# *Affordability*

Security is another basic need and financial barriers are among the top barriers that prevent Medicaid enrollees and the uninsured receiving health care when needed. Mistrust, on the other hand, is a barrier for those suffering mental illness and once again informs about the cultural competency of health care providers.

**Key Barriers for Health Care Consumers: Insecurity**

| Issue | Noteworthy Insights |
|---|---|
| Impoverishment | *Some on Medicaid because of substance abuse impoverish self to get richness of system / continue to get or maintain services* |
| | |
| Money | *Medicaid population associates 'being healthy' with having money; lack of money keeps them from doing what they know they have to do to stay healthy* |

# *Acceptability*

Health Literacy is essential to understanding the health care system and accessing appropriate care and services when needed, and providers need to be culturally competent to communicate effectively with all health care consumers including those with hearing impairment.

**Consumer Perspective: Unacceptable Practices**

| Issue | Noteworthy Insights |
|---|---|
| Mental Health / fear | *Mistrust of health care system - stigma associated with mental Health / patient fear / provider bias* |
| | |
| Medicaid Population / literacy | *Language should be appropriate and understandable* |
| | |
| Hearing Impairment | *Cultural competency is needed to communicate with the deaf* |
| | |
| Medication / instruction | *Communicating how to take meds – everyday usage – do not understand 'doctor speak'* |
| | |
| Unfamiliarity with how health care system works | *Call doctor, get answering machine, hear: 'If emergency, go to ER or call 911 immediately.' Many don't know difference between minor medical issue and an emergency so they go to ER* |
| | |
| Can't comprehend health care service organization names | *Don't understand organization names like 'mental hygiene' 'community services'. Do understand 'ER'* |

# Description of the Community

## *Demographics*

Unless otherwise noted, the data on community demographics are estimated from the American Community Survey (ACS) conducted by the US Census Bureau during the years 2010-2012. The data that are summarized in this section are presented in full detail in Tables 1 through 10.

### Rural/Urban Status

The Leatherstocking Collaborative Health Partners (LCHP) will serve a population of 563,774 residents in 7 counties of central New York State (NYS): Chenango, Delaware, Herkimer, Madison, Oneida, Otsego and Schoharie. The six counties besides Oneida are substantially rural, with population densities ranging from 33 to 112 residents per square mile (compared to the population density of New York State, 411 residents per square mile). The largest city in these six counties (Sullivan, in Madison County) has a population of 15,339, and only four other cities or towns in the six counties have a population over 10,000. Oneida County is more populous, with 234,193 residents (41.5% of the total LCHP population) including the cities of Utica and Rome (with 62,110 and 33,660 inhabitants, respectively). However, the population density of Oneida County (194 residents per square mile) is still substantially below the value for the state and even below the population density for New York State outside of New York City (240 residents per square mile).

### Age

All of the LCHP counties have an age distribution skewed toward older ages. This is evident in the range of median age in the counties (39.7-45.8 years, compared to 38.0 for NYS) and the percentage of the population aged 45-64 years (an average of 29.7% compared to 26.8% for NYS) and the percentage 65 years of age and older (16.6% compared to 13.8%). The aging of the LCHP population also is progressing more rapidly than for the state, with the median age having increased by an average of 4 years since 2000 in the LCHP counties compared to an increase of 2.1 years for all of NYS.

### Race and Ethnicity

In the 6 counties other than Oneida County, the population recorded as White ranges from 94.5% to 96.7%, Hispanic ethnicity is 3% or less and these values have been stable since 2000. In contrast, 86.7% of Oneida County residents are White (compared to 90.2% in 2000) with 5% Hispanic ethnicity. The city of Utica has an active relocation program for refugees, particularly with Vietnamese, Russian and Bosnian immigrants. ACS data on language spoken at home indicate 12.3% of Oneida County respondents use a language other than English. The most common categories of alternative languages are other Indo-European, Spanish and Asian. A significant proportion of these individuals reported speaking English "less than very well" (33% of Spanish speakers, 41% of other Indo-European language speakers, and 65% of Asian

language speakers). The racial and ethnic communities in Oneida County may have specific needs for effective communication on topics related to health and healthcare.

