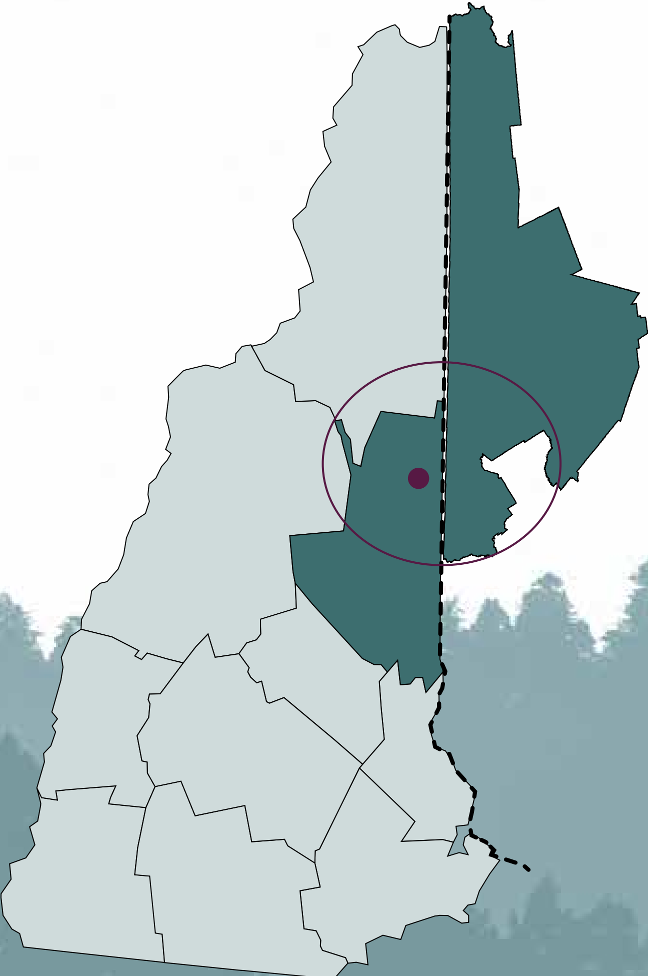
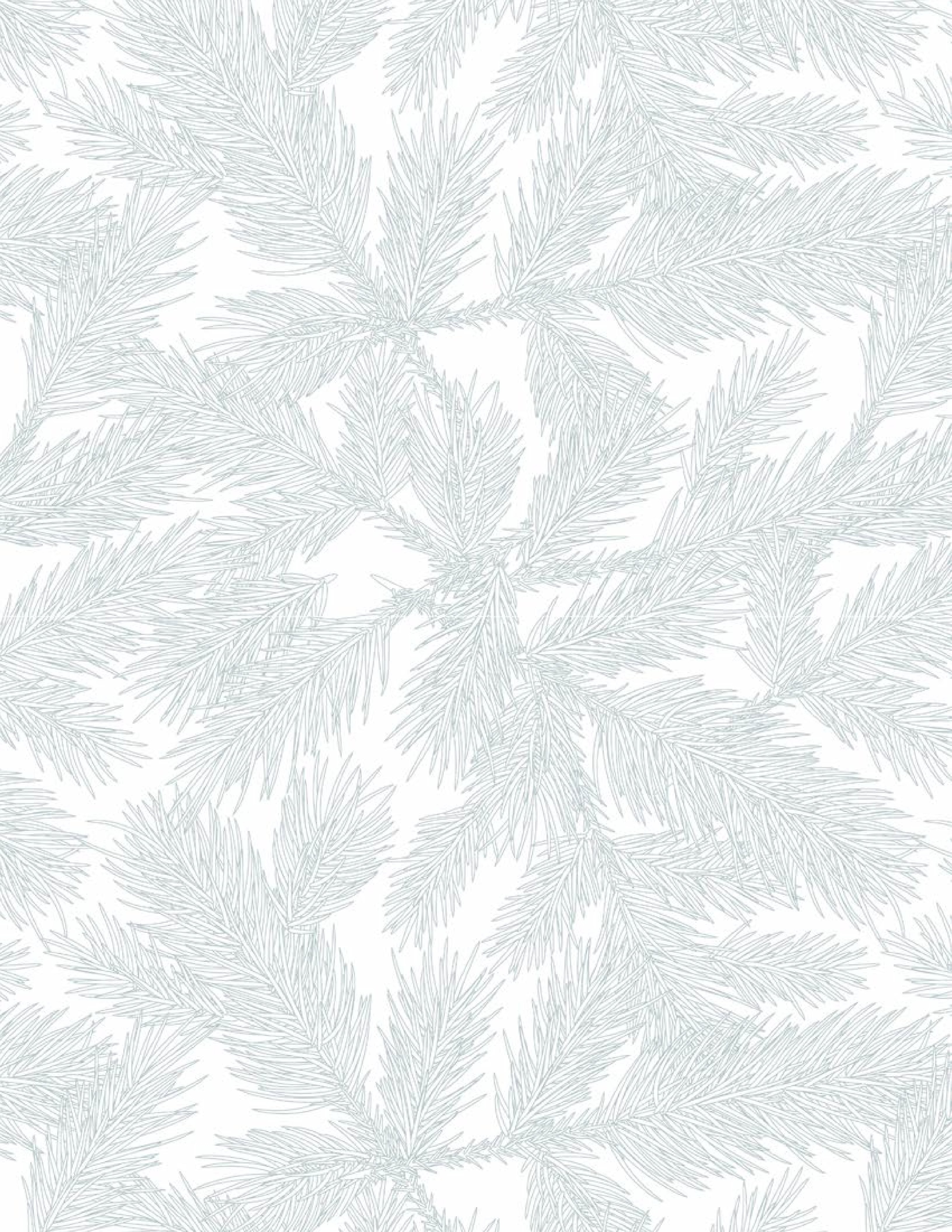
MT. WASHINGTON VALLEY

2019 Community Health Needs Assessment Report





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Key Companion Documents can be found at the MaineHealth Community Health Needs Assessment web page (www.mainehealth.org/chna):

- Carroll County Health Profile listed in the section labeled "Memorial Hospital and Carroll County (New Hampshire)."
- Oxford County Health Profile (listed in the section labeled "Stephens Memorial Hospital and Oxford County."

EXECUTIVE SUMMARY

PURPOSE

The Mount Washington Valley Community Health Needs Assessment (CHNA) Report for Carroll County, New Hampshire is part of the commitment by MaineHealth to turn data into action to improve the health of all Mt. Washington Valley residents. This is part of a larger effort by MaineHealth to continuously assess the health needs of the 1.1 million residents of the MaineHealth service area which includes Carroll County, NH and 11 Maine counties. This is the third CHNA that Memorial Hospital has conducted in collaboration with the Mt. Washington Valley Community Health Collaboration.

The Mission of the Memorial Hospital Community Health Needs Assessment is to:

- Engage and activate communities; and
- Support data-driven health improvements within Mt. Washington Valley, NH and Western Maine.

DEMOGRAPHICS

The population of Carroll County is 47,416 and 24.2% of the population is 65 years or older. The population is predominantly white (97.3%); 1.4% are Hispanic, and 1.5% are two or more races. The median household income is $56,289. The estimated high school graduation rate was higher than the New Hampshire state rate (94.9% vs. 88.5%) in 2014-2015. The percentage of the population with an Associates' degree or higher was lower than the state overall (43.1% vs. 45.3%) in 2012-2016.

TOP HEALTH PRIORITIES

A forum held in Carroll County identified health issues in the community through a voting methodology outlined in the Methodology section of this report (Appendix C). Table 1 includes top health priorities that arose from the forum.

Table 1: Carroll County Health Priorities

PRIORITY AREA	% OF VOTES
Access to Care	27%
Substance Use	23%
Older Adult Health/Healthy Aging	16%
Mental Health	16%
Social Determinants of Health	10%

NEXT STEPS

This assessment report will be used to fulfill Internal Revenue Service (IRS) requirements for non-profit hospitals. Required activities include:

- Obtaining input from the community, including providers and communities served, on leading health issues and unmet needs
- Evaluating actions taken to address needs identified in previous assessments
- Choosing which health needs should be addressed
- For hospitals to develop an implementation strategy designed to address the identified needs

In the coming months and years, policy makers, non-profits, businesses, academics, and other community partners may also use these reports for their own strategic planning purposes.

