds, but Hamilton County has no beds. A table of the 2016 need for and ability to meet RHCF bed

²¹ A directory of nursing homes, by county, is available at: <http://nursinghomes.nyhealth.gov/searches/region>

²² Nursing Home Quality Initiative Data is available at: <https://health.data.ny.gov/Health/Nursing-Home-Quality-Initiative-Beginning-2012/aruj-fgbm>

²³ Nursing Home Quality Initiative Data is available at: <https://health.data.ny.gov/Health/Nursing-Home-Quality-Initiative-Beginning-2012/aruj-fgbm>

²⁴ Estimates of Residential Health Care Facility Need and Capacity is available at: https://www.health.ny.gov/facilities/nursing/rhcf_bed_need_by_county.htm

capacity is included in the appendix. What also seems clear and will exacerbate the situation as the “baby boomers” age over the next 10-15 years the proportion of older adults will increase and the gaps in long-term care will increase and become more problematic.

Assisted Living Facilities. In addition to the list of Nursing Homes, the DOH also keeps a directory of licensed assisted living residences. There are five such programs in the PPS service area. These programs include: Keene Valley Neighborhood House and Champlain Valley Senior Community in Essex County and three facilities/locations run by Home of the Good Shepherd in Saratoga County.

Quality of Care

In terms of quality in the nursing home setting, on average, 67 percent of staff at the nursing homes had a flu vaccine, but this ranged drastically from 37 to 96 percent of staff with no information available for five of the 31 sites. Among the 29 sites with composite quality scores from 2012, the average score was 52 points out of 100. Six sites were in the top quintile (score of over 63.7 points), while 6, 6, 6, and 5 sites were in the second, third, fourth, and last quintile respectively. Quintile performance is based on all nursing homes in the state.

Health Homes. The Affordable Care Act created an optional Medicaid State plan benefit for states to create Health Homes. Health Homes are designed to coordinate care for Medicaid beneficiaries with two or more chronic conditions, or one chronic condition at risk of another condition, or one serious and persistent mental health condition. There are four designated Health Homes in the PPS region: Adirondack Health Institute, St. Mary’s Healthcare, Visiting Nurse Service of Northeastern New York, and Central New York Health Home Network (CNYHHN), Inc. These four Health Homes networks cover all counties in the PPS service area.²⁵

| Medicaid Health Homes in PPS region | Health Home Service Area (Among PPS Counties) |
|--|--|
| Adirondack Health Institute | Clinton, Essex, Franklin, Hamilton, Warren, Washington |
| St. Mary’s Healthcare | Fulton |
| Visiting Nurse Service of Northeastern NY | Saratoga |
| CNYHHN | St. Lawrence |

Certified Health Home Agencies and Hospice

According to the New York DOH, there are 15 Certified Health Home Agencies (CHHAs) and six hospices serving the PPS counties.²⁴ Some of these agencies are outside of the PPS region, but serve the population of the region’s counties. CHHA cover individuals who need part-time intermediate and skilled healthcare. They can also provide long-term nursing and home health

²⁵ Information on Medicaid Health Homes can be found at:

https://www.health.ny.gov/health_care/medicaid/program/medicaid_health_homes/

²⁴ Information on Certified Health Homes Agencies and Hospice can be found at:

http://www.health.ny.gov/health_care/medicaid/program/longterm/chhas.htm

aide services such as physical, occupational, and speech therapy, or nutrition services. Nine of the fifteen CHHAs also provide long-term services to some of the counties. Essex and Hamilton counties have no long term home health care provider. The CCHAs are listed in the table below.

| Certified Home Health Agencies in PPS region | Health Home Service Area (Among PPS Counties) | Provides Long Term Home Health Care to |
|---|--|---|
| HCR | Clinton, Essex, Franklin, Hamilton, St. Lawrence, Warren, Washington | Clinton, Washington |
| Essex County Nursing Service | Essex | |
| Visiting Nurse Service of Northeastern NY | Essex, Franklin, Saratoga, Warren | Saratoga |
| Franklin County Public Health Service | Franklin | Franklin |
| Community Health Center of St. Mary's Healthcare and Nathan Littauer Hospital | Fulton, Hamilton, Saratoga, Warren | Fulton |
| Living Resources Certified Home Health Agency | Fulton, Saratoga, Warren, Washington | |
| VNA of Albany VNA of Saratoga VNA of Rensselaer | Fulton, Saratoga, Warren, Washington | Saratoga |
| Eddy VNA | Saratoga | Saratoga |
| Gentiva Health Services | Saratoga | |
| Saratoga County Public Health Nursing Service | Saratoga | Saratoga |
| Health Services of Northern NY | St. Lawrence | St. Lawrence |
| Northern Lights Home Health Care | St. Lawrence | |
| Hamilton County Public Health Nursing Service Home Health Agency | Hamilton | |
| Fort Hudson Certified Home Health Agency | Warren, Washington | |
| Warren County Health Services | Warren | Warren |

There are many Licensed Home Care Services Agencies (LHCSAs) in the PPS region. These are primarily for privately paying or privately insured clients although they may contract for services for Medicare/Medicaid beneficiaries.

There are six hospices in the PPS region. These include: 1) High Peaks Hospice and Palliative Care serving Essex, Franklin, Hamilton, St. Lawrence, Warren and Washington counties; 2) Hospice of the North Country serving Clinton and Franklin counties; 3) Mountain Valley Hospice covering Fulton, Hamilton, and Saratoga counties; 4) The Community Hospice serving Saratoga and Washington counties; 5) Hospice and Palliative Care of St. Lawrence County serving St. Lawrence County; and, 6) Hospice of Jefferson County serving St. Lawrence County.

Healthy and Safe Environment

Summary Description of Available Resources and Resource Capacity

Availability and accessibility of health care providers, healthy food, parks and recreational areas, transportation, and housing all influence an individual's well-being, their ability to make healthy and appropriate choices, and ultimately their overall health status. Below is a description of some key environmental factors influencing health in the AHI North Country PPS.

Access to Affordable Food

Issues around access to affordable and healthy food options contribute to health problems across the AHI North Country PPS region. Within isolated and rural parts of the region, food insecurity continues to disproportionately impact low-income populations. Lack of transportation in rural areas exacerbates these issues as geography makes it difficult for individuals to access grocery stores without the use of a vehicle. Barriers around transportation and the built environment pose challenges to an individual's ability to make healthy decisions regarding their body and diet. The manner in which food is processed and made available to individuals has a tremendous impact on the health of those consuming it. Many of the chronic diseases attributed to food insecurity are preventable, yet continue to harm individuals in the AHI North Country region, especially low-income individuals. Limited access to healthy food captures the percent of the population who are low-income and do not live close to a grocery store.