**Income**

The median household income in the LCHP counties ranges from $40,949 to $52,121, with all counties falling below the median for NYS ($56,657). Using the approximate quartile cutpoints for the income distribution in NYS (<$25,000; $25,000-$49,999; $50,000-$99,999; ≥ $100,000), the LCHP households are relatively overrepresented in the first three income categories (26.4%, 26.8%, 32.3%). The cutpoint for the top quartile of NYS households (≥ $100,000) was only attained by an average of 14.3% of households in the LCHP counties, suggesting a compression of the household income distribution rather than a downward shifting of the entire distribution. The relatively small percentage of adults with college or advanced degrees in the LCHP counties, to be summarized below, and the limited occupational opportunities associated with higher levels of education may account for the underrepresentation of higher income households in the LCHP region.

**Poverty and Health Insurance**

In the LCHP counties poverty among families ranged from 6.8% (Madison) to 11.6% (Herkimer and Oneida), in comparison to 12% for NYS. The prevalence of poverty was higher for individuals than families, averaging 13.8% in the LCHP counties and 15.6% in NYS. As observed for the family data, individual poverty prevalence was lowest in Madison (10.5%) and highest in Oneida (16%) and Herkimer (15.4%). Census data from 2000 show that Madison County has consistently had the lowest prevalence of poverty among LCHP counties, whereas the excess levels of poverty in Herkimer and Oneida have newly emerged in the past decade. As additional indicators of low income, the prevalence of Medicaid coverage and the percentage of uninsured in the LCHP counties (8.1% and 8.9%, respectively) were also lower than the estimates for NYS (11.4% and 10.9%), though the percentage of uninsured was somewhat higher in Chenango (11.5%) and Delaware (10.2%) than the other counties.

**Disability**

Higher levels of disability might be expected in the LCHP counties in general due to the greater percentage of the population at older ages, and this was true for the prevalence of disability in the total population (10.8% in NYS; a range of 10.3% - 15.9% in the LCHP counties, with an average of 13.8%). However, estimates within younger age categories also revealed excess disabilities affecting the LCHP populations. The average prevalence in 5-17 year olds was 6.7% (compared to 4.6% for NYS), with cognitive difficulties accounting for the majority of disabilities in this age group. In 18-64 year olds, the average prevalence of disability (11.4%) again exceeded the prevalence for NYS (8.4%), with ambulatory, cognitive and independent living difficulties most often cited. In the oldest age group (≥65 years of age) the most common forms of disability were ambulatory difficulty, diminished hearing and difficulties with independent living.

### Education

Key milestones in educational attainment are high school graduation or higher and bachelor's degree or higher. With respect to the former measure, the percentage of adults 25 years and older with a high school degree or more ranged from 85.8% to 90.8% in the LCHP counties, with all counties exceeding the NYS value of 85.1%. However, adult residents of the LCHP counties were less likely to have completed or gone beyond a college education – the average percentage was 22% and the highest value (26.4%, Madison) was well below 33% for NYS. Among LCHP counties, Madison County also had the highest percentage (17.2%) of households in the top income quartile for the state - supporting the connection between education and increased access to more highly compensated jobs.

### Employment

A final socioeconomic indicator for LCHP counties is employment, based on the civilian non-institutionalized population 16 years of age and older (the ACS also measures the military labor force, which is extremely small in the LCHP counties). The percentage of the population that is not in the labor force is relatively high in the LCHP counties, ranging from 37.9% to 43.2% compared to 36.6% for NYS; this clearly reflects the older age of the LCHP population, but may also include individuals who are unable to work due to disability (increased prevalence noted above) or the unemployed who are no longer actively looking for employment. The average unemployment percentage within the civilian labor force of the LCHP counties was 9.3%, similar to the value for NYS for that time period (9.5%). Unemployment was lower in more urban Oneida and Madison Counties (8.6% and 5.3%, respectively) and was highest in the more sparsely populated counties (Delaware 10.8%; Schoharie 12.8%).

### Institutionalized Population

The 2010 Census report on Group Quarters gives general information on institutionalized populations within each county. For NYS, the major institutionalized populations are in nursing/skilled nursing facilities (50%) and correctional facilities for adults (41%). The corresponding percentages for the LCHP counties are reversed (51% correctional, 35% nursing) due to the location of state prison facilities in upstate New York counties. The socio-demographic profile of each institution in the LCHP counties is also very distinct. For the 7,267 individuals in correctional facilities, 99% are men, 97% are ages 18-64, 50% are Black, 33% are White and 30% are Hispanic. Nursing facilities have 5,354 residents, with 73% women, 94% 65 years of age or older and 98% White and non-Hispanic.