ACKNOWLEDGEMENTS

Funding and support for the Mt. Washington Valley Community Health Needs Assessment (CHNA) Report was provided by MaineHealth on behalf of Memorial Hospital. The metrics included in the Carroll County Health Profile, tools and guidelines used for community engagement activities, and the format and structure of both the Health Profile and this CHNA report were adapted from those used by the Maine Shared Community Health Needs Assessment (Maine Shared CHNA). The Maine Shared CHNA is a collaboration between Central Maine Healthcare, the Maine Center for Disease Control and Prevention, a division of the Department of Health and Human Services (Maine CDC), MaineGeneral Health, MaineHealth, and Northern Light Health. Funding for the Maine Shared CHNA is provided by the partnering healthcare systems with generous in-kind support provided by Maine CDC and countless community partners and stakeholder groups.

In the Carroll County Health Profile, the New Hampshire Division of Public Health Services provided data and analysis for New Hampshire data in collaboration with John Snow Inc. Analysis of the Maine data was conducted by epidemiologists at the Maine CDC, University of Southern Maine's Muskie School of Public Service, and John Snow Inc. John Snow Inc. also provided support for design and production of the profile, and methodology and support for the community engagement activities.

Memorial Hospital and the Mt. Washington Valley Community Health Collaboration provided strong leadership throughout the CHNA process, particularly with community engagement.

Finally, Memorial Hospital and the Mt. Washington Valley Community Health Collaboration gratefully acknowledge the countless community volunteers who gave their time and passionately committed to hosting, facilitating, attending, and engaging in this effort. Thank you.

HEALTH PRIORITIES

Health priorities for Carroll County were developed through community participation and voting at a community forum. The forum was an opportunity to review the Carroll County Health Profile, discuss community needs, and prioritize needs in small breakout sessions followed by forum session voting. Table 2 lists all priorities that arose from group breakout sessions at the forum. See Appendix C for full description of the methodology used in identifying top priorities.

This section provides a synthesis of findings for each of the top priorities (shaded) identified in Carroll County. The discussion of each priority draws from several sources, including the data in the Carroll County Health Profile, information gathered through community engagement discussions at the community forum, and key informant interviews. See Appendix C for the complete methodology for all of these activities.

Table 2: Carroll County Forum Voting Results

PRIORITY AREA	% OF VOTES
Access to Care	**27%**
Substance Use	**23%**
Older Adult Health/ Healthy Aging	**16%**
Mental Health	**16%**
Social Determinants of Health	**10%**
Physical Activity, Nutrition, and Health	6%

ACCESS TO CARE

Whether an individual has health insurance-and the extent to which it pays for acute care and a continuum of high quality, timely preventive care, treatment, and follow-up care is critical to one's overall health and well-being. Access to primary care is particularly important since it greatly affects an individual's ability to prevent and manage chronic disease, and maintain one's health and quality of life.

QUALITATIVE EVIDENCE

Many forum participants identified the social determinants of health—particularly the inability to access reliable and affordable forms of transportation—as significant barriers to accessing care. These are discussed in more details in the "Social Determinants of Health" priority area section of this report.

Forum participants discussed the need for comprehensive and affordable health services, specifically behavioral health care (e.g., psychiatrists), primary care, dementia care, telemedicine, and home health. Participants also highlighted many issues around health insurance, including cost and gaps in reciprocity between New Hampshire and Maine (Memorial Hospital's service area extends into Western Maine). Some participants felt that there needed to be more health insurance navigators and advocates working with residents to clarify issues around enrollment, coverage, cost, and how and where to obtain resources. Navigation support for everyone, regardless of insurance, was discussed as important for connecting people with services that already exist in the community.

QUANTITATIVE EVIDENCE

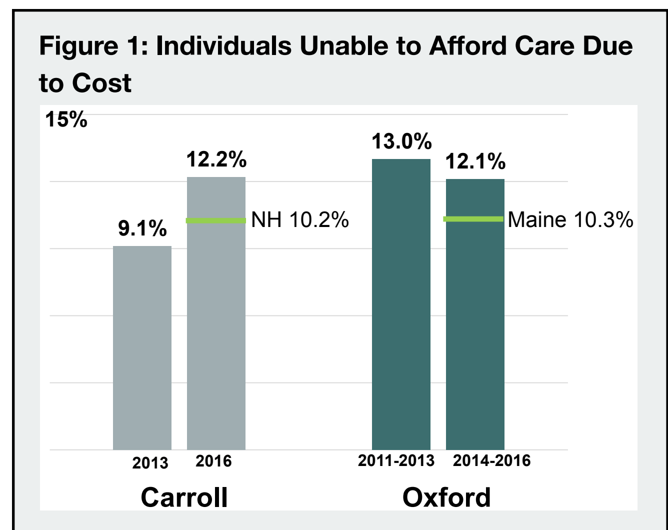
Please find highlighted data from Carroll County and NH below as well as comparisons to Oxford County in Figure 1.

In Carroll County:

- The percentage of the population that was uninsured was higher than NH overall in 2012-2016 (12.8% vs. 8.4%).
- The percentage of the population who reported being unable to obtain health care due to cost increased between 2013 and 2016, from 9.1% to 12.2%. The percentage was higher than NH overall (10.2%).
- The percentage of the population who had a dental visit in the past year decreased between 2012 and 2016, from 70.7% to 64.1%. The percentage was lower than NH overall (72.0%).

See Key Indicators on page 18 as well as the Carroll County Health Profile at www.mainehealth.org/chna. Those documents also include information on data sources and definitions.

Figure 1: Individuals Unable to Afford Care Due to Cost



COMMUNITY RESOURCES TO ADDRESS ACCESS TO CARE

Table 3 is a summary of the assets and needs identified through the community engagement process, including review by local teams. It is important to note that this is not a complete list of available resources or existing needs in the community; other resources, like 211 New Hampshire, and local/county resource guides should be referenced as a more comprehensive inventory.

Table 3: Assets and Gaps/Needs (Access to Care) in Mt. Washington Valley

ASSETS	GAPS/NEEDS
• Visiting Nurse Home Care & Hospice of Carroll County • New Hampshire Integrated Delivery Network (IDN) Medicaid Waiver • As a rural community, our ability to collaborate and coordinate services because we know each other well • Collaboration between health agencies/disciplines • The Gibson Center • Carroll County Retired Senior Volunteer Program (RSVP) • New Hampshire Tri-County Community Action Program • Memorial Hospital Population Health work	• More health insurance navigators • Access to specialists • Community health workers • More primary care physicians • Telehealth • Administrative support for medical professionals • Affordable dental care for adults • Better eye care for all • Lack of transportation to appointments both local, and to specialty services in Maine and Boston

SUBSTANCE USE

The Substance Abuse and Mental Health Services Administration (SAMHSA) estimated that 8% of adults in the United States have had a substance use disorder in the past year.[1] Tobacco, alcohol, marijuana, and nonmedical use of prescription pain relievers (e.g. OxyContin, Vicodin) are the leading substance use health issues for adults.[2] Tobacco, alcohol, and marijuana are the most common substances misused by adolescents, followed by amphetamines (e.g. Adderall) and nonmedical use of prescription pain relievers.[3] Those with substance use disorders often face a number of barriers that limit access and hinder engagement in care; one study estimates that more than 50% of individuals with mental health and substance use issues are not engaged in needed services.[4]

Barriers to care include a lack of education and awareness of the signs, symptoms, risk factors, and consequences associated with substance use. Social stigma, and a workforce shortage of substance use treatment and recovery providers are also contributing factors. Many forum participants and key informant interviewees identified gaps in access to substance use treatment and recovery services. Finally, those who are uninsured or underinsured are more likely to face barriers to care. Even for those who are eligible for free or discounted services, or for those covered by commercial insurance, the cost and availability of substance use treatment is a significant barrier to care.

QUALITATIVE EVIDENCE

A key theme from the Carroll County Community Forum was the concern around youth substance use. Forum participants specifically identified the use of e-cigarettes, also referred to as “vaping” or “Juuling,” as a health risk for young people. Key informants noted that those working in schools had observed an increase in the use of e-cigarettes and were working to address it. Another concern was the changing perceptions of marijuana use, and the potential for increased use among youth.

Forum participants reported a need for more substance use prevention strategies for people of all ages, including pregnanat women. While there was a need for substance use prevention and treatment services overall, forum participants specifically identified a need for more youth specialists, acute care beds, Medication-Assisted Treatment (MAT), and transitional housing for those in recovery.

