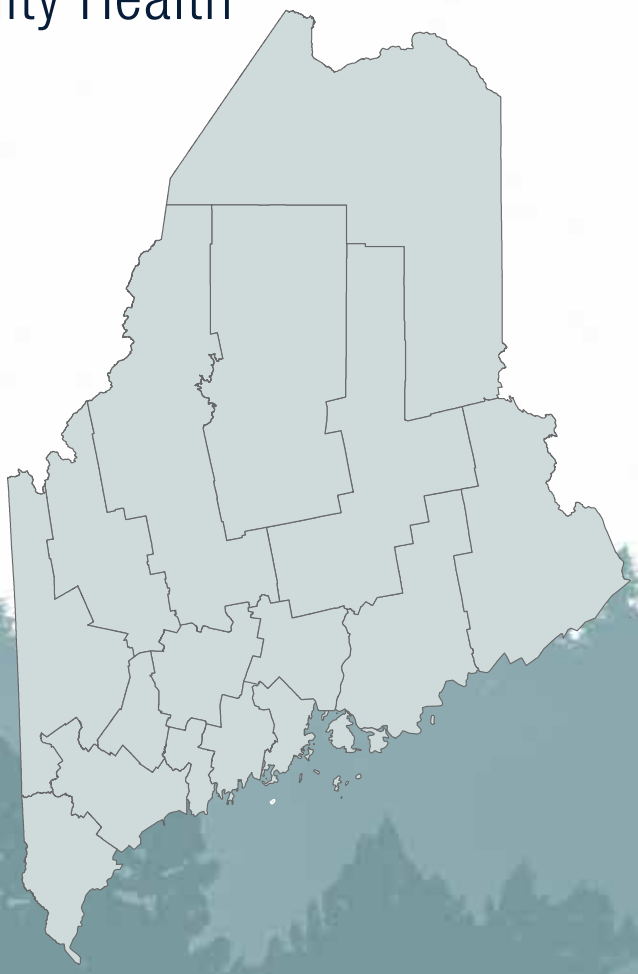
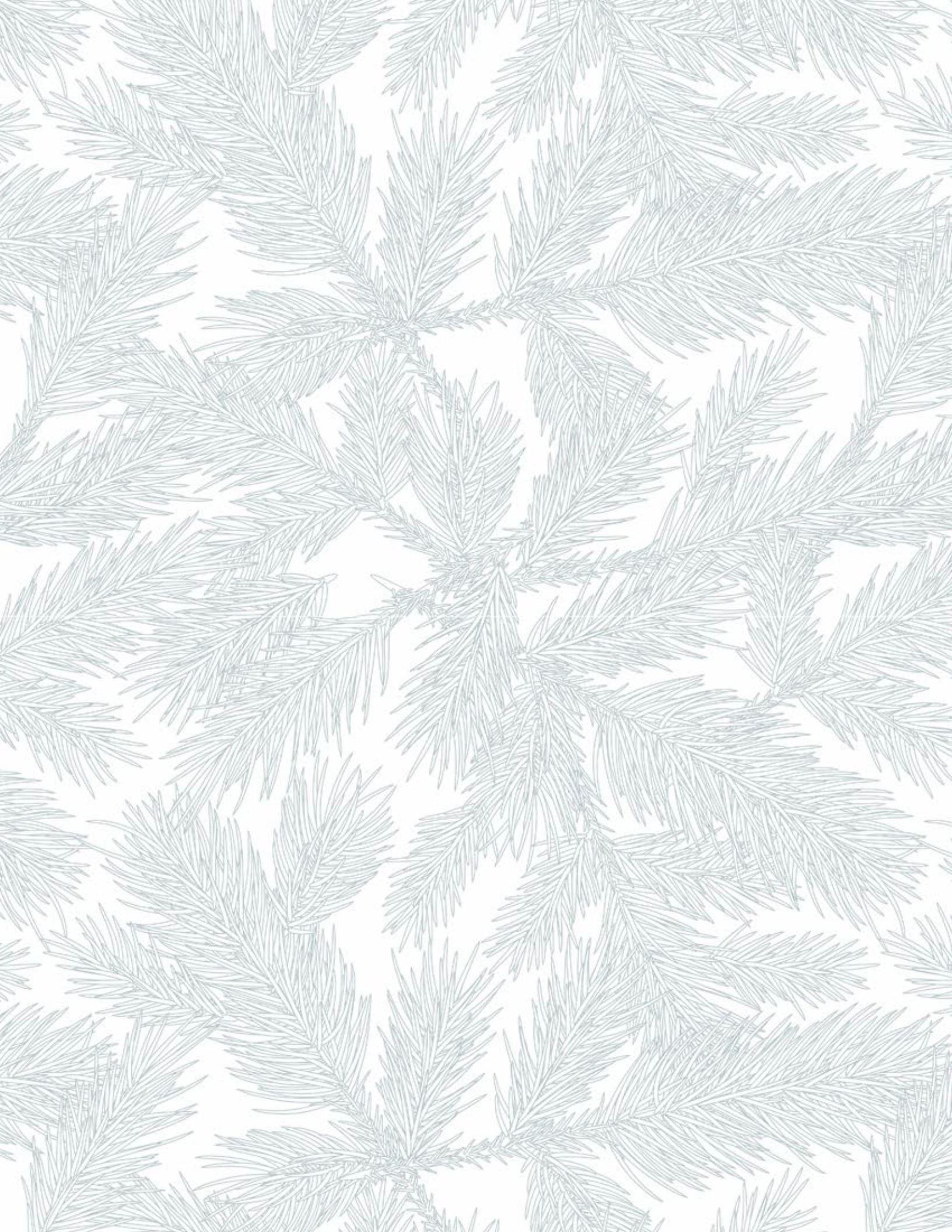
STATE OF MAINE