## *Overview of Health Status*

### Data Sources on Health Status

The DSRIP performance data were an initial source of information, with measures derived from vital statistics, hospital discharge data (SPARCS), the Behavioral Risk Factor Surveillance System (BRFSS), Healthcare Effectiveness Data and Information Set (HEDIS) and

the US Census. The Health Data website of the NYS Department of Health was a resource for additional data from the same sources (e.g. drug-related hospitalizations in SPARCS; prevalence of exposure at home to second-hand smoke in BRFSS) and new sources (e.g. Nursing Home Quality Initiative survey findings; the New York Codes, Rules and Regulations projections for residential health care facility bed resources and needs). CNA data also came directly from PPS partners, e.g. cause-specific information from hospitals on potentially preventable readmissions (PPRs); home health summaries compiled by CMS for home health agencies on client characteristics and outcomes; and Consumer Assessment of Healthcare Providers and Systems (CAHPS) measures on primary care access, communication and coordination collected and reported to providers by Press Ganey. An additional community-based source of data was the Youth Risk Behavioral Survey (YRBS) for information on adolescents collected by school districts in several of the LCHP counties. Supply of healthcare providers was assessed in reports from the SUNY-Albany Center for Health Workforce Studies, the University of Wisconsin/Robert Wood Johnson Foundation and the NYS Office of Mental Health. Listings of health and community service organizations from the seven 2013 County Health Department CNAs were reviewed for accuracy by CNA subcommittee members, who also assisted in primary data collection through their support for the conduct of focus groups and the distribution of brief, anonymous surveys at their agencies on clients' experiences with the health care system.

Because of its importance as a unique population-based source on information on residents of the LCHP counties, some additional background and detail are provided about the Upstate Health and Wellness Survey (UHWS). In 1989, a Health Census was conducted by the Bassett Research Institute to look at the health problems affecting residents of Otsego County. This census was mailed to individuals who were identified as permanent residents of Otsego County, and the completed surveys were collected door-to-door three weeks after they were mailed out. The data produced by the census demonstrated the level of chronic diseases experienced by individuals in rural areas and problems with utilization of health services. These observations were used to help better direct the goals of existing health programs, to serve as preliminary data for grant applications and to inform health care providers about health problems needing their time and energy. In 1999 a Health Census survey form was again sent to all permanent residents of Otsego County; at this time, the survey was also sent to a random sample of permanent residents in six neighboring counties (Chenango, Delaware, Herkimer, Madison, Montgomery and Schoharie), to again look at the health issues and concerns in the region, monitor progress on health problems identified in the 1989 Census and compare the prevalence of health-related behaviors and conditions across the counties.

The 2009-2010 UHWS represents the most recent cycle of data collection on the health status of the regional population. The UHWS included the same seven counties from 1999 (Chenango, Delaware, Herkimer, Madison, Montgomery, Otsego, Schoharie), with the major goal of the survey being to assess the region in terms of the 27 priority health indicators established in 2008 by the New York State Department of Health. Sampling was employed for all seven counties, with a random sample of households in the seven county region based on a list of household addresses purchased from Genesys Corporation. Each household chosen for inclusion in the UHWS was mailed a postcard indicating selection to participate in the survey. Potential participants were also informed of the survey via a publicity campaign. The surveys were sent approximately two weeks after the postcard mailing along with a self-addressed return

envelope and survey information sheet. A reminder letter with a replacement survey was mailed to those who did not respond to the initial mailing, and additional surveys were completed by initial non-respondents via telephone and a final mailing. Sampling weights have been used in summarizing results to account for population subgroups represented in the initial responders, telephone responders and final mail responders. The overall response rate for the UHWS, formed as a weighted combination of the three sampling waves, was 48.3%. For the purposes of the CNA, the data from Montgomery County have been excluded from all analyses. With this exclusion, there are a total of 9,623 adult (≥18 years of age) respondents in this randomly selected sample from the remaining six LCHP counties; with additional restriction to the age group 18-64 years of age, data were available on 447 Medicaid beneficiaries and 649 adults without health insurance. The next cycle of regional data collection is planned for 2019 and its value is enhanced by the timing of DSRIP project activities to be implemented between now and that date.