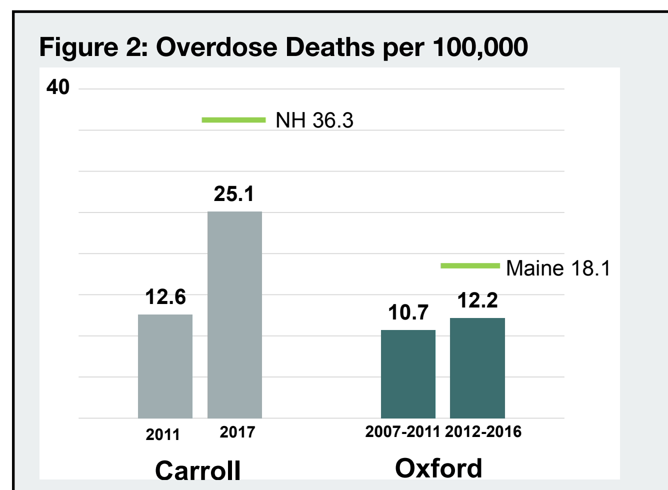
QUANTITATIVE EVIDENCE

Please find highlighted data from Carroll County and NH below as well as comparisons to Oxford County in Figure 2.

In Carroll County:

- The rate of overdose deaths per 100,000 population increased between 2011 and 2017 (12.6 vs. 25.1)*.
- The rate of overdose emergency medical service responses, including overdoses from drugs/ medication, alcohol, and inhalants, more than doubled between 2013-2014 and 2016-2017 (55.0 vs. 111.9).
- The percentage of new mothers who smoked cigarettes any time during their pregnancy or three months before becoming pregnant was significantly higher than NH overall (18.0% vs. 10.8%) in 2016.

*2017 Overdose death rate source is the New Hampshire Medical Examiners Office NH Division of Public Health Bureau of Drug and Alcohol Services.



- The rate in Carroll County in 2016 of infants born drug affected per 1,000 births more than tripled from 2013 and 2016 (14.5 and 50.9).

See Key Indicators on page 18 as well as as the Carroll County Health Profile at www.mainehealth.org/chna. Those documents also include information on data sources and definitions.

COMMUNITY RESOURCES TO ADDRESS SUBSTANCE USE

Table 4 is a summary of the assets and needs identified through the community engagement process, including review by local teams. It is important to note that this is not a complete list of available resources or existing needs in the community; other resources, like 211 New Hampshire, and local/county resource guides should be referenced as a more comprehensive inventory.

Table 4: Assets and Gaps/Needs (Substance Use) in Mt. Washington Valley

ASSETS	GAPS/NEEDS

• Recovery Programs
• A New Life Prenatal Substance Abuse Treatment Program
• Dover Youth to Youth Peer Program
• Northern Human Services
• Medication-Assisted Treatment (IMAT) programs at:
  • Memorial Hospital
  • Saco River Medical Group
  • White Mountain Community Health Center
• White Horse Addiction Center
• Mount Washington Valley Supports Recovery Coalition
• Family Resource Center at Children Unlimited
	• More treatment for substance use
	• Trauma informed care
	• E-cigarette prevention
	• Prevention programs in schools
	• Support for children of adults with substance use disorder
	• Mentoring
	• Detox programs
	• Need more Medication-Assisted Treatment (MAT) providers
	• Intensive Outpatient Program (IOP)

OLDER ADULT HEALTH/HEALTHY AGING

The World Health Organization's definition of active aging and support services are those that "optimize opportunities for health, participation and security in order to enhance quality of life as people age."[5] Gains in human longevity create an opportunity for active lives well after age 65. As this population grows in size, there is growing interest in wellness in addition to the infrastructure of health services for an older population. [6]

QUALITATIVE EVIDENCE

Residents at community forums identified several social determinants of health that affect older adults' ability to maintain good health and age safely in their homes or chosen space such as transportation and housing. While these were also issues for the population at large, forum participants felt they were especially problematic for older adults with limited financial means, impaired mobility, or lack of family/caregiver support. Participants also identified gaps along the spectrum of care for older adults, including geriatricians, home health care, assisted living, navigation services (especially for long-term care), and help with daily tasks. Participants also felt there was a need for more training and development in the skilled workforce sector to meet the needs of older adults, and cited a shortage of personal care aides and hospice workers. Participants felt these services were difficult to find or receive, even for those with the ability to pay for them.

Affordable housing, senior housing, and supports to stay at home were priority needs identified by key informant interviewees. Currently, many older adults have to move out of their community if they require housing with specialized services for older adults (e.g., age-restricted communities, assisted living, or nursing homes). While "aging in place" or aging in the home is a popular concept, this may be impossible for some older residents for financial, medical, or safety reasons. Visiting nurses were identified as a resource to address this issue, but key informants noted that these services must be prescribed, and not all are eligible to receive them. Additional support services, such as assistance with cleaning, meal preparation, and meal delivery, are important and allow people to remain in their homes.

Transportation was identified as a need for older adults. While some community resources are available, more are needed, particularly for those who must travel long distances to medical appointments.

Social isolation and achieving adequate physical activity are challenges for older adults, particularly for those in rural communities. Key informants reported that though there are gyms and fitness facilities available, they are unaffordable for some older adults and transportation is a concern. These and other resources are needed.

Key informants felt that caregiver support was critical for older adults with complex health needs. Adult day care services were identified as a need, though many community members noted that this service would soon be available in Carroll County.

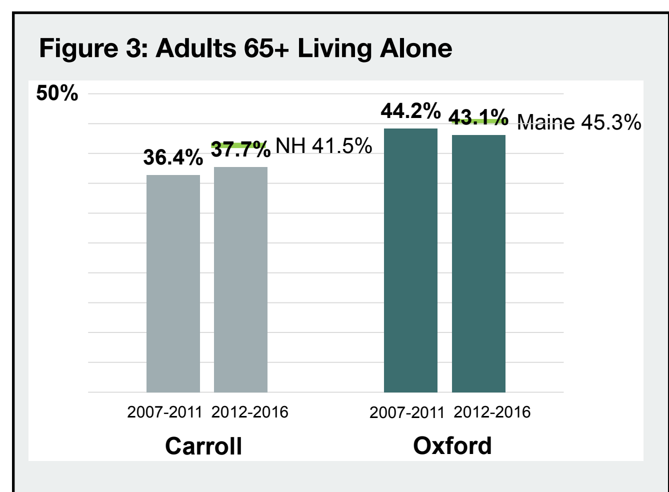
QUANTITATIVE EVIDENCE

Please find highlighted data from Carroll County and NH below as well as comparisons to Oxford County in Figure 3.

In Carroll County:

- The percent of individuals 65+ living alone increased between 2007-2011 and 2012-2016, from 36.4% to 37.7%.

Figure 3: Adults 65+ Living Alone



- For adults age 65 and older, the rate of fall-related (unintentional) deaths per 100,000 population was higher than the state overall (104.4 vs. 93.4) in 2016.

See Key Indicators on page 18 as well as the Carroll County Health Profile at www.mainehealth.org/chna. Those documents also include information on data sources and definitions.

COMMUNITY RESOURCES TO ADDRESS OLDER ADULT HEALTH/ HEALTHY AGING

Table 5 is a summary of the assets and needs identified through the community engagement process, including review by local teams. It is important to note that this is not a complete list of available resources or existing needs in the community; other resources, like 211 New Hampshire, and local/county resource guides should be referenced as a more comprehensive inventory.