Table 28 represents the number of grocery store per 100,000 population. All counties in the PPS, except Essex and Hamilton have far fewer grocery stores than the state average, probably due to the rural geography of the area. This certainly limits options for residents in terms of where to shop, selection of foods available, and ability to do cost comparisons.

| County | Total Population | Number of Establishments | Establishments, Rate per 100,000 Population |
|-----------------------|------------------|--------------------------|---|
| Clinton County | 82,054 | 21 | 25.57 |
| Essex County | 39,909 | 24 | 60.96 |
| Franklin County | 51,698 | 15 | 29.07 |
| Fulton County | 55,358 | 11 | 19.81 |
| Hamilton County | 4,835 | 4 | 82.71 |
| St. Lawrence County | 112,060 | 27 | 24.12 |
| Saratoga County | 219,832 | 30 | 13.66 |
| Warren County | 65,700 | 30 | 45.66 |
| Washington County | 63,108 | 10 | 15.82 |
| AHI North Country PPS | 693,954 | 172 | 24.79 |
| New York State | 19,398,125 | 10,037 | 51.80 |

Red = Rate lower than state
Data source: US census Bureau, County Business Patterns: 2012. Additional data analysis by CARES

Table 29 drills down further on grocery store access, examining specifically access to grocery stores for low-income populations. Low access is defined as greater than one mile from a supermarket or grocery store in urban areas or greater than ten miles from a supermarket or grocery store in rural areas. This indicator is relevant because it provides a measure of healthy food access and environmental influences on dietary behavior, specifically related to low-income populations (an example of the interrelatedness between socioeconomic and environmental factors). All counties, except Essex are higher than the state average for percentage of population with low-income and low access to a supermarket or large grocery store.

| County | Total Population | Population with Low-Income and Low Access | Percentage with Low-Income and Low Access |
|-----------------------|------------------|---|---|
| Clinton County | 82,054 | 5,881 | 7.16 |
| Essex County | 39,909 | 228 | 0.58 |
| Franklin County | 51,698 | 2,397 | 4.65 |
| Fulton County | 55,358 | 2,786 | 5.02 |
| Hamilton County | 4,835 | 307 | 6.35 |
| St. Lawrence County | 112,060 | 8,226 | 7.35 |
| Saratoga County | 219,832 | 8,092 | 3.68 |
| Warren County | 65,700 | 3,759 | 5.72 |
| Washington County | 63,108 | 2,468 | 3.90 |
| AHI North Country PPS | 693,954 | 34,144 | 4.92 |
| New York State | 19,398,125 | 493,320 | 2.55 |

Red = Rate higher than state
Data source: 2010 US Department of Agriculture Food Environment Atlas Data as of November, 2012

Recreational Facilities and Park Access

Access to recreational facilities and parks encourages physical activity. Table 30 represents the number of recreation and fitness facilities per 100,000 population. With the exception of Fulton,

Saratoga and Warren Counties, all others have a lower establishment to population ratio than the state as a whole.

| County | Total Population | Number of Establishments | Establishments, Rate per 100,000 Population |
|-----------------------|------------------|--------------------------|---|
| Clinton County | 82,054 | 4 | 4.87 |
| Essex County | 39,909 | 3 | 7.62 |
| Franklin County | 51,698 | 2 | 3.88 |
| Fulton County | 55,358 | 7 | 12.61 |
| Hamilton County | 4,835 | 0 | 0 |
| St. Lawrence County | 112,060 | 2 | 1.79 |
| Saratoga County | 219,832 | 35 | 15.94 |
| Warren County | 65,700 | 13 | 19.78 |
| Washington County | 63,108 | 3 | 4.75 |
| AHI North Country PPS | 693,954 | 69 | 9.94 |
| New York State | 19,398,125 | 2,142 | 11.05 |

Red = Rate lower than state
Data source: US census Bureau, County Business Patterns: 2012. Additional data analysis by CARES

The population living within a half mile of a park is noted in Table 31. All counties listed below, except for Essex, Hamilton and Warren are lower than the state average for park access.

| Report Area | Total Population | Total Population Within ½ Mile of a Park | Percent Population Within ½ Mile of a Park |
|-----------------------|------------------|--|--|
| Clinton County | 82,054 | 18,224 | 22.19 |
| Essex County | 39,909 | 39,370 | 100.00 |
| Franklin County | 51,698 | 19,971 | 38.70 |
| Fulton County | 55,358 | 18,889 | 34.02 |
| Hamilton County | 4,835 | 4,836 | 100.00 |
| St. Lawrence County | 112,060 | 12,137 | 10.84 |
| Saratoga County | 219,832 | 36,114 | 16.44 |
| Warren County | 65,700 | 37,404 | 56.93 |
| Washington County | 63,108 | 11,362 | 17.97 |
| AHI North Country PPS | 693,954 | 198,307 | 28.58 |
| New York State | 19,398,125 | 9,989,440 | 52.00 |

Red = Rate lower than state
Data source: Centers for Disease Control and Prevention. Healthy Community Design Initiative and Geospatial Research Analysis and Services Program. National percentage of population that resides within half a mile of a park. Accessed from Environmental Public Health Tracking Network, 2010. Source geography: County.

Public Health and Community Based Resources/Services

Summary Description of Available Resources and Resource Capacity

The regions hospitals, county public health departments, nursing homes, mental health agencies and other community providers have been active participants in the AHI North Country PPS Project Advisory Committee (PAC).

The public health departments serve many functions from surveillance to assessment and planning to service delivery to screening, health education, and health promotion. They are also often the conveners of community health organizations and many of the community health organizations detailed in this assessment already participate in regional community health coalitions. These coalitions are established mechanisms that share information and resources, set priorities, and work to coordinate activities across the spectrum of stakeholders to achieve common goals. In this way, the coalitions of existing organizations are an established resource that can be leveraged to implement DSRIP project goals. There are a number of coalitions in the PPS region. This includes Comprehensive Adolescent Pregnancy Prevention Projects, which operates in three separate counties, and Tobacco Free coalitions in Clinton, Essex, Franklin, Saratoga, St. Lawrence, Warren and Washington counties.

A key goal of the DSRIP program is to identify community-based resources and ensure linkages between health care-focused and community resources. Community resources were identified (1) by participants in the AHI North Country PPS PAC, (2) by the Prevention Agenda Partner listing made available by the state of New York, and (3) by gleaning information from individual county and hospital health needs assessment that were prepared for the Prevention Agenda. Several of the counties and hospitals conducted focus groups and/or key informant interviews with health care providers and/or consumers to provide insight into resources not captured in collected data. For example, St. Lawrence County conducted three focus groups: one with key informants of the Community Health Improvement Collaborative, another with low-income residents, and third, with firefighters. Washington County hosted three community engagement meetings, Essex County held six community stakeholder meetings and Warren County formed the Community Health Assessment Team.

These counties identified non-medical services including organizations that provide food bank services, housing, refugee assistance, transportation, advocacy, peer support, and community health education. Other community resources named were YMCAs, churches, libraries, schools, youth programs, local universities and colleges, the military, individuals, county transportation departments, Boys & Girls Club, Community Supported Agriculture, neighborhood centers, farmers markets, police and fire departments

Although most of the region is a designated shortage area for both mental health and dental health professionals and large portions of the region are designated as primary medical care health professional shortage areas, the region nevertheless does have a number of supportive programs and services aimed at promoting general health and wellness. Options exist for nutrition assessment, exercise, weight loss, medication access, prenatal care, parenting skills, flu shots and other vaccinations, prescription eye glasses and much more. But according to the North Country Health Systems report, promoting awareness of the existence of these services is a challenge. Health care providers and employees of community based-organizations might be intimately aware only of programs and services that are directly related to their area of practice. For other less-familiar services, providers may be unaware of the contact information, eligibility

criteria or specific procedures for making a successful client referral. As a result, linkage to services outside of the provider's realm of expertise is often passive and with little or no follow-up. This problem is alleviated somewhat by the New York 211 HelpLine service that has expanded to the Adirondack North Country region, but there may still a need to be a robust program of linkage case managers trained to conduct comprehensive patient assessments, develop care plans tailored to the specific social, medical and economic needs of their clients, and follow-through on actively linking those clients to needed services.