2019 Maine Shared Community Health Needs Assessment Report





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Key Companion Documents Available at www.mainechna.org:

- Maine State Health Profile
- County Health Profiles and Reports
- District Health Profiles and Reports
- City Health Profiles (Bangor, Lewiston/Auburn, and Portland)
- Health Equity Data Summaries, including state level data by sex, race, Hispanic ethnicity, sexual orientation, educational attainment, and income

EXECUTIVE SUMMARY

PURPOSE

The Maine Shared Community Health Needs Assessment (Maine CHNA) is a collaborative effort between Central Maine Healthcare (CMHC), MaineGeneral Health (MGH), MaineHealth (MH), Northern Light Health (NLH), and the Maine Center for Disease Control and Prevention, an office of the Department of Health and Human Services (Maine CDC). This unique public-private partnership is intended to assess the health needs of all who call Maine home.

Mission: The Maine Shared CHNA is a dynamic public-private partnership that creates shared Community Health Needs Assessment reports, engages and activates communities, and supports data-driven health improvements for Maine people.

Vision: The Maine Shared CHNA helps to turn data into action so that Maine will become the healthiest state in the US.

DEMOGRAPHICS

As of 2016, the population of Maine is estimated to be 1,329,923 with 18% of the population over the age of 65. The population is predominantly white (94.8%); 1.5% are Hispanic, and 2.0% are two or more races. The median household income has increased significantly since 2011 and was $53,079 in 2016, compared to the national average of $57,617. Educational attainment has improved over time. The high school graduation rate has increased significantly from 83.8% in 2011 to 86.9% in 2017 and the percentage of residents with an associate's degree or higher also increased from 35.3% in 2011 to (39.9%) in 2016.

There are nine public health districts in the state of Maine: five are multi-county districts (Central, Downeast, Midcoast, Penquis, and Western); three are single county districts (Aroostook, Cumberland, and York); and one is population-based (the Tribal District). Maine has 33 non-profit acute care hospitals, 16 of which are Critical Access Hospitals. See Appendix D for details.

TOP HEALTH PRIORITIES

Attendees at the forums held across the 16 counties in Maine identified a list of health issues in each of their communities, through a voting methodology outlined in Appendix C: Methodology. See Table 1 for the ranking of state level health priorities based on county level votes.

Table 1. State of Maine Health Priorities

PRIORITY AREA	NUMBER OF COUNTIES THAT IDENTIFIED THE PRIORITY AREA
Mental Health	16
Substance Use	16
Access to Care	15
Social Determinants of Health	15
Older Adult Health/ Healthy Aging	10
Physical Activity, Nutrition, and Weight	6

NEXT STEPS

This assessment report will be used to fulfill Public Health Accreditation Board (PHAB) requirements for state and local public health departments. Required activities include:

- Obtaining input from the community, including providers and communities served, on leading health issues and unmet needs
- Evaluating previous actions taken to address needs identified in previous assessments
- Choosing (with justification) which health needs should be addressed
- Creating an informed State Health Improvement Plan

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

ACKNOWLEDGEMENTS

Funding for the Maine Shared CHNA is provided by four healthcare systems: Central Maine Healthcare, MaineGeneral Health, MaineHealth, and Northern Light Health, with generous in-kind support from the Maine Center for Disease Control and Prevention, an office of the Department of Health and Human Services, and countless community partners and stakeholder groups. These stakeholder groups include the Metrics Committee, Data Analysis Workgroup, Community Engagement Committee, Local Planning Committees, and the Steering Committee. Special thanks to the Maine Health Data Organization for working with us to access their data. For a listing of committee members, please visit **www.mainechna.org** and click on, "About Maine CHNA."

Significant analysis was conducted by epidemiologists at the Maine CDC and the University of Southern Maine's Muskie School of Public Service. John Snow, Inc. (JSI) provided analysis, methodology, and design support.

In addition, the Steering Committee gratefully acknowledges the countless community volunteers who gave their time and passionately committed to hosting, facilitating, attending, and engaging in this effort. From Aroostook to York, Oxford to Washington County, almost 2,000 Mainers gave their time and talent to this effort. Thank you.

HEALTH PRIORITIES

Health priorities for the state were developed based on the county community engagement and prioritization process. The forums were an opportunity to review the County Health Profiles, discuss community needs, and prioritize in small break-out sessions, followed by a forum session vote. Table 2 lists the six priorities which arose from tallying the priorities, based on votes, on in each County. Rows highlighted in pink are the state-level priorities that are explored further in this report. See Appendix C: Methodology for full description of the methodology used in identifying priorities.

This section provides a synthesis of findings for each of the top six statewide priorities. The discussion of each priority draws from several sources including the data in the state and county health data profiles, the information gathered through community engagement discussions at the community forums, and key informant interviews. See Appendix C for the complete methodology for all of these activities. The number of counties who identified each health issue as a top priority is reported in the second column.

Table 2. State of Maine Health Priorities, 2018–2019

PRIORITY AREA	No. OF COUNTIES THAT IDENTIFIED THE PRIORITY AREA
Mental Health	**16**
Substance Use	**16**
Access to Care	**15**
Social Determinants of Health	**15**
Older Adult Health/ Healthy Aging	**10**
Physical Activity, Nutrition, and Weight	**6**
Tobacco Use	1
Chronic Disease	1
Cardiovascular Disease	1

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 and may find it harder to care for themselves.[1]

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 poor mental health 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.[2]

QUALITATIVE EVIDENCE

Across the state, community forum participants and key informants spoke of a lack of access to mental health care and the resulting burden on schools and employers. Mental health concerns included depression, suicidality, isolation, trauma, and breakdown of family units. While many identified a need for behavioral health services in general, inpatient and pediatric