Table 5: Assets and Gaps/Needs (Older Adult Health/Healthy Aging) in Mt. Washington Valley

ASSETS	GAPS/NEEDS
• Older adult resources • Aging population that brings resources to pay for services • The Gibson Center • Active volunteer community • Memorial Hospital Adult Day Center • Merriman House Nursing Home at Memorial • Exercise classes at Memorial Hospital • Exercise classes at Retired and Senior Volunteer Program (RSVP) • Caregiver support programs • Visiting Nurse Home Care and Hospice	• Assisted living • Affordable living solutions for older adults • Geriatricians • Health navigators for long term care • Intergenerational support opportunities, especially for older adults who live alone • Zoning to promote senior housing

MENTAL HEALTH

Mental health affects all segments of the population, regardless of age, socioeconomic status, race/ethnicity, or gender. Poor mental health contributes to a number of issues that affect both individuals and communities. Mental health disorders, when left unmanaged, may affect an individual's ability to form and maintain relationships with others, cope with challenges, and lead a healthy and productive life. Individuals with serious mental illness (e.g., major depression or schizophrenia) are at a higher risk of developing other medical conditions, including cardiovascular disease, diabetes, stroke, and Alzheimer's disease. While the reason for this link is unclear, research suggests that those with mental illness may experience more barriers to medical care and prevention strategies, in addition to finding it harder to care for themselves.[7]

More than 25% of adults with a mental health disorder also have a substance use disorder; this comorbidity occurs more among adults with depression, anxiety disorders, schizophrenia, and personality disorders. While mental health conditions may lead to drug or alcohol use, the reverse can also be true—the use of certain substances may cause individuals to experience symptoms of a mental health disorder.[8]

QUALITATIVE EVIDENCE

At the Carroll County Community Forum, many participants identified mental health as a key community health issue. While many said there was a need for more behavioral health services in general, access to psychiatric services, acute inpatient treatment, and providers specifically for youth were identified as specific gaps in the spectrum of care.

Across all age groups, there was a need for more capacity in mental health crisis services. Forum participants felt that mental health services did not have the capacity to meet the current demand for services. Beyond specialty mental health services, one key informant identified a need for strengthening the integration of behavioral health into primary care settings. Participants felt that the model for better mental health services had been established within primary care offices but more resources were needed to broaden capacity and access. For those with long term mental illness, challenges included limited state resources and barriers to employment.

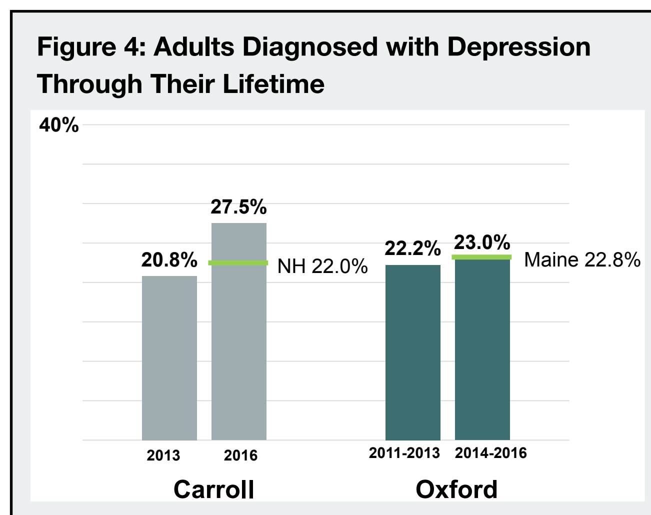
For youth, social and emotional health was an area of concern for the Conway District Schools. There was a focus by the schools to support students and help them access services to address mental health needs. While the schools were working to provide support and early intervention, there was a need for psychiatry services and strengthening of relationships between schools and mental health providers. One key informant noted that school nursing staff were seeing an increased number of students with depression and anxiety. There was a need to continue efforts to emphasize healthy relationships and healthy engagement with the community.

Mental health and wellness support was identified as a need for older adults and their caregivers. Forum participants felt that these populations needed access to counseling to address issues of depression related to complex medical needs and caregiver burden.

QUANTITATIVE EVIDENCE

Please find highlighted data from Carroll County and NH below as well as comparisons to Oxford County in Figure 4.

In Carroll County:



- The percentage of adults with have ever been diagnosed with depression increased between 2013 and 2016, from 20.8% to 27.5%. The percentage is higher than the state overall (22.0%).
- The percentage of adults who reported poor mental health at least 14 out of the past 30 days increased between 2013 and 2016, from 10.5% to 13.2%. The percentage is higher than the state overall (12.7%).

See Key Indicators on page 18 as well as the Carroll County Health Profile at www.mainehealth.org/chna. Those documents also include information on data sources and definitions.

COMMUNITY RESOURCES TO ADDRESS MENTAL HEALTH

Table 6 is a summary of the assets and needs identified through the community engagement process, including review by local teams. It is important to note that this is not a complete list of available resources or existing needs in the community; other resources, like 211 New Hampshire, and local/county resource guides should be referenced as a more comprehensive inventory.

Table 6: Assets and Gaps/Needs (Mental Health) in Mt. Washington Valley

ASSETS	GAPS/NEEDS
• Grief/loss and suicide education and support • School support for social and emotional wellness • Peer Support Services at Northern Human Services • Memorial Hospital Behavioral Health • Northern Human Services	• Suicide prevention • Evaluation of youth under 14 for suicide risk • Acute psychiatric beds • Mobile mental health • More mental health providers • Transitional housing with staff for the severely mentally ill • Child behavioral health resources including psychiatry • Behavioral health education • Mental health facilities • Psychiatrists • Caregiver support

SOCIAL DETERMINANTS OF HEALTH

The social determinants of health are the conditions in which people live, work, learn, and play that affect their health; factors include socioeconomic status (e.g. education, income, poverty), housing, transportation, social norms and attitudes (e.g. racism and discrimination), crime and violence, literacy, and availability of resources (e.g. food, health care). These conditions influence an individual's health and define quality of life for many segments of the population, but specifically those who are most vulnerable. According to the Kaiser Family Foundation, social factors like education, racism, and poverty accounted for over a third of total deaths in the United States.[9]

Another example is food insecurity, which refers to a lack of resources to access enough nutritional food for a household. Food insecurity has both direct and indirect impacts on health for people of all ages, but is especially detrimental to children and older adults.[10] In Carroll County, a quarter of the population is over the age of 65, and is expected to increase in the coming years.[11] Chronic diseases and health conditions associated with food insecurity include cancer, asthma, low birthweight, diabetes, mental health issues, hypertension, and obesity.[12]

QUALITATIVE EVIDENCE

A dominant theme from key informant interviews and the community forum was the tremendous impact that the underlying social determinants, particularly housing, transportation, and food insecurity have on residents in Carroll County.

Poverty and low socioeconomic status is often at the root of these issues. Without stable employment and a livable wage, many people struggle to afford nutritious foods and to secure and maintain affordable and safe housing and transportation. Participants reported a need for more economic support, financial education classes, and jobs that pay a livable wage.

Participants identified a number of issues related to housing – including the need for more affordable housing and housing for older adults. Additionally, transitional housing for those coming out of substance use and mental health treatment and services for the homeless are needed. For older adults, affordable housing, senior housing, and supports to stay at home were priority needs identified from key informant interviews. Transportation was identified as an issue for those without a personal vehicle; lack of transportation made it difficult for people to access health care when and where it was needed.

Interpersonal violence (e.g., domestic violence, abuse) was identified as another social determinant that impacts health status in Carroll County. Related to this, participants felt that there was a need for more community-wide education, advocacy, and cohesion.

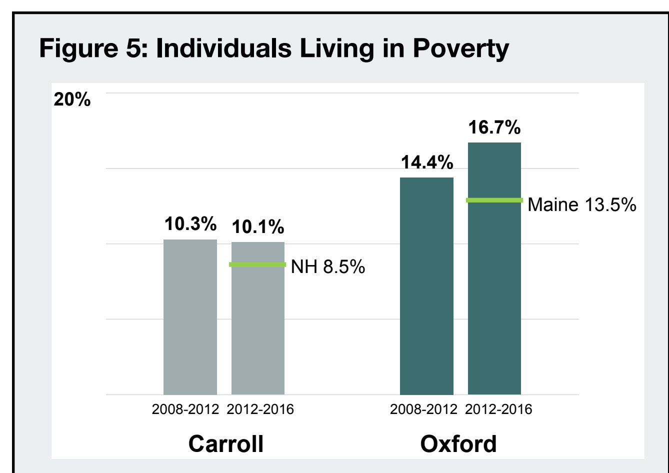
QUANTITATIVE EVIDENCE

Please find highlighted data from Carroll County and NH below as well as comparisons to Oxford County in Figure 5.

In Carroll County:

- The percentage of children living in poverty increased between 2008-2012 and 2012-2016, from 12.7% to 13.1%. The percentage was higher than NH overall (11.0%).
- The percentage of individuals living in poverty (10.1%) was higher than NH overall (8.5%) in 2012-2016.

Figure 5: Individuals Living in Poverty



- The percentage of households without a vehicle increased between 2007-2011 and 2012-2016, from 0.7% to 1.9%.

See Key Indicators on page 18 as well as as the Carroll County Health Profile at www.mainehealth.org/chna. Those documents also include information on data sources and definitions.