Summary of Resources Available Across the Region

Table 32 provides a summary of the resources available at the regional level, based on publically available data.

| Table 32. Summary of Regionally Available Resources | | |
|--|--|--|
| Type of service | Known resources available in the region | Known gaps in resources |
| Hospitals | 13 hospitals | |
| Outpatient primary care | 25 FQHC and look-alike cites 54 diagnostic and treatment centers or extension clinics 117 hospital-based/extension clinics | HPSA designations: <ul style="list-style-type: none"> • Entire county of Clinton and Fulton • Low income Individuals eligible for Medicaid in various areas of Essex, Franklin, Hamilton, St. Lawrence, Washington and Warren |
| Behavioral health | 284 Mental/behavioral health programs including <ul style="list-style-type: none"> • 7 inpatient • 25 outpatient • 8 emergency • 45 residential • 199 supportive (e.g., care coordination, vocation, self-help, and education) | HPSA designations: <ul style="list-style-type: none"> • Entire counties of Clinton, Essex, Fulton, and Hamilton • Individuals eligible in Essex and Warren • Tribal population in Franklin • Correctional facilities in Clinton, Essex, and Washington |
| Dental | 6 Article 28 dental organizations (7 sites) 1 mobile dental van | HPSA designations: <ul style="list-style-type: none"> • Entire county of Essex • Low income pops. in Essex and Warren • Tribal populations in Franklin and Hamilton • Correctional facilities in Clinton, Essex, Franklin and Washington |
| Long-term care | 31 Nursing Homes 5 Licensed assisted living programs 15 Certified home health agencies 6 Hospices | Residential health care facility need in 2016: 4,272. There is a deficit of 575 beds compared to current 3715 beds. Distribution is uneven and there are shortages all counties except St. Lawrence. Gaps expected by 2020 as “Baby Boomers” age. |
| Non-medical services | 211 Help Line; community coalitions ; county and city health departments, national advocacy organizations, colleges and universities, schools, libraries, police and fire departments, pharmacies, transportation departments and agencies, recreation and parks departments, community centers, farmers markets, youth organizations, CSAs, | |

C. Identification of the Main Health and Health Services Challenges Facing the Community

Based on the previous needs discussion, this section identifies the key health and health services challenges facing the AHI North Country PPS population. It is structured into three parts related to the three domains, which serve as the goals for reaching the overall DSRIP aims: 1) system transformation (domain 2); 2) clinical improvement (domain 3); and 3) population-wide (domain 4).

System Transformation

This system transformation section identifies health services challenges facing the PPS based on needs assessment work. It describes the structural aspects of health services delivery, most notably focusing on the lack of a strong primary care infrastructure, a potential surplus of hospital beds, shortage of mental health providers, shortage of alcohol and drug treatment facilities, shortage of dental providers, lack of sufficient long term care services and supports (LTCSS), and fragile EMS system. Each of these are discussed below.

There is a lack of a strong primary care infrastructure in the area, one that is accessible and used by residents of the PPS. In the PPS, there is lower primary care use and higher ER use compared to the state, especially for adults aged 18-64 years old and older adults aged 64+. Additionally, the PQIs, PDIs, and PPVs, which focus on ambulatory care sensitive conditions; i.e., where primary care prevents or reduces the need for hospital admission (PQIs – adult; PDIs – children) or emergency room visits (PPV) provide direct evidence of the lack of a strong primary care infrastructure. For PQI data the counties of Franklin, Clinton, St. Lawrence, and Fulton show higher rates than the NY State for the overall composite PQI and each sub-composite score (i.e., acute, chronic, diabetes, respiratory, and circulatory). The counties of Saratoga, Washington, and Warren show lower rates for the overall composite PQI and each sub-composite score. Essex County had an overall composite better than the state in 2011, but worse than the state in 2012.

For children, Fulton and St. Lawrence counties have a higher overall composite rate than NY State. Franklin had a higher composite rate in 2011 but it was brought down below the NY State rate in 2012.

With regard to potentially preventable ER use, all counties in the PPS, with the exceptions of Washington and Hamilton, show rates higher than NY State, although Warren County's rate fell below that of the state in 2012. St. Lawrence, Essex, Clinton, Fulton, and Franklin have particularly high rates; the same counties with high PQI rates.

Further evidence of a lack of a strong primary care infrastructure is the shortage of primary care physicians, lower per 100,000 population in all counties, except Warren, than NY State and the US. The primary care provider shortage is further evidenced by the large number of HPSA designations in the AHI North Country PPS. The entire counties of Clinton and Fulton, and various areas of Essex, Franklin, Hamilton, St. Lawrence, Washington and Warren are designated primary care HPSAs.

The NCHSRC report reaches the same conclusion, noting:

“The North Country has a disproportionate number of primary care shortage areas. Although the region is home to only 3% of total state population, the North Country contains 17% or 30, of the geographic areas in the entire State (178) that is underserved by primary care professionals.” (pg. 15).

Overall in the PPS region there appears to be a potential surplus of hospital beds. Although the average number of 2.1 hospital beds/1000 population is lower than the state average of 2.9, it appears to be in excess of what is needed, given the low bed occupancy rates across the PPS, 52 percent compared to a state percentage of 69. The NCHSRC report reached the same conclusion (although there is not an exact match to the PPS counties). The NCHSRC report also noted that a number of hospitals in the North Country region were in a fiscally vulnerable state²⁶. There would be less need for hospital beds if potentially avoidable hospitalizations, which are high across the PPS, were reduced. Although hospital occupancy rates are lower than the state rate, there are a number of unique issues to take into account in the AHI North Country PPS region concerning hospital capacity. Due to the very rural nature of the region the facilities are far apart, some have seasonal census fluctuations, and ensuring surge capacity all need to be taken into account in looking at overall capacity.

There are several mental health shortage areas in the PPS as designated by the HRSA, including all of Hamilton County, the Medicaid-eligible population in Essex and Fulton, the Native American tribal area in Franklin, several of the correctional facilities in the area, and some other specific localities. Relative to NY State, there is a shortage of psychiatrists in the AHI North Country PPS area, although there are generally more per 100,000 population than in the US as a whole. Additionally, there is room for improvement on all of the behavioral health HEDIS measures, even though the majority of counties tend to perform better than NY State overall. For example, the measure “follow-up after hospitalization for mental illness within 30 days” ranges from 35 to 75 percent in the AHI North Country counties, with the Upstate average at 59 percent. Thus, even though most counties outdo NY State, there is still plenty of room for improvement, even in the higher performing counties where still nearly a quarter of persons hospitalized for

²⁶ North Country Health Systems Redesign Commission. *Toward an Integrated Rural Health System: Building Capacity and Promoting Value in the North Country*. April 2014. (pg. 16).

mental illness do not get a follow-up after hospitalization. One particularly worrisome measure is “follow-up care for children prescribed ADHD medications - initiation phase,” where six of the eight counties having reportable data fall below the already low Upstate rate of 51 percent.