**Causes of Death**

Summary information on causes of death is presented in Tables 11 and 12. The 10 leading causes of death in the LCHP counties, ranked by number of deaths, were heart diseases, cancers, chronic lower respiratory diseases (CLRD), cerebrovascular diseases, unintentional injuries, influenza and pneumonia, diabetes, Alzheimer's disease, kidney diseases and hypertension. The leading causes below 65 years of age were cancers, heart diseases, unintentional injuries, suicide, CLRD, liver diseases, diabetes, congenital malformations and conditions originating in the perinatal period. The top 2 causes for overall and premature mortality accounted for over half of all deaths and were also the leading causes in each LCHP county.

Limited variation on race/ethnicity in the LCHP counties precluded statistically meaningful mortality comparisons by these characteristics. Comparisons of mortality for men and women in Table 12 revealed consistency for the leading 2 causes (heart diseases and cancers, respectively) but differences in other important causes. Cerebrovascular diseases and Alzheimer's disease were more highly ranked causes for women (#3 and # 5, respectively) than men (#5 and #10) while fatal unintentional injuries were more common for men than women (#4 vs. #7).

**Hospitalization**

The rate of potentially preventable adult hospitalizations (PQIs) in the LCHP counties was 196.3/10,000 for Medicaid enrollees (Table 13). This value would be near the bottom (worst) quartile (43 of 62) in the rankings for all 62 NYS counties on this measure, and 3 LCHP counties (Herkimer, Oneida, Otsego) were in the bottom quartile of counties. The rate of preventable child hospitalizations (PDIs) for the LCHP Medicaid population was relatively better (21.1/10,000; would be 31 of 62), with 2 LCHP counties (Delaware, Otsego) in the least favorable county quartile. The PQI for the total adult population (a domain 4 metric), is included in Table 13 and also ranked poorly (139.2/10,000; would rank 46 of 62), indicating gaps in timely and effective primary care affecting all residents.

The rate of potentially avoidable readmissions (PPRs) is characterized for hospitals rather than counties – the aggregate rate for hospitals in the LCHP counties was 5.7 readmissions per 100 at risk admissions, which would rank somewhat above the median in performance for all NYS hospitals (79th out of 192 hospitals, or the 41st percentile). More detailed analyses on PPRs were available in the Partnership for Patients reports generated for hospitals by the Healthcare Association of New York State (HANYS). Data from these reports are summarized in Tables 14 and 15. In Table 14, the PPRs for the ten leading causes of preventable readmissions to the hospitals of the Bassett Healthcare Network (including 5 of 7 hospitals in the PPS) in 2012 and 2013 are compared with the severity-adjusted PPRs for the same causes in all rural hospitals and all hospitals of NYS. For both years and the majority of causes, the severity-adjusted PPRs in the Bassett Healthcare Network hospitals exceed the corresponding values for other rural hospitals and all hospitals of the state. Table 15 shows data from 2012 and 2013 that are specific to Bassett Medical Center, the largest hospital within the network. These data show PPRs for the leading causes of readmission by the discharge site or status (home, skilled nursing facility, home health care) prior to readmission, and can be interpreted as reflecting levels of readmission risk from these sites. The data indicate that for both years and almost every leading cause of readmission, the actual rate of readmission is greater than what would be expected based on the severity-adjustment process and the general experience of cause-specific hospital readmission in NYS. These data were considered relevant for DSRIP projects to strengthen policies, practices and coordination in skilled nursing facilities and home healthcare agencies.

A final set of hospitalization data are shown in Table 16. The most significant trend data in hospitalization observed for the LCHP counties was the rise in drug-related hospitalizations, with 6 of 7 LCHP counties showing an increase of 62% or more over 7 years compared to very limited change in upstate NY counties overall. Similar contrasts in time trends were seen for poisoning rates and for neonate drug-related hospitalization rates. The number of hospitalizations over the most recent three year period was substantial and was considered an important justification for potential projects to address prevention and treatment of substance abuse disorders in LCHP counties.