COMMUNITY RESOURCES TO ADDRESS SOCIAL DETERMINANTS OF HEALTH

Table 7 is a summary of the assets and needs identified through the community engagement process, including review by local teams. It is important to note that this is not a complete list of available resources or existing needs in the community; other resources, like 211 New Hampshire, and local/county resource guides should be referenced as a more comprehensive inventory.

Table 7: Assets and Gaps/Needs (Social Determinants of Health) in Mt. Washington Valley

ASSETS	GAPS/NEEDS
• Starting Point • Let's Go! 5210 partnership at Memorial Hospital • Partnership with state resources such as University of New Hampshire Cooperative Extension/Nutrition Connections • Wealth of sincerely concerned citizens • Faith-based community • Faith-based drop in center with short term resources for families such as clothing, showers, childcare, and food • Food programs like SNAP (Supplemental Nutrition Assistance Program), food pantries, Meals on Wheels, Women, Infants Nutrition Program (WIC), community dinners, food baskets, and free/reduced lunch	• Data on interpersonal violence • Transportation resources • Affordable housing • Homeless outreach • Housing of all kinds • Workforce for those ages 25-45 • Poverty education • Living wages • Car repair and home maintenance • Increased support for working class

COMMUNITY CHARACTERISTICS

AGE DISTRIBUTION

Age is a fundamental factor to consider when assessing individual and community health status. In particular, older individuals typically have more physical and mental health vulnerabilities, and are more likely to rely on community resources for support compared to young people.[13] An aging population leads to increased pressure on the healthcare system and demands on the healthcare workforce, especially geriatricians, nurses, social workers, and direct care workers like home health aides and certified nursing assistants, to meet the needs of older adults.[14]

- In Carroll County, 24.2% of the population is 65 years of age or older.

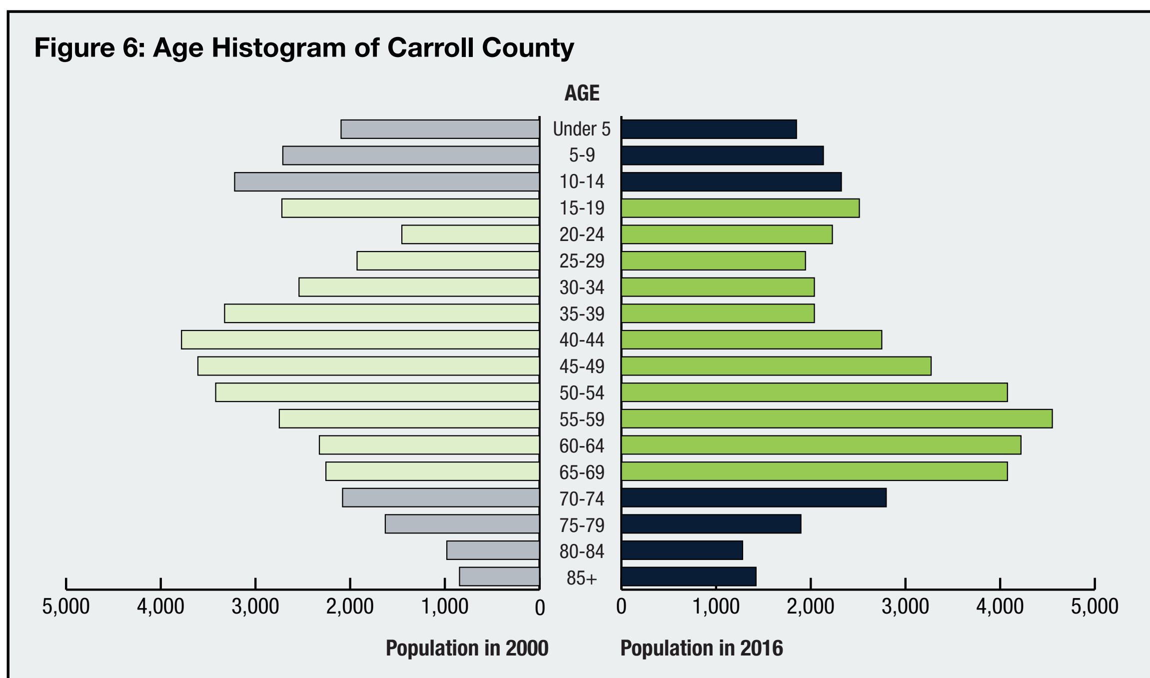
The following is a summary of findings related to community characteristics for Carroll County. Conclusions were drawn from quantitative data and qualitative information collected through the community forum and key informant interviews.

The Oxford County, Maine Shared CHNA Report is also included in this list of reference documents because they are considered a part of the Memorial Hospital Service Area.

The following companion reports are available at www.mainehealth.org/chna:

- Carroll County Health Profile
- Oxford County Health Profile

Figure 6: Age Histogram of Carroll County



RACE/ETHNICITY

An extensive body of research illustrates the health disparities that exist for racial/ethnic minorities, non-English speakers, and foreign-born populations. According to the US Centers for Disease Control, non-Hispanic Blacks have higher rates of premature death, infant mortality, and preventable hospitalization than non-Hispanic Whites.[15] Individuals with limited English proficiency (LEP), defined as the ability to read, speak, write, or understand English "less than very well," have lower levels of health literacy or comprehension of medical information. This leads to higher rates of medical issues and complications, such as adverse reactions to medication.[16,17] Cultural differences, such as but not limited to, the expectations of who is involved in medical decisions can also impact access to health care and to health information. These disparities show the disproportionate and often avoidable inequities that exist within communities and

reinforce the importance of understanding the demographic makeup of a community to identify populations more likely to experience poor health outcomes.

In Carroll County:

- In Carroll County, 97.3% of the population was white, 1.4% were Hispanic, and 1.5% were two or more races.

Table 8: Race/Ethnicity in Carroll County 2012-2016

	PERCENT/NUMBER
American Indian/Alaskan Native	0.1% / 61
Asian	0.7% / 319
Black/African American	0.7% / 170
Hispanic	1.4% / 645
Some other race	0.0% / 23
Two or more races	1.5% / 700
White	97.3% / 46,134

Data Source: US Census Bureau, American Community Survey, 2012-2016

SOCIOECONOMIC STATUS

Socioeconomic status (SES) is measured by such things as income, poverty, employment, education, and neighborhood characteristics. Individuals with low SES are more likely to have chronic health issues, and have overall poorer health. Low income status is highly correlated to a lower than average life expectancy.

Lack of gainful employment is linked to several barriers to care, such as lack of health insurance, inability to pay for health care services, and inability to pay for transportation to receive services. Higher education is associated with improved health outcomes and social development at individual and community levels.[18]

The health benefits of higher education typically include better access to resources, safer and more stable housing, and better engagement with providers. Factors associated with low education impact an individual's ability to navigate the healthcare system, disparities in personal health behaviors, and exposure to chronic stress. It is important to note that, while education affects health, poor health status may also be a barrier to education.

Additionally, in Carroll County:

- The estimated high school graduation rate was higher than NH overall (94.9% vs. 88.5%) in 2014-2015.
- However, the percent of the population over 25 with an associates' degree or higher was lower than NH overall (43.1% vs. 45.3%) in 2012-2016.

Table 9: Socioeconomic Status

	CARROLL/NEW HAMPSHIRE
Median household income	$56,289 / $68,485
Unemployment rate	3.0% / 3.0%
Individuals living in poverty	10.1% / 8.5%
Children living in poverty	13.1% / 11.0%
65+ living alone	37.7% / 41.5%

Data Source: US Census Bureau, American Community Survey, 2012-2016

SPECIAL POPULATIONS

Through community engagement activities, several populations in Carroll County were identified as being particularly vulnerable or at-risk for poor health or health inequities.

Youth

Youth were identified as a priority population in Carroll County. Specific issues of concern were youth mental health issues (specifically stress, depression, and anxiety); substance misuse (specifically opioids, marijuana, vaping/Juuling, and the impact of parental substance use), lack of education and promotion of nutrition and physical activity, unsupervised youth, and the impacts of generational poverty. Key informants talked about the focus on social and emotional health in the schools and reinforcing these prevention resources by communicating with providers on how to support at-risk families.