As is the case in the rest of the state and in the US overall, there is a separation between behavioral health and physical health services delivery in the AHI North Country region and lack of communication between providers. Additionally, it is well known that behavioral health and medical conditions are largely co-morbid. Based on NY State data, 68 percent of adults with mental health disorders also have a medical disorder, and 29 percent of adults with a medical disorder also have a mental health disorder²⁷. The historical separation of these services is due to regulatory restrictions for sharing health information between these types of providers, the siloed nature of funding for these two streams of care, the different facilities in which they exist, and stigma related to behavioral health disorders. Thus, in addition to overcoming the lack of psychiatrists and lack of behavioral health services for Medicaid patients, there need to be efforts to better integrate and coordinate behavioral health and physical health to reduce the long-standing fragmentation of behavioral health and physical health care.

There is a lack of chemical dependence (drug and alcohol) treatment facilities. None of the five profiled counties (Clinton, Franklin, Essex, Hamilton, and St. Lawrence) had any capacity for methadone treatment and four of the counties had no capacity for crisis services, including medically managed detoxification, medically supervised withdrawal, (both inpatient and outpatient), and medically monitored withdrawal. There was also a lack of outpatient services for chemical dependence, especially in Essex, Hamilton, and St. Lawrence.

There is a lack of dental providers as evidenced by HPSA designations, including the entire county of Essex, low income populations in Essex and Warren, tribal populations in Franklin and Hamilton, and the correctional facilities in Clinton, Essex, Franklin and Washington. Additionally, in every county except Warren, the rate of dentists per 100,000 population is lower than the equivalent rate in NY State and with the exception of Warren and Saratoga, lower than in the US. Further evidence of a shortage of dental providers are the lower percentages of adults in each of the AHI North Country counties (except Warren) compared to Upstate NY with a dental visit in the previous year.

Although relatively few data can be found with regard to long term services and supports (LTSS), the NCHSRC Report considered this an important area of concern for the North Country:

²⁷ Druss and Walker 2005 as reported in slides from the New York State Office of Mental Health (OMH) Continuous Quality Improvement Initiative (CQI) for Health Promotion and Care Coordination. Quality Concerns: Health Promotion and Coordination; Behavioral Health Care Coordination. March 2013. https://www.omh.ny.gov/omhweb/psyckes_medicaid/webinar/quality_concerns.pdf - accessed 11/30/14.

“Current trends suggest that the North Country does not have sufficient capacity for home care, assisted living and informal supports to address the region’s LTSS needs. The capacity is going to dwindle even further as the population ages, and the prevalence of chronic disease grows. Several nursing homes in the region are struggling financially, with a few near complete collapse. Some nursing homes are essential providers and are part of the safety net for families, but are not part of health networks or fully integrated. Managed long term care programs reimburse nursing homes at the level of costs, which cause serious financial challenges for many LTSS providers such as nursing homes and home care. The fragmented array of LTSS services poses enormous challenges for individuals and families desperate to provide care to aging loved ones.” (pg. 37).

According to the NYS DOH, there will be a need for 4,272 residential health care facility (RHCF) beds in 2016.²⁸ Currently, there are 3,715 beds across the PPS service area, a shortage of 557 nursing home beds. This is a fairly dramatic shortage which will be felt particularly in Saratoga, Clinton, Franklin and Fulton counties. St. Lawrence County has a slight surplus of 45 beds, but Hamilton County has no beds. What also seems clear is that as the “baby boomers” age over the next 10-15 years the proportion of older adults will increase and the gaps in long-term care will increase and become more problematic.

The NCHSRC Report also identified the emergency medical system as less responsive compared to the State in terms of mean time from emergency scene to destination (23 minutes in the North Country compared to 13 minutes average in the State), most likely due to the distance to a hospital.

“With its low numbers of certified providers, the Emergency Medical Services (EMS) system in the North Country is fragile. Many EMS providers are near retirement, and the low reimbursement rates and heavy reliance on volunteers creates concerns regarding sustainability. While these concerns are to some degree like those in other rural regions requiring driving long distance, they are especially severe within the Adirondacks where the population is especially sparse and is aging at a higher rate than elsewhere in the state.” (pg. 15).

For systems transformation, the needs assessment finds that a focus on developing a strong primary care infrastructure, integrating and coordinating behavioral health and medical services, reducing the number of hospital beds, addressing the shortage of dental providers, developing treatment capacity for chemical dependence, tackling the lack of sufficient long term care services and supports (LTCSS), and attending to the fragile EMS system.

²⁸ Estimates of Residential Health Care Facility Need and Capacity is available at:

Clinical Improvement

There are nearly 143,000 Medicaid beneficiaries in the AHI North Country PPS region, 20 percent of whom are dual eligibles (a higher percentage than the overall state percentage), and 32 percent of whom are children. Depression followed closely by hypertension are the two most prevalent disease conditions in the Medicaid population, afflicting approximately 23,000 and 21,000 respectively. This is followed by diabetes, which is a distant third, afflicting approximately 13,000. Of the top 10 most prevalent conditions behavioral health conditions (i.e., depression, chronic stress and anxiety diagnoses, drug abuse, schizophrenia, ADHD, chronic mental health diagnosis, and chronic alcohol abuse) represent 7 of the 10 most common conditions, and 62 percent of number of beneficiaries with the top 10 most prevalent conditions.

Although inpatient utilization within the PPS is lower than NY State rates, they could be reduced even further if ambulatory sensitive care conditions are addressed. The PQI (adult inpatient), PDI (children inpatient), and PPV (ER visits) data provide insight. For the PQI and PPV data, the counties of Franklin, Clinton, St. Lawrence, and Fulton deserve particular attention with higher PQI and PPV rates than the State and within the PPS. For PQI, their overall composite score is much higher than the State average as is each of their sub-composite scores (i.e., acute, chronic, diabetes, circulatory, and respiratory). Essex is also of concern with its relatively high composite rate, driven most notably by its acute sub-composite score.

The same four counties plus Essex are of concern related to ambulatory care sensitive ER admissions. Fulton and St. Lawrence also have higher PDI rates than the State.

Although no new data was uncovered during the needs assessment, the NCHSRC report drew attention to palliative care based on a New York hospital study:

“The North Country has a higher-than-average rate of preventable admissions for serious chronic illness. A 2011 study reported in the Journal of Palliative Medicine found that palliative care services in four New York hospitals produced a savings of \$6,900 per person. Palliative care services have demonstrated that they reduce admissions, lower costs, and improve patient outcomes.

Outside of hospice care for people who are within six months of death, interdisciplinary palliative care programs are unavailable throughout most of the North Country. New York also spends more on care in the last year of life, and, compared to all states, ranks only above Alaska in the utilization of hospice care.” (pg. 16).

There are two key messages in this clinical improvement section. The first is that there must be a focus on serving patients with mental health and/or substance abuse issues. They represent in aggregate the highest prevalence disorders in the Medicaid population, and they are large drivers

of both inpatient and ER use. The second message is that the primary care infrastructure must be strengthened. This is evident based on the assessment of ambulatory care sensitive conditions reported through the PQI and PPV data, most notably in the counties of Franklin, Clinton, St. Lawrence, Fulton, and Essex. Children fared better in that they had higher primary care visit rates and the ambulatory care sensitive PDI measure was higher than the State average in only Fulton and St. Lawrence. Given the proven cost savings of palliative care, this may also be an area of clinical improvement for the PPS. Cardiovascular disease is also of concern given the large number of cases and that it also a large driver of hospital and ER use.