**Ambulatory Care Sensitive Conditions**

Ambulatory care sensitive conditions underlie potentially preventable ED visits (PPVs) as well as PQIs and PDIs, and the rate of PPVs for Medicaid enrollees in LCHP counties was 44.0/100 (Table 13). In the NYS county ranking of PPVs from 1 (best) to 62 (worst), this value would rank 38th, and 5 of 7 LCHP counties were also in the lower (worse) half of the rankings. Data on separate PQI conditions showed asthma/COPD, heart failure and diabetes as the major causes of preventable Medicaid hospitalization, accounting for 60% of admissions in 2011 and 2012. The domain 3 metrics related to asthma are shown in Table 17, along with the PQI component that is specific to asthma/COPD in older adults (PQI05). These data make apparent that asthma contributes to preventable hospitalizations across the full age range, and was considered important justification for projects that focus directly or partially on improved prevention and management of asthma.

The high levels of hospitalization or ED visits for asthma and the other conditions contributing significantly to the overall rates for PQI and PPV can result from especially high

prevalence of the conditions or unsuccessful medical care and self-management. The UHWS data on a random sample of residents of LCHP counties suggest both explanations are true for Medicaid beneficiaries (Table 18). The conditions and the risk factors for the conditions (e.g. smoking, hypertension, obesity) are more prevalent for Medicaid recipients. Among all adults with asthma and diabetes, those with Medicaid were much more likely to have ED visits and hospitalizations for these conditions in the previous year – 25% vs. 2% for diabetes ED visits, 22% vs. 5% for asthma ED visits.

**Disease Prevalence**

The prevalence of chronic conditions most strongly associated with Medicaid-related preventable ED visits, hospitalizations and readmissions were of particular interest. In analyses of UHWS data on 18-64 year olds, prevalence of provider-diagnosed asthma was 2 times greater in Medicaid enrollees than adults with other insurance (16.9% vs. 8.8%, Table 18). Disparities in prevalence by insurance status (with less favorable levels for Medicaid) were also noted in UHWS data for COPD (7.6% vs. 2.1%) and diabetes (10.2% vs. 4.9%). Prevalence of hypertension was similar by insurance status despite the Medicaid enrollees being on average 7 years younger (40.8 years vs. 47.7 years). Prevalence of heart failure was not measured in the UHWS, but the domain 4 metric on hospitalization for acute myocardial infarction may serve as an indicator of diminished myocardial function potentially leading to heart failure (Table 19). The LCHP counties had an overall rate of 15.7/10,000 for this measure (equivalent to a rank of 32 for the NYS county rankings), with 4 of the LCHP counties ranked in the lower (worse) half.

The % of adults with $\geq$14 poor mental health days in the past month (the domain 4 metric for mental health) was 11.3% in LCHP counties, which would rank near the bottom (worst) quartile (44 of 62) in the rankings of NYS counties on this measure (Table 19). The UHWS included the same measure and allowed for separate prevalence estimates by insurance status; in adults 18-64 years old, the prevalence in Medicaid beneficiaries was almost 5 times greater than the prevalence in adults with other types of health insurance (20.5% vs. 4.2%, Table 18). A similar disparity between Medicaid and other insurance in UHWS data was observed for provider-diagnosed depression (38.2% vs. 10.8%) and anxiety disorders (25.7% vs. 6.4%).

Joint analyses of mental health outcomes and chronic physical conditions were also possible in the UHWS data and underscore the importance of a comprehensive approach to health care (Table 20). The presence of each mental health outcome (depression, anxiety, frequent poor mental health days) was consistently associated with increased prevalence of diabetes, asthma, hypertension and elevated cholesterol (as well as behavioral risk factors smoking and obesity), demonstrating the need for better integration of primary care and behavioral health services.

The rate of newly diagnosed HIV cases in LCHP counties during 2010-2012 was 3.8/100,000, based on 64 cases (32 in Oneida County, 32 in the other 6 counties; Table 21). The rate in all 7 counties was below the rate for NYS counties outside of NYC (6.7/100,000). This pattern of data for frequency and county distribution was similar for gonorrhea, with the majority of cases in the most populous county (Oneida) and county-specific rates all below the rates for upstate NYS counties. The rate for chlamydia in LCHP counties for women 15-44 years old was

1088.4/100,000 in 2012, which would correspond to 32nd in the ranking of 62 NYS counties. There was substantial variation by county, with 4 LCHP counties in the quartile with lowest rates and 3 counties in the bottom (worst) half of rankings on this measure.