Older Adults

Older adults are more likely to develop chronic illnesses and related disabilities, such as heart disease, hypertension, diabetes, depression, anxiety, Alzheimer's disease, Parkinson's disease, and dementia. They also lose the ability to live independently at home. According to qualitative information gathered through interviews and forums, issues around older adults and healthy aging were priorities in Carroll County. Transportation and affordability are specific barriers to accessing care for older adults. Specific service needs identified include geriatric psychiatry, home health, long-term care, and health care navigators. In addition to accessing care, the needs for older adult health and well-being include affordable and safe housing, food security, and support for aging in place.

Low-Income/Rural

Nationally, an ever-evolving economic structure has placed extra strain on individuals and families living in rural areas with low population density. Some of the most well-known causes and conditions of hardship include a lack of and outsourcing of jobs, limited long-term employment opportunities, barriers to accessing health care services, and the need for a personal vehicle. Generational poverty—when a family has lived in poverty for at least two generations—differs from situational poverty in that it typically includes the constant presence of hopelessness. This lack of hope and near-constant state of perpetual crisis creates a cycle of poverty that persists from one generation to the next. Forum participants and key informants in Carroll County identified low-income individuals, families, and older adults in Carroll County as populations that were particularly vulnerable to poor health.

Figure 7: Individuals Living with A Disability

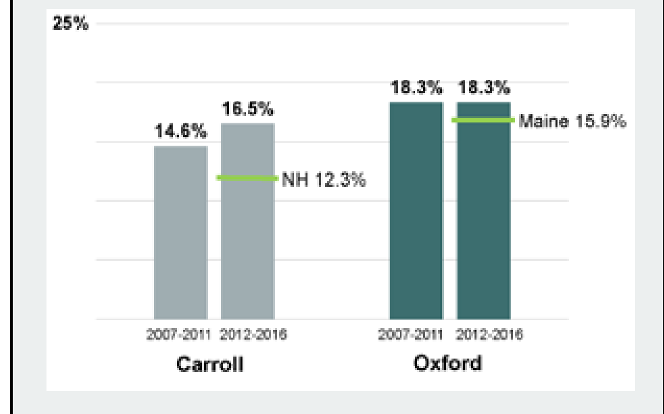
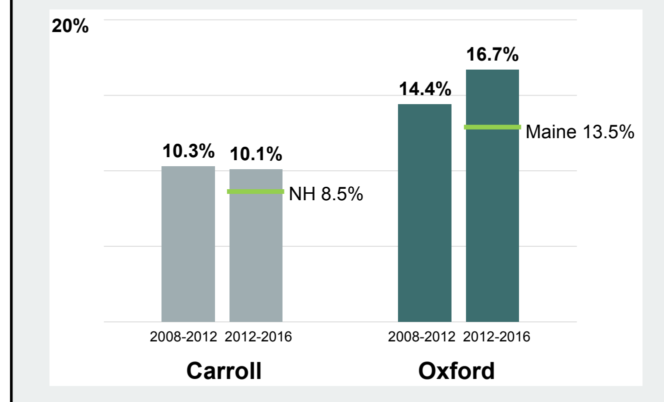


Figure 8: Individuals Living in Poverty



KEY INDICATORS

The Key Indicators provide an overview of the health of each county. They are a broad sampling of health topics, including health behaviors, outcomes, living conditions, and health care quality and access.

The tables use symbols to show whether there are important changes in each indicator over time, and to show if local data is notably better or worse than the state. Additional symbols provide further information on the datait-self. For instance, there are number of indicators where New Hampshire data is unavailable, but Maine datais available. In these cases, Carroll County and NH cells contain dashes while rates are presented in Oxford County and Maine cells. See the box below for a key to the symbols:

CHANGE shows **statistically significant changes** in the indicator over time, based on 95% confidence interval (see description above).

- ★ means the health issue or problem is **getting better** over time.
- ! means the health issue or problem is **getting worse** over time.
- ○ means the change was not statistically significant.
- N/A means there is not enough data to make a comparison.

BENCHMARK compares Carroll County data to state and national data, based on 95% confidence interval (see description above).

- ★ means county is doing **significantly better** than the state or national average.
- ! means county is doing **significantly worse** than the state or national average.
- ○ means there is no statistically significant difference between the data points.
- N/A means there is not enough data to make a comparison.

ADDITIONAL SYMBOLS

- * means results may be statistically unreliable due to small numbers, use caution when interpreting.
- — means data is unavailable because of lack of data or suppressed data due to a small number of respondents.

	CARROLL COUNTY, NH					OXFORD COUNTY, ME				
INDICATOR	**POINT 1**	**POINT 2**	**CHANGE**	**NH**	**+/–**	**POINT 1**	**POINT 2**	**CHANGE**	**MAINE**	**+/–**
SOCIAL, COMMUNITY & PHYSICAL ENVIRONMENT										
Children living in poverty	2008-2012 **12.7%**	2012-2016 **13.1%**	○	2012-2016 **11.0%**	○	2007-2011 **17.8%**	2012-2016 **22.6%**	N/A	2012-2016 **17.2%**	N/A
Median household income	2007-2011 **$50,555**	2012-2016 **$56,289**	N/A	2012-2016 **$68,485**	N/A	2007-2011 **$40,889**	2012-2016 **$42,197**	N/A	2012-2016 **$50,826**	N/A
Estimated high school student graduation rate	2012-2013 **90.5%**	2014-2015 **94.9%**	N/A	2014-2015 **88.5%**	N/A	2014 **86.5%**	2017 **84.5%**	N/A	2017 **86.9%**	N/A
Food insecurity	2012-2013 **9.9%**	2014-2016 **9.6%**	N/A	2014-2016 **10.1%**	N/A	2012-2013 **15.5%**	2014-2015 **15.4%**	N/A	2014-2015 **15.1%**	N/A
HEALTH OUTCOMES										
14 or more days lost due to poor physical health	2013 **9.0%**	2016 **16.1%**	○	2016 **12.2%**	○	2011-2013 **24.1%**	2014-2016 **19.6%**	○	2014-2016 **19.6%**	○
14 or more days lost due to poor mental health	2013 **10.5%**	2016 **13.2%**	○	2016 **12.7%**	○	2011-2013 **18.3%**	2014-2016 **17.5%**	○	2014-2016 **16.7%**	○
Years of potential life lost per 100,000 population	2011-2013 **5,100.0**	2014-2016 **6,100.0**	○	2014-2016 **5,900.0**	○	2010-2012 **6,383.7**	2014-2016 **6,345.2**	○	2014-2016 **6,529.2**	○
All cancer deaths per 100,000 population	2011 **202.3**	2016 **156.3**	○	2016 **157.9**	○	2007-2011 **199.6**	2012-2016 **186.1**	○	2012-2016 **173.8**	○
Cardiovascular disease deaths per 100,000 population	2011 **150.1**	2016 **187.8**	○	2016 **192.3**	○	2007-2011 **214.9**	2012-2016 **187.2**	○	2012-2016 **195.8**	○
Diabetes	2013 **11.4%**	2016 **14.5%**	○	2016 **9.1%**	○	2011-2013 **10.0%**	2014-2016 **9.8%**	○	2014-2016 **10.0%**	○
Chronic obstructive pulmonary disease (COPD)	2013 **10.8%**	2016 **8.0%**	○	2016 **6.3%**	○	2011-2013 **8.7%**	2014-2016 **9.9%**	○	2014-2016 **7.8%**	○
Obesity (adults)	2011 **20.1%**	2016 **30.7%**	○	2016 **26.8%**	○	2011 **33.2%**	2016 **35.7%**	○	2016 **29.9%**	○