Population Wide

Although DSRIP focuses on the Medicaid-insured population, system transformation and clinical improvement cannot fully occur without addressing the communities and larger environmental contexts in which Medicaid-insured individuals live. It is this larger context and the recognition that to change systems and improve health in Medicaid-insured populations, the health of communities in which these individuals live must be addressed, which is the focus of the Domain 4, population-wide metrics.

In a DSRIP webinar, it was reported that 47 percent of all 2012 NY State deaths were the result of eight modifiable behaviors: smoking, poor diet and physical activity, alcohol consumption, microbial agents, toxic agents, motor vehicle crashes, incidents involving firearms, and unsafe sexual behavior²⁹. Three of these (smoking, poor diet, and physical activity) constituted nearly a quarter of the deaths attributed to modifiable behaviors. Additionally, as noted in this same source, these same behaviors significantly contribute to emergency department and inpatient use, primarily manifested in the high rates of chronic disease as described previously.

In the AHI North Country PPS region, the majority of counties fared worse on smoking and diet (using the metric of “adults consuming five or more fruits and vegetables per day) than the Upstate NY indicators. For the third important modifiable behavior (“adults with no leisure time physical activity”), three of the nine counties fared worse.

Socioeconomic, behavioral, and environmental risk factors are intertwined, and it is difficult to sort out the cause and effect. For example, do people in the AHI North Country region choose not to eat fruits and vegetables or are they less likely to given a shortage of grocery stores that are accessible or possibly because they are unable to afford fresh fruits and vegetables? It certainly could be a behavior of choice; however, there is also the issue that the region has fewer

²⁹ Office of Public Health, New York State Department of Health. DSRIP Population Health Projects: Introduction to Population Health and Community Needs Assessment. June 1014. Webinar slides. Estimates were extrapolated using the results published in "Actual Causes of Death in the United States, 2000" JAMA, March 2004, 291 (10) and NYS 2012 Vital Statistics data.

grocery stores per 100,000 population than residents in the State of NY generally. It is also the case the residents in the PPS are poorer; thus, food choices may reflect economical grocery shopping, which may not mean the healthiest choices.

Poor diet and lack of physical activity also lead to high rates of obesity. Residents of the AHI North Country region have higher rates of obesity for adults and children and higher rates of adult diabetes than the Upstate NY region generally.

Other population health indicators of concern in the PPS area are high rates of teen births, adult binge drinking, alcohol-related motor vehicle injuries and death, and adults with poor mental health for 14 or more days in the past month. Additionally, percentages of women receiving late or no prenatal care and having births within 24 months of previous pregnancy are also population health indicators of concern, as is the generally higher percentage of Cesarean deliveries.

Preventive health metrics, most notably mammograms, pap tests, dental visits, and flu shots, are worse in the AHI North Country PPS than in Upstate NY raising issues of access as a potential reason. Again the conundrum of cause and effect. Is it that there is a culture of hardiness that distains preventive care or a lack of education regarding the importance of preventive care, or is it that up to 20 percent of the adult population in the region lacks health insurance and a “regular” health care provider and thus, does not have access to such services?

In a rural area, such as the AHI North Country, distance to providers and transportation are always issues, especially in the sparsely populated counties of Hamilton, Warren, and Essex. The NCHSRC noted that in the more rural areas residents may have to travel 30 miles or more for inpatient care (including psychiatric inpatient) and for OASAS-certified treatment programs. Additionally, EMS transport times tend to be longer given distances that must be covered. It is not a far stretch to conclude that transportation is a significant issue in the area given the expense of purchasing and maintaining a vehicle and the cost of gas, which are likely to be significant burdens given the low incomes and high rates of poverty in the region.

Housing is also likely an issue although data is lacking on this topic. Given the socioeconomic profile of the region, affordable housing may be tough to find. Additionally, there may be a need for supportive housing for the disabled. The NCHSRC report notes:

“The lack of mental health professionals and need for supportive housing in the region may be driving patient to inpatient hospital services as the only alternative to care.” (pg. 33).

The NCHSRC report also notes that the State of NY has recently invested \$75 million in supportive housing, implying the pervasiveness of this issue throughout the state. However, it

was unclear (or potentially unknown during the writing of the NCHSRC report) the extent to which the AHI North Country PPS will benefit from this investment.

Socioeconomic, behavioral, and environmental risk factors are interrelated and all contribute to the population health metrics documented in the needs assessment. Smoking, lack of physical activity, and poor nutrition are key contributors to modifiable deaths; thus, worthy of attention at the population level. Additionally, lack of physical activity and poor nutrition likely contribute to the high rates of obesity and diabetes in the region. A focus on strengthening the primary care infrastructure and getting residents enrolled in health insurance and with a regular provider would likely improve the preventive measures that are currently lower than other communities in Upstate NY as well as metrics such as early prenatal care and birth spacing. The high teen birth rate is of particular concern because it often perpetuates poverty. Mental health and substance abuse have been noted throughout the needs assessment as critical to address, and the same remains true in this section with its focus on population indicators.

D. Assets and Resources that can be Mobilized and Those that Need to be Developed

Certainly the greatest asset is the people who comprise the AHI North Country PPS. They live, work, and play in one of the more geographically beautiful settings in the US. They have the most important stake in their own and their loved ones' health and well-being. Harnessing this asset is the key to population health and to a patient-centered service delivery system that meets the needs of the population it is intended to serve.

The region has a track record for working together. This is evidenced by several examples. The Adirondack Health Institute facilitates and promotes regional collaboration among health and social service providers. The North Country Health Systems Redesign Commission, whose work is cited multiple times over in this report, was lauded for its inclusive and transparent approach to generating their health system report. The North Country Behavioral Health Network facilitates collaboration and joint planning for mental health and chemical dependency issues. This history of collaboration has served the PPS well through the DSRIP planning activities and will continue to serve it well as it works toward implementation of its DSRIP projects.

The existing health care system, including its 13 hospitals, 7 federally qualified health centers, 31 nursing homes, 4 Health Homes, 15 Certified Health Home Agencies, 6 hospices, 4 assisted living facilities, and among OMH-affiliated programs 7 inpatient mental health providers, 25 outpatient mental health programs, 8 emergency mental health programs, and 45 residential mental health programs. The vast majority of all of these organizations have been actively involved in the PPS' Project Advisory Committee.

The public health departments in each county are also a resource. They provide many functions from surveillance to assessment and planning to service delivery to screening, health education, and health promotion. They are also often the conveners of community health organizations and many of the community health organizations detailed in this assessment already participate in regional community health coalitions. These coalitions are established mechanisms that share information and resources, set priorities, and work to coordinate activities across the spectrum of stakeholders to achieve common goals. In this way, the coalitions of existing organizations are an established resource that can be leveraged to implement DSRIP project goals. There are 11 known coalitions in the PPS region, including the Comprehensive Adolescent Pregnancy Prevention Projects and Tobacco Free Coalitions.