**Maternal and Child Health**

2012 infant mortality in LCHP counties was 5.9/1000 live births, compared to 5.4/1000 for upstate NY, but the LCHP rate included only 34 deaths (17 in Oneida, rate=6.5/1000, 17 split among the other 6 counties). Interpretation of maternal mortality is also problematic due to few outcomes (5 deaths in LCHP counties). Prevalence of preterm birth was highest in Oneida County (12.9%, 10.9% for upstate NY), but all other LCHP counties were at or below the 2017 Prevention Agenda (2017 PA) goal of 10.2% (Table 21). All LCHP counties were above the 2017 PA goal for % of infants exclusively breastfed in the hospital (48.1%), all were at or below the 2017 PA goal for adolescent pregnancy (25.6/1000 live births) and the average % of births with adequate prenatal care (75.3%) would rank in the top quartile of NYS counties. Health insurance coverage ranged from 95% to 96% for children and 87% to 90% for women. The LCHP counties had less favorable rankings on 2 other DSRIP domain 4 metrics, % of unintended pregnancies among live births (34.4%) and % of live births that occur within 24 months of a previous pregnancy (23.5%), suggesting possible needs related to family planning and contraception use.

**Risk Factors**

Domain 4 metrics include prevalence of obesity (for children/adolescents and adults) and prevalence of smoking by adults – LCHP counties have unfavorable levels for these risk factors in the general population (Table 19). The overall prevalence of obesity in LCHP counties was 27.3% for adults and 19.6% for children, which would correspond to rankings of 30th and 38th respectively when compared to NYS county rankings from 1 (best) to 62 (worst). Data on smoking were even more extreme, with the aggregate LCHP prevalence of 23.3% corresponding to a county rank of 44th out of 62 (and 5 LCHP counties in the bottom quartile of counties, with prevalence ranging from 23.8% to 25.2%). Data from school districts also showed high levels of smoking and unsuccessful quit attempts by adolescents, in addition to prevalence of mental health concerns and substance use (Tables 22 and 23). Residents of LCHP counties tended to be at median levels or worse for other health-related behaviors, e.g. binge drinking, use of clinical preventive services (Table 19). In addition, for all of the risk factors summarized, the UHWS of randomly selected households in LCHP counties found less favorable results (e.g. more obesity and smoking, less use of preventive screening) among Medicaid enrollees and the uninsured (Table 24). The latter table was considered a particularly unique and valuable source of information on a population-based sample of uninsured adults, and suggested needs for engagement and navigation of services with these individuals.

**Quality of Care**

A variety of quantitative data were obtained during the CNA process that related to process and quality of healthcare in multiple settings and from multiple perspectives (qualitative findings were summarized in the previous section of the report). The emphasis on maintaining

health throughout the life course shifts somewhat to preserving quality of life as the end of life nears. For this issue, use of hospice services and palliative care were examined in the LCHP counties and opportunity for improvement was revealed. Analyses of Medicare data from 2010 for the % of deaths that occur while in hospice care showed that 3 LCHP counties had the highest percentages in the state (49%, 43%, 42%) while 2 counties had the lowest percentages (13%, 11%, Table 25). A similar pattern was observed in the 2011 report, suggesting geographic areas for focused intervention and local availability of expertise to promote more effective use of hospice services. Additional data on end of life care was from the American Society of Clinical Oncology (ASCO) Quality Oncology Practice Initiative. For management of dyspnea and pain and for discussion about hospice and timely enrollment, the performance of the regional cancer center was worse than the aggregate data on all institutions included in the initiative.

The Nursing Home Quality Initiative (NHQI) of the NYS Department of Health provided ratings for the state's facilities on frequency of potentially avoidable hospitalizations and prevalence of risk factors that may lead to hospital transfer (Table 26). For the 10 nursing homes in the LCHP PPS, 5 were in the 2 lowest (unfavorable) quintiles on avoidable hospitalizations, 8 were in the bottom quintiles for residents experiencing one or more falls with major injury and 7 were in the bottom quintiles for residents with moderate to severe pain. There is consistency between this assessment of the frequency of avoidable hospitalization and the independent evaluation of the same issue in the PPR analysis by discharge site (Table 15), which also detected greater than expected rate of readmissions from skilled nursing facilities.