	CARROLL COUNTY, NH					OXFORD COUNTY, ME				
INDICATOR	POINT 1	POINT 2	CHANGE	NH	+/–	POINT 1	POINT 2	CHANGE	MAINE	+/–
HEALTH OUTCOMES (CONTINUED)										
Obesity (high school students)	2015 **13.9%**	2017 **14.6%**	N/A	2017 **12.8%**	N/A	2011 **15.0%**	2017 **16.9%**	○	2017 **15.0%**	○
Obesity (middle school students)	–	–	N/A	–	N/A	2015 **19.2%**	2017 **18.6%**	○	2017 **15.3%**	○
Infant deaths per 1,000 live births	–	2011-2016 **4.7**	N/A	2011-2016 **4.5**	N/A	2007-2011 **4.8**	2012-2016 **4.7***	○	2012-2016 **6.5**	○
Cognitive decline	2011 **10.6%**	2016 **8.3%**	○	2016 **9.0%**	○	2012 **21.0*%**	2016 **9.3*%**	★	2016 **10.3%**	○
Lyme disease new cases per 100,000 population	2012 **100.9**	2016 **116.3**	N/A	2016 **110.9**	N/A	2008-2012 **15.9**	2013-2017 **71.6**	N/A	2013-2017 **96.5**	N/A
Chlamydia new cases per 100,000 population	2012 **172.0**	2016 **196.7**	N/A	2016 **302.5**	N/A	2008-2012 **150.1**	2013-2017 **277.6**	N/A	2013-2017 **293.4**	N/A
Fall-related injury (unintentional) emergency department rate per 10,000 population	–	–	N/A	2015 **109.6**	N/A	2009-2011 **406.9**	2012-2014 **403.0**	○	2012-2014 **340.9**	!
Suicide deaths per 100,000 population	2011 **15.8**	2016 **9.7**	○	2016 **16.6**	○	2007-2011 **11.6**	2012-2016 **14.0**	○	2012-2016 **15.9**	○
Overdose deaths per 100,000 population	2011 **12.6**	2016 **33.8**	N/A	2016 **36.3**	N/A	2007-2011 **10.7**	2012-2016 **12.2**	○	2012-2016 **18.1**	○
HEALTH CARE ACCESS AND QUALITY										
Uninsured	2008-2012 **15.7%**	2012-2016 **12.8%**	N/A	2012-2016 **8.4%**	N/A	2009-2011 **11.6%**	2012-2016 **11.0%**	N/A	2012-2016 **9.5%**	N/A
Ratio of primary care physicians to 100,000 population	–	2012-2016 **1,201.0**	N/A	–	N/A	–	2017 **56.1**	N/A	2017 **67.3**	N/A
Ratio of psychiatrists to 100,000 population	2013 **199.6**	2016 **222.2**	N/A	2016 **256.4**	N/A	–	2017 **0.0**	N/A	2017 **8.4**	N/A

INDICATOR	CARROLL COUNTY, NH					OXFORD COUNTY, ME				
	POINT 1	POINT 2	CHANGE	NH	+/–	POINT 1	POINT 2	CHANGE	MAINE	+/–
HEALTH CARE ACCESS AND QUALITY (CONTINUED)										
Ratio of practicing dentists to 100,000 population	2011 52.5	2016 63.4	N/A	2016 62.8	N/A	–	2017 25.9	N/A	2017 32.1	N/A
Ambulatory care-sensitive condition hospitalizations per 10,000 population	–	–	N/A	–	N/A	–	2016 71.8	N/A	2016 74.6	N/A
Two-year-olds up-to-date with recommended immunizations	–	–	N/A	2016 78.0%	N/A	2014 73.3%	2017 78.1%	N/A	2017 73.7%	N/A
HEALTH BEHAVIORS										
Sedentary lifestyle – no leisure-time physical activity in past month (adults)	2011 23.6%	2016 23.9%	○	2016 19.1%	○	2011 24.1%	2016 26.1	○	2016 20.6%	○
Chronic heavy drinking (adults)	2013 6.7%	2016 7.0%	○	2016 8.1%	○	2011-2013 6.5%	2014-2016 6.2%	○	2014-2016 7.6%	○
Past-30-day alcohol use (high school students)	2011 42.2%	2017 29.2%	N/A	2017 29.6%	N/A	2011 28.6%	2017 23.2%	○	2017 22.5%	○
Past-30-day alcohol use (middle school students)	–	–	N/A	–	N/A	2011 7.0%	2017 2.8%	★	2017 3.7%	○
Past-30-day marijuana use (high school students)	2011 31.2%	2017 21.9%	N/A	2017 23.1%	N/A	2011 22.9%	2017 22.7%	○	2017 19.3%	○
Past-30-day marijuana use (middle school students)	–	–	N/A	–	N/A	2011 6.2%	2017 4.5%	○	2017 3.6%	○
Past-30-day misuse of prescription drugs (high school students)	2011 10.9%	2017 6.3%	N/A	2017 5.2%	N/A	2011 6.9%	2017 6.4%	○	2017 5.9%	○
Past-30-day misuse of prescription drugs (middle school students)	–	–	N/A	–	N/A	2011 5.0%	2017 1.2%	★	2017 1.5%	○
Current (every day or some days) smoking (adults)	2012 21.4%	2016 13.8%	○	2016 17.9%	○	2011-2012 24.8%	2016 21.0%	○	2016 19.8%	○
Past-30-day cigarette smoking (high school students)	2011 21.6%	2017 8.9%	★	2017 7.8%	○	2011 17.2%	2017 10.6%	★	2017 8.8%	!
Past-30-day cigarette smoking (middle school students)	–	–	N/A	–	N/A	2011 5.0%	2017 2.0%	○	2017 1.9%	○

APPENDIX A: REFERENCES

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APPENDIX B: HISTORY AND GOVERNANCE

This Mount Washington Hospital Community Health Needs Assessment (CHNA) is part of the commitment by MaineHealth to turn data into action that will improve the health of all Mt. Washington Valley residents. This is part of a larger effort by MaineHealth to continuously improve the health of the 1.1 million residents throughout the MaineHealth service area that includes Carroll County, NH and 11 Maine counties. This is the third CHNA Memorial Hospital has conducted in collaboration with the Mt. Washington Valley Community Health Collaboration.

This CHNA report was adopted from those developed by the Maine Shared Community Health Needs Assessment (Maine Shared CHNA). Figure 6 depicts the governance structure of the Maine Shared CHNA in order to provide further background on how the Maine Shared CHNA, and therefore the Carroll County CHNA, was developed.

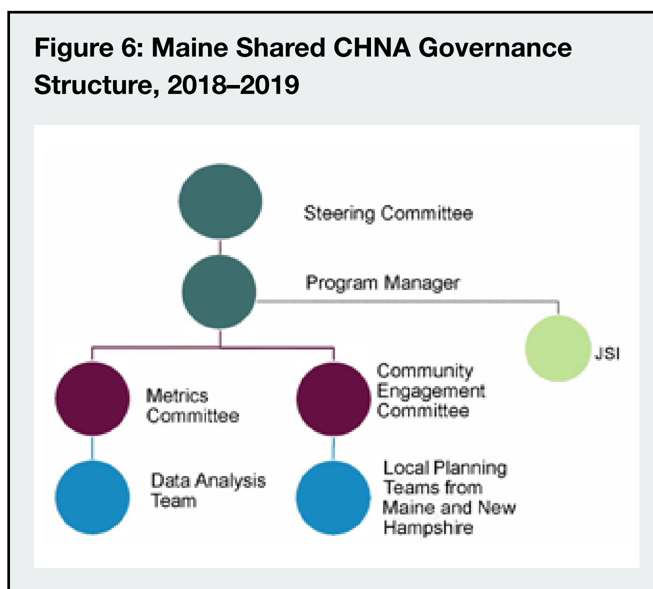
The Metrics Committee drafted the list of data indicators, and the Community Engagement Committee drafted a method to ensure a robust community engagement process – both of which were approved by the Steering Committee. Members of the Metrics Committee include representatives of the Steering Committee, public health system partners, Federally Qualified Health Centers, academia, non-profits, and others with experience in epidemiology. Members of the Community Engagement Committee also included Maine non-profits such as United Way and Community Action Programs (CAP) and others with an interest in broad community representation and input.

Each committee was led by the Program Manager, who was the primary point of contact for all entities and partners, and was responsible for drafting and implementing the work plans which drove this process. A more detailed outline of these efforts follows.

The Metrics Committee was charged with updating the common set of health indicators, developing the preliminary data analysis plan, reviewing indicators on emerging health issues, making recommendations for annual data-related activities, and estimating projected costs associated with these recommendations.

The Community Engagement Committee was charged with making recommendations for approval by the Steering Committee outlining a consistent and robust community engagement process. This process outlined methods of disseminating shared state and county-level results, identified priorities among significant health issues, and identified local, regional, or statewide assets and resources that may potentially address the significant health needs.

Figure 6: Maine Shared CHNA Governance Structure, 2018–2019



APPENDIX C: METHODOLOGY

Per the Maine Shared CHNA charter, the effort was conducted by the Steering Committee, Metrics Committee, and Community Engagement Committee. The Community Engagement Committee was led by the program manager who was the point of contact for all entities and partners and was responsible for meeting planning and facilitation. These committees worked in partnership with the Maine CDC and the contracted vendor, JSI. Maine CDC and its epidemiology contractor, University of Southern Maine, provided a significant amount of data analyses, technical support, and website development. JSI was contracted to support forum facilitation, a subset of data analysis, profile development, and report writing.