There is a long list of community-based organizations that provide non-medical services including organizations that provide food bank services, housing, advocacy, faith based, peer support, and community health education. The State's 211 hotline provides information about and access to many of these services. Many of these organizations are also active in the PAC and can be considered an asset and resource for the AHI North Country PPS.

Resources to be Developed

The Commission for Health Care in the 21st Century report and the more recent North Country Health Systems Redesign Commission report outline the regional reliance on institutional providers such as hospitals and nursing homes and the insufficient capacity of home and community based services. The PPS's CNA reaffirms these findings.

Providers in the PPS have engaged in a number of transformational initiatives over the past five years in an effort to address realigning capacity. The Adirondack Region Medical Home Pilot, Health Home, and Adirondacks ACO are improving access to primary and preventive care. These initiatives have had an impact as evidenced by the trend in declining hospital occupancy rates since 2011. The data shows that there continues to be a need to build on these programs and increase access to primary care. The data by county shows that for Medicaid beneficiaries in the PPS region primary care utilization tends to be slightly lower than NY State averages. In five counties, ER use is at least five percentage points higher than the NY State average. This trend is most pronounced in the five rural counties that are designated Health Professional Shortage Areas indicating a need for more capacity.

Behavioral health and substance abuse organizations are not well distributed throughout the region and results from a regional survey indicate that both mental health and substance abuse are perceived as second only to obesity in emerging health issues for the region. In the AHI North Country PPS' service area the behavioral health Major Diagnostic Categories (mental diseases and disorders and substance abuse) accounted for 49% of inpatient admissions by MDCs. The behavioral health MDCs (mental diseases and disorders and substance abuse) accounted for 58 percent of ER visits by MDCs. This data is consistent with the data on prevalence of disease conditions, where depression and hypertension were the two most prevalent conditions in the Medicaid beneficiary population.

Behavioral Health and Substance Abuse conditions are top drivers of Emergency Department visits. Chronic conditions such as Circulatory Conditions and Respiratory Conditions are major drivers of inpatient utilization. This is consistent throughout the PPS. Based on NY State data, 68 percent of adults with mental health disorders also have a medical disorder, and 29 percent of adults with a medical disorder also have a mental health disorder. The AHI North Country PPS needs to breakdown the historical separation of these services is due to regulatory restrictions for sharing health information between these types of providers, the siloed nature of funding for these two streams of care, the different facilities in which they exist, and stigma related to behavioral health disorders.

A key strategy to address these issues is a stronger, more coordinated system of primary care integrated with behavioral health services. The PPS has 337 PCMH certified primary care practices so the building blocks for coordinated care already exist. The gap analysis indicates that the challenge may be in expanding this system. Most of the region is a designated shortage

area for mental health professionals and large portions as primary care health professional shortage areas. Additionally urgent care is limited to just the most populated areas, limiting access afterhours to Emergency Departments. Additional care coordination also needs to be developed. As in many rural areas transportation can be a barrier to access as patients may need to travel to attend appointment and public transportation is limited.

Home and community based services need to be strengthened and increased to support transformation. According to the North Country Health Systems report, promoting awareness of the existence of these services is a challenge. For the AHI North Country PPS, it is not changing the complement of community based services but creating a system so that providers understand the options and availability and can refer people in need of services or community supports. This problem is alleviated somewhat by the New York 211 HelpLine service that has expanded to the Adirondack North Country region, but there may still a need to be a more robust program referral program for linking providers and patients with available services.

Currently, Nursing Homes in the PPS have an occupancy rate of over 92 percent. In early 2015, LeadingAge NY will be releasing a study titled, “A Roadmap to a Rational, Sustainable and Replicable System of LTC Services in the Eastern Adirondacks.” This study will be key to identifying the needed configuration of services in the region, assembling an action plan to rebalance the long term care and supportive services system and growing a sustainable, integrated rural health network of services in the region.

Although no new facility structures are anticipated, new resources will be required in the region as the health care system transforms from fee for service to a value based system. There will be a need for training and retraining programs. As community members seek care in community based settings, the workforce from the institutions will need to be retrained and redeployed.

E. Summary Chart of Projects to be Implemented

| Community Need Identification Number | CNA Title – Link to Selected Project | Brief Description | Primary Data Sources |
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| CNA-1 | Need for integrated delivery system that is focused on evidence-based medicine/population health management | Service delivery within the PPS is siloed within the various institutional settings, including hospitals, behavioral health and substance abuse, post-acute care, and long-term care. Patients are served within the walls of these institutions, but there is little knowledge, little communication, and little coordination of care beyond the walls to ensure smooth transitions and to ensure that patients are served in the most appropriate settings. As such, there is an institution-focused approach to care rather than a patient-centered, holistic, and population based approach to care. | 1)NCHSRC. Toward an Integrated rural Health System: Building Capacity and Promoting Value in the North Country. April 2014. 2)Adult and pediatric PQIs and PDIs, Health Data NY. 3)Potentially preventable emergency room visits (PPV) data, Health Data NY. 4)Access to Health Care - Expanded BRFSS data July 2008 – June 2009 |
| CNA-2 | Need for primary care practitioners with PCMH certification and/or Advanced Primary Care Models | The region needs to build on the Adirondack Regional Medical Home Pilot to improve and strengthen the primary care infrastructure, improve access to primary care, and access to a regular provider. Having a primary care medical home with strong care coordination is critical to ensuring good preventive care, coordination | 1)Adult and pediatric PQIs and PDIs, Health Data NY. 2)Potentially preventable emergency room visits (PPV) data, Health Data NY. 3)Access to Health Care - Expanded BRFSS data July 2008 – June 2009 4)Population Health Indicators—accessible through the New York State Community Health Indicator Reports (CHIRS) reporting Community Health Assessment Indicators (CHAI) 5)HRSA, Area Health Resources Files (AHRF), 2012 6)HRSA HPSA designations |

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| | | of needed services, and health transitions from one setting to another. | |
| CNA-3 | Need for a medical village using existing hospital infrastructure | There is an excess hospital bed capacity and a lack of outpatient services and urgent care settings. | <p>1)Adult and pediatric PQIs and PDIs, Health Data NY.</p> <p>2)Potentially preventable emergency room visits (PPV) data, Health Data NY.</p> <p>3)Hospital Beds - Health Facility Certification Information file from Health Data NY - https://health.data.ny.gov/Health/Health-Facility-Certification-Information/2g9y-7kqm, accessed 10/31/2014</p> <p>4)NCHSRC. Toward an Integrated rural Health System: Building Capacity and Promoting Value in the North Country. April 2014.</p> <p>5)HRSA HPSA designations</p> |
| CNA-4 | Need for hospital-home care collaboration solutions | More and more patients are being discharged to home. Ensuring adequate support in the home is essential to reducing readmissions. | <p>1)Selected Hospital Quality Data Metrics - Quality Improvement Organization (QIO) Clinical Warehouse as Reported by the NYS Department of Health – 2012; http://profiles.health.ny.gov/hospital/pages/technotes</p> <p>2)Adult and pediatric PQIs and PDIs, Health Data NY.</p> <p>3)Potentially preventable emergency room visits (PPV) data, Health Data NY.</p> <p>4)Certified Health Homes Agencies and Hospice Data: http://www.health.ny.gov/health_care/medicaid/program/longterm/chhas.htm</p> |
| CNA-5 | Need to implement patient activation activities to engage, educate, and integrate the uninsured and los/non-utilizing Medicaid populations into community-based care | The uninsured depend on the ER for their needs and only present for health care services when there is a crisis or emergency. Low-utilizers are not engaged in care and miss opportunities for preventive care; thus, leading them also to use of the ER. Both of these contribute to high cost of services that better patient activation in community-based services may have prevented. | <p>1)Adult and pediatric PQIs and PDIs, Health Data NY.</p> <p>2)Potentially preventable emergency room visits (PPV) data, Health Data NY.</p> <p>3)Demographic Information - U.S. Census Bureau’s American Community Survey, 5-Year Estimates for the years 2008-2012</p> <p>4)Population Health Indicators—accessible through the New York State Community Health Indicator Reports (CHIRS) reporting Community Health Assessment Indicators (CHAI)</p> |