CMS annual reports on home care patients served by a major home health provider in LCHP counties provided quantitative information on quality of care received in this context. In the CMS data, risk-adjusted improvements in client symptoms and status (e.g. management of medications, reduction in dyspnea and pain) were consistently smaller in comparison to the national reference home care population, while ED use and hospitalizations were higher (Table 27). As with the NHQI and skilled nursing facilities, the CMS data on patient status and outcome was consistent with the PPR finding on increased rate of readmissions by patients receiving home healthcare services. In addition, the findings related to pain management and the potential option for hospice care to displace admissions and readmissions from nursing homes and home care suggest potential value in coordination of services as a cornerstone of DSRIP projects involving these resources for healthcare. Additional evidence on this point came from an analysis of discharge planning services for older adults by hospitals, skilled nursing facilities and home care agencies serving residents of several LCHP counties (Table 28). Gaps in follow-up procedures and modest levels of communication between providers was noted and may contribute to unsuccessful transitions from phases of care that instead lead to hospitalization or ED visits that might otherwise be avoided.

The DSRIP domain 3 metrics for behavioral health focused on quality of care for mental health conditions and chronic co-morbidities; data were suppressed due to small numbers for many of the indicators and LCHP counties, but complete data (i.e. on all 7 counties) were available for two of these metrics: the % patients with timely follow-up after hospitalization for mental illness and the % of patients receiving timely initiation and engagement of treatment for alcohol or other drug dependencies (Table 29). For both metrics, the LCHP counties would be ranked below the median (i.e. in the less favorable half of NYS counties) on these measures,

with Oneida County being in the lowest quartile and significantly influencing the overall ranking for the LCHP counties.

A final source of quantitative data on quality of care is the summary of CAHPS surveys administered by Press Ganey to a random sample of primary care patients in LCHP counties (Table 30). Patients from 25 primary care clinics were asked to complete the survey on experience with health care. Data were available on 566 patients for the third quarter of 2014. For statements related to access to care (e.g. ease of getting clinic on phone and scheduling an appointment; convenience of office hours; wait time at clinic), on average only 57% of patients rated their experience as "very good" (the highest possible response). Ratings on communication (e.g. provider used words you could understand; information from provider on medications and follow-up) were better but 27% of patients expressed some degree of dissatisfaction. The gaps in patients' abilities to contact clinics, schedule appointments and fully understand providers' explanations for medication use and follow-up care may contribute to the preventable use of services that is a focus of the DSRIP projects.

Domain 2 metrics of preventable services (PPVs, PQIs, PDIs, PPRs) documented shortcomings in primary care for the Medicaid population of LCHP counties. Domain 4 metrics and additional indicators (e.g. drug-related hospitalizations, overlap in prevalence of mental and physical health conditions) demonstrated similar unmet needs of the general population, including mental and behavioral health concerns. These unmet needs may be due to inadequate capacity in terms of the supply of community-based primary care and mental health providers, i.e. antity of healthcare resources may also affect quality. Findings from several studies of the healthcare workforce were available and are summarized in Table 31.

Analysis of primary care physician FTEs by the SUNY-Albany Center for Health Workforce Studies was based on a 2013 survey of licensed physicians done with the NYS Departments of Health and Education. Results were reported as primary care physician FTEs per 100,000 population, and counties were ranked 1 (high) to 62 (low) on this measure. Otsego County ranked 3 in per capita supply of primary care physicians (110.0/100,000), but the other 6 LCHP counties were below the median (levels ranging from 68.6 to 41.8/100,000) with 4 counties near or in the bottom quartile (Delaware 45, Schoharie 46, Chenango 49, Herkimer 57). A separate assessment of primary care physicians by the University of Wisconsin and the Robert Wood Johnson Foundation (RWJF) used a different data source (HRSA Area Resource File) but reached similar conclusions: high rating for Otsego County and the cluster of 4 counties near the bottom. The Wisconsin/RWJF study also analyzed supply of other primary care providers (nurse practitioners, physician assistants, clinical nurse specialists) to determine if their numbers increased in places with limited physician supply. This was not true for LCHP counties – 4 remained below the NYS median with 2 (Herkimer 59, Schoharie 62) in the bottom quartile.

Two studies examined supply of mental health providers. In the Wisconsin/RWJF study the ratio of provider to population ranged from 1/694 (Chenango, ranked 24) to 1/2304 (Herkimer, ranked 61). Only 2 LCHP counties were above the median, and 3 were in the bottom quartile. In the 2014 per capita count of licensed mental health professionals by the NYS Office of Mental Health, 2 LCHP counties were at the median (Oneida 31, Otsego 32) and the other 5 were lower (with 3 in the bottom quartile).