The Maine Shared CHNA process was rolled out in three stages:

Data Analysis

- **County Health Profiles** were released in September - November 2018 describing health outcomes, health behaviors, healthcare access and quality, and the social, community, and physical environments that affect health and wellness.

Outreach and Engagement

- **Community outreach** was conducted between September 2018 and January 2019. A community forum with residents and service providers from Mt Washington Valley was held in North Conway. All forms of engagement included forums and key informant interviews. Local planning team also conducted additional targeted outreach, such as smaller community forums. The purpose of this outreach was to gather feedback, on data and to identify health priorities, community assets, and gaps in resources to be used in health improvement planning from groups who may not have attended the larger forum.

Final Reports

- **Final CHNA reports** for the state, each county, and districts were released in April and May 2019. These reports included information from the health data profiles, summaries of qualitative information gathered from engagement activities, and a presentation of community health priorities.

DATA ANALYSIS

Based on indicators identified by The Metrics Committee, NH identified 156 health indicators to be used for the Carroll County CHNA. The initial list was based on the indicators from the 2016 effort and was scored against the following set of criteria:

- Was it already analyzed for a MeCDC program?
- Is the data from this indicator collected within the last few years?
- Does it “round out” the description of population health?
- Does it address one or more social determinants of health?
- Does it describe an emerging health issue?
- Does it measure something “actionable” or “impactful”?
- Does the indicator measure an issue that is known to have high health and social costs?

Further refinement included ensuring a mix of Outcomes, Behaviors, Healthcare Access and Quality, as well as Social, Community, and Physical Environment Measures. The final list was then arranged under the current 24 health topics as outlined in the Data Health Profiles.

The Maine Shared CHNA Metrics Committee, led by Maine CDC staff, then drafted a data analysis plan that included which indicator was to be analyzed by which demographic characteristics (i.e. gender, race/ethnicity, sexual orientation, income, educational attainment, and insurance status), and geographic stratification (state, public health district, county, and city). The data analysis plan was sent to Data Analysis Workgroup to collect and analyze the data. Members of the Data Analysis Workgroup shared their years of experience in data analysis and epidemiology and their knowledge of best practices to inform all aspects of the final health profiles including recommendations for data presentation and visualization.

Methodology is documented in the Data Definitions section of each health profile.

OUTREACH AND ENGAGEMENT

Again, the community engagement plan in Carroll County mirrored the Maine Shared CHNA methodology. Community outreach and engagement for the Maine Shared CHNA included coordination at the statewide, public health district, and county level. The Maine Shared CHNA Community Engagement Committee met monthly from March 2018 through January 2019 to review and provide input on every aspect of engagement process. These meetings included representatives from Memorial Hospital, NH.

In addition to the state-level Community Engagement Committee, a **Local Community Engagement Planning Committee** in each of Maine's 16 counties and Carroll County, NH planned and implemented the logistics of community forums and events within each county. These committees were comprised of hospitals, public health district liaisons, and a variety of additional partners.

The 2018 Community Engagement Toolkit was designed to assist the Local Community Engagement Planning Committees in this effort.

Criteria for visualizing data in PowerPoints used in community presentations included 1) areas identified as a health priority in the last CHNA, 2) significant changes in the data over time 3) where a county's data was notably better or worse than the state or the nation. Forum agendas included a review of previous health improvement efforts, a review of county level data, discussion and prioritization in small groups, and an overall forum-wide voting process. The Community Engagement created a rubric to guide the selection criteria for which data was to be presented in each forum's PowerPoint presentation.

At each forum, small groups had 35-45 minutes to discuss the data and share their own experiences in order to identify their top health priorities. Table facilitators guided these discussions using key questions and worksheets for reporting purposes. Health priorities identified during these small groups were collated and presented to the larger plenary session, where each attendee voted for their top four priorities.

Two steps were used to select which priorities would be focused on in the final Mount Washington Valley CHNA report. First, the priorities that received the most votes were sequentially selected until a threshold of 70% or more of the total number of votes was achieved. For this report, four of the five priorities were selected via this process. The local community engagement planning committee chose to include the fifth priority- social determinants of health- because it was so strongly linked with the other four priorities.

The forum participants also shared knowledge on assets and gaps and in their communities to address each of the top four priorities identified. The information gathered in this report is a start for further conversation on asset and gap mapping, and for choosing strategies to address each priority.

Carroll County Engagement:

Table 10: Community engagement activites in Carroll County, 2018

TYPE OF ENGAGEMENT	LOCATION & DATE	FACILITATOR	ATTENDEES
Community Forum	North Conway, NH 11/14/2018	Tim Cowan and Heather Phillips	70

COMMUNITY ENGAGEMENT

Persons representing broad interests of the community who were consulted during the engagement process:

- Allans Health
- Badger Realty
- Carroll Co Coalition for Public Health
- Carroll County Public Health
- Central New Hampshire VNA and Hospice
- Children Unlimited
- Community member
- Community Member/Memorial Volunteer
- Conway Daily Sun
- Conway Library
- Conway Selectman
- Cranmore Fitness
- Discover Health
- Donna Torney, MA, LMHC
- Family Connections Resource Center
- Gibson Center
- Granite United Way
- Huggins Hospital
- Jackson Police Department
- Madison Elementary School
- Madison Library
- Matter of Balance
- Memorial Board of Directors
- Memorial Hospital
- Memorial Hospital Trustee
- Mineral Springs (Genesis)
- Mt. Washington Valley Board of Realtors
- Mt. Washington Valley Housing Coalition
- Mt. Washington Valley Chamber of Commerce
- Mt. Washington Valley Supports Recovery
- New Hampshire Employment Program Workplace Success
- New Hampshire House of Representatives
- North Conway Library
- Northern Human Services
- Ossipee Concerned Citizens
- Police Commissioners Office of Conway
- Ray Realty
- Retired Senior Volunteer Program (RSVP)
- Retired Volunteer
- Rural Health Representative
- Saco River Medical Group
- Sacred Circle Wellness
- SAU9
- School Nurse
- Senior Citizen, Caregiver managing multiple chronic diseases
- Service Link
- Starting Point
- The Gibson Center
- Town of Bartlett
- Town of Conway
- Trustee--Memorial Hospital
- University of New Hampshire
- Visiting Nurse Home Care & Hospice of Carroll County
- White Horse Addiction Center
- White Mountain Board of Realtors
- White Mountain Community Health Center

Key informant interviews

The Maine Shared CHNA identified ten categories of medically underserved and vulnerable populations to ensure their input was heard and captured. In Carroll County, NH a list of 10 potential interview subjects was created. Selected key informants either had lived experience in the category and/or worked for an organization that focused on providing services or advocacy to a population. The populations identified included:

- Veterans
- Adults ages 65 and older who are isolated or have multiple chronic conditions
- Non-English speakers, undocumented individuals, immigrants, and refugees
- Deaf individuals and those with other physical disabilities
- Adolescents/youth
- LGBTQ
- People with mental health conditions and developmental disabilities
- Rural individuals
- Individuals with substance use disorders

The key informant interview guide was developed with input from the Community Engagement and Steering Committee members and consisted of the following five questions.

- We are interested in learning more about the priority health needs for this population (reference population(s) of expertise of interviewee). How would you characterize the health needs for this population? How are they different than for the general population?
- From where you sit and the work you do, what do you feel are the most important health needs to address? Why?
- What do you see as the major resource gaps with respect to health and wellness for this population?
- Are you currently working on anything that contributes to community health and wellness for this population? Are there any areas of health you would like to work on in partnership with others?
- Are there any particular assets or resources to address the needs of this population that can be leveraged?

Five interviews were conducted by JSI. Information gathered from the key informant interviews is included in discussions, where applicable, in each of the priority sections from this report. For example, when discussing substance use, a discussion of the needs of vulnerable populations within this priority was also included.

Data collection

All outcomes from these efforts were collected via the Community Outreach Reporting Tool or the Key Informant Reporting tool. Both of these collection tools were online surveys within Survey Monkey. Other data collection tools included Table Facilitators notes, forum registrations, and sign-ins.

FINAL REPORTS

Integrated analysis of all quantitative and qualitative activities and findings was conducted between December 2018 and January 2019. These were used to develop a full description of the risk factors underlying the health priorities for each county.

For more information, contact: **info@mainechna.org**