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| <p>CNA-6</p> | <p>Need for integration of primary and behavioral health services</p> | <p>Primary care and behavioral health operate in two separate silos of care, with little communication and coordination between the two service delivery organizations. Patients must attend two separate venues to care for medical conditions and behavioral health conditions, even though there is a high degree of co-morbidity and that the two are inter-related. There is often stigma related to going to behavioral health service settings; thus, decreasing the probability that patients will seek needed care. On the other hand, often patients with serious and persistent mental illness and/or chemical dependency feel more comfortable receiving their care in behavioral health settings; thus, the need for caring for their medical conditions in these settings.</p> | <p>1)Leading Causes of Hospitalization - 2010-2012 SPARCS data, located on spreadsheets accessible through the New York State Community Health Indicator Reports (CHIRS) webpage. 2)Salient New York State Medicaid DSRIP Dashboards and DSRIP Performance Chartbooks for hospital and ER drivers.</p> |
| <p>CNA - 7</p> | <p>Need for behavioral health community crisis stabilization services</p> | <p>When a behavioral health crisis occurs, patients present to the emergency room and are admitted for inpatient care. Crisis stabilization services are efficient and effective alternatives to addressing the mental health and substance abuse issues that are driving high rates of emergency department and inpatient utilization.</p> | <p>1)Leading Causes of Hospitalization - 2010-2012 SPARCS data, located on spreadsheets accessible through the New York State Community Health Indicator Reports (CHIRS) webpage. 2)Salient New York State Medicaid DSRIP Dashboards and DSRIP Performance Chartbooks for hospital and ER drivers. 3)HRSA Mental Health HPSAs 4)HRSA ARHF 2012.</p> |
| <p>CNA - 8</p> | <p>Need for the development of withdrawal management</p> | <p>Chemical dependency affects a significant portion of the population, but there is inadequate capacity to treat and care for this</p> | <p>1)Leading Causes of Hospitalization - 2010-2012 SPARCS data, located on spreadsheets accessible through the New York State Community Health Indicator Reports (CHIRS) webpage. 2)Salient New York State Medicaid DSRIP Dashboards and</p> |

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| | capabilities and appropriate enhanced abstinence services within community-based addiction treatment programs | population. Generally, patients suffering with chemical dependency depend on the emergency department for their care. Substance abuse is a large driver of emergency department use. | DSRIP Performance Chartbooks for hospital and ER drivers. 3)Chemical Dependency: County-level prevalence rates from the 2006 NYS School Survey, 2006 NYS Adult Household Survey, 1998 NYS Heroin Study; applied to 2011 population. Chemical Dependency Treatment Capacities: OASAS Certified capacities (adjusted) as of March 11, 2013. |
| CNA - 9 | Need for integration of palliative care into the PCMH model | Patients often suffer needlessly from pain, either due to a serious illness and/or during the end of their lives. This negatively impacts their quality of life as well as results in unneeded emergency room trips and/or hospitalizations. | 1)NCHSRC. Toward an Integrated rural Health System: Building Capacity and Promoting Value in the North Country. April 2014. 2)Weisman and Meier. Identifying patients in need of a palliative care assessment in the hospital setting. A consensus report from the Center to Advance Palliative Care. <i>Journal of Palliative Medicine</i> . 14(1) 2011. |
| CNA – 10 | Need to strengthen mental health and substance abuse infrastructure across systems | There is fragmentation and lack of coordination between behavioral health, substance abuse, and primary care settings. As a result, mental health and substance abuse conditions drive hospital admissions and emergency department use. There is a lack of mental health services and chemical dependency treatment services. | 1)Leading Causes of Hospitalization - 2010-2012 SPARCS data, located on spreadsheets accessible through the New York State Community Health Indicator Reports (CHIRS) webpage. 2)Salient New York State Medicaid DSRIP Dashboards and DSRIP Performance Chartbooks for hospital and ER drivers. 3)Chemical Dependency: County-level prevalence rates from the 2006 NYS School Survey, 2006 NYS Adult Household Survey, 1998 NYS Heroin Study; applied to 2011 population; Chemical Dependency Treatment Capacities: OASAS Certified capacities (adjusted) as of March 11, 2013. 4)HRSA Mental Health HPSA designations. 5)HRSA AHRF 2012. 6)Population Health Indicators—accessible through the New York State Community Health Indicator Reports (CHIRS) reporting Community Health Assessment Indicators (CHAI) |
| CNA - 11 | Need to increase access to high quality chronic disease preventive care and management in both clinical and community settings | To address chronic disease (notably COPD) requires a population-based focus. This includes targeting communities with health education and prevention messages and opportunities as well as improved and coordinated chronic disease | 1)Population Health Indicators—accessible through the New York State Community Health Indicator Reports (CHIRS) reporting Community Health Assessment Indicators (CHAI) 2)Adult and pediatric PQIs and PDIs, Health Data NY. 3)Potentially preventable emergency room visits (PPV) data, Health Data NY. 4)Demographic Information - U.S. Census Bureau’s American |

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| | | management in primary care settings. | Community Survey, 5-Year Estimates for the years 2008-2012 |
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F. Documentation of Process and Methods, Sources of Data, and Input into the Needs Assessment

Process and Methods Used to Conduct the Assessment

AHI began this needs assessment back in the summer of 2014, gleaning data from multiple data sources as suggested in the New York State Department of Health's *Guidance for Conducting Community Needs Assessment Required for DSRIP Planning Grants and Final Project Plan Applications*. AHI hired JSI in November 2014 to write the needs assessment document, drawing from AHI's work to date. JSI was also involved in the development of another PPS' needs assessment. The structure of that assessment, most notably data draws and data tables, also was drawn upon to format and structure two key sections of this report: description of the community to be served and description of the health care and community resources. JSI used this same *Guidance* from the NY State DOH (dated June 6, 2014) to structure the needs assessment report. To develop the tables, JSI drew on the listing of major resources and data sources contained within the *Guidance*. Additionally, JSI drew upon the report *Toward an Integrated Rural Health System: Building Capacity and Promoting Value in the North Country*, developed in April 2014 by the North Country Health Systems Redesign Commission. This particular report was very helpful given that it was so recently completed (thus, data are still relevant), its comprehensiveness in scope, and its collaborative and publicly transparent process of development. The only drawback to this report is that there is not full overlap of the counties. The *North Country* report includes Jefferson and Lewis counties whereas the PPS does not. The report does not include Saratoga and Fulton Counties, which are part of the PPS.

JSI was responsible for developing the data tables included in the needs assessment, interpreting this data, drawing from the NCHSRC Report, and writing the majority of the needs assessment report. The AHI NC PPS added qualitative information gleaned from its knowledge of the area as well as input from the multiple PAC, workgroup, and stakeholder meetings convened to put forth the AHI North Country PPS application. When information is reported from such sources, it is noted in the document.

Data Sources and Dates

In the majority of cases, data is reported at the county level and compared to the Upstate NY region and/or New York State overall, depending on the availability of data. In some instances (PQIs, PDIs, and PPVs), the data is also reported at the zip code level. Data sources used are noted in each table and summarized below.

- North Country Health Systems Redesign Commission. *Toward an Integrated rural Health System: Building Capacity and Promoting Value in the North Country*. April 2014.

- Demographic Information - U.S. Census Bureau's American Community Survey, 5-Year Estimates for the years 2008-2012.
- Leading Causes of Premature Death - Vital Statistics Data as of March, 2014, located within the Leading Causes of Death by County, New York State, 2012 spreadsheet on the New York State Department of Health's County Health Statistics webpage.
- Population Health Indicators - Data sources included are: Pregnancy Nutrition Surveillance System WIC Program data (as of July, 2012) and 2009-2011 Vital Statistics Data (as of February, 2013), 2009-2011 NYS Department of Motor Vehicles Data (as of July, 2013), 2009-2011 SPARCS Data (as of February, 2013), and 2010-2012 Student Weight Status Category Reporting System Data (as of July, 2013)—all located on spreadsheets accessible through the New York State Community Health Indicator Reports (CHIRS) that report Community Health Assessment Indicators (CHAI) webpage; Expanded BRFSS data July 2008 – June 2009, accessible through the County-Specific Prevention Agenda Reports and County-Specific Report - Expanded BRFSS July 2008 - June 2009 webpages; Prevention Agenda 2017 Dashboard, maintained on health.ny.gov website was used to identify PA 2017 goals.
- Leading Causes of Hospitalization - 2010-2012 SPARCS data, located on spreadsheets accessible through the New York State Community Health Indicator Reports (CHIRS) webpage.
- Access to Health Care - Expanded BRFSS data July 2008 – June 2009, accessible through the County-Specific Prevention Agenda Reports and County-Specific Report - Expanded BRFSS July 2008 - June 2009 webpages.
- Data on service utilization, prevalence of chronic conditions, leading causes of ER visits and inpatient admissions, adult and pediatric Prevention Quality Indicators (PQIs/PDIs), potentially preventable emergency room visits (PPV) rates for the Medicaid population were obtained from Health Data NY; Other data sources included the Salient New York State Medicaid DSRIP Dashboards and DSRIP Performance Chartbooks.
- Adult and pediatric PQIs and PDIs - Medicaid Inpatient Prevention Quality Indicators for Adult Discharges: Beginning 2011 by Patient County & by Patient Zip Code files from Health Data NY.
- Potentially preventable emergency room visits (PPV) data - Medicaid Potentially Preventable Emergency Visits (PPV): Beginning 2011 by Patient County & Patient Zip Code from Health Data NY.
- Hospital Beds - Calculated using beds data Health Facility Certification Information file from Health Data NY - <https://health.data.ny.gov/Health/Health-Facility-Certification-Information/2g9y-7kqm>, accessed 10/31/2014
- Selected Hospital Quality Data Metrics - Quality Improvement Organization (QIO) Clinical Warehouse as Reported by the NYS Department of Health – 2012; <http://profiles.health.ny.gov/hospital/pages/technotes>

- Providers per 100,000 population - Health Resources and Services Administration, Area Health Resources Files (AHRF), 2012
- Number of Patient Centered Medical Homes - "The Evolution of Patient-Centered Medical Homes in New York State: Current Status and Trends as of September 2012." United Hospital Fund. 2012. page 38.
- HEDIS Measures: Data Source: Revised DSRIP Clinical Process of Quality Measures Chartbooks, 2012.
- Selected Clinical Measure Rates for FQHCs - FQHC Uniform Data System (UDS) Report, 2013.
- Chemical Dependency: County-level prevalence rates from the 2006 NYS School Survey, 2006 NYS Adult Household Survey, 1998 NYS Heroin Study; applied to 2011 population; Chemical Dependency Treatment Capacities: OASAS Certified capacities (adjusted) as of March 11, 2013.
- Estimates of Residential Beds - Estimates of Residential Health Care Facility Need and Capacity is available at:
https://www.health.ny.gov/facilities/nursing/rhcf_bed_need_by_county.htm
- Grocery store and recreation and physical facility access - Data source: US census Bureau, County Business Patterns: 2012. Additional data analysis by CARES
- Low income and low access to grocery stores - 2010 US Department of Agriculture Food Environment Atlas Data as of November, 2012.
- Park access – Centers for Disease Control and Prevention’s Environmental Public Health Tracking Network, 2010. Source geography: County.

Community Input into Needs Assessment

The AHI North Country PPS used a variety of existing community input sources to guide the selection of DSRIP projects and the initial project planning phase. Clinton, Essex, Franklin, Fulton, Hamilton, Saratoga, and Warren, and Washington counties actively work together on community health planning through the Adirondack Rural Health Network (ARHN).

As part of the community health planning process ARHN contracted with the Center for Human Research (CHSR) to conduct a survey between December 5, 2012 and January 21, 2013. The purpose of the study was to provide feedback from community service providers in order to understand what health issues are most prevalent in the populations the organization serves as well as guide planning, and identify areas for training. The survey was sent to a broad spectrum of community based organizations, agencies, and providers that serve vulnerable populations in the region such as county agencies, Community Action Programs, schools, YMCAs, health care providers, and many others. The recipients of the survey were asked to answer the questions as a representative of the people that they serve.

The survey was administered electronically using a web-based survey program and distributed to an email contact list of 624. Ultimately, 285 surveys were completed during the six-week survey period, a response rate of 45.7 percent.

Additionally findings from two other surveys have been used to inform the DSRIP process. Saratoga Hospital conducted a survey of residents of Saratoga County. A survey was conducted in St. Lawrence County as part of a three county effort with Lewis and Jefferson Counties. The surveys have had similar findings. Community members perceive that behavioral health, substance abuse, obesity and chronic disease are predominant health concerns for the PPS region.

The surveys were conducted as part of the Community Health Assessment process conducted by county health departments and hospitals. The surveys were supplemented with focus groups and community meetings. St. Lawrence County conducted three focus groups: one with key informants of the Community Health Improvement Collaborative, another with low-income residents, and third, with firefighters. Washington County hosted three community engagement meetings, Essex County held six community stakeholder meetings and Warren County formed the Community Health Assessment Team.

The AHI North Country PPS has plans to issue a short consumer survey early in January 2015. The survey will be targeted to Medicaid recipients but will not be exclusively and survey that will be completed by individuals identified and recruited by community based organizations such as Community Action Programs, Centers for Independent Living, churches as well as providers. The survey focuses on a number of items including ease of access/barriers to accessing services, perception of health issues in the community, recommendations for expanding or initiating services and programs to address community need. The survey results will be used to inform the more targeted planning process that will take place for the March 1 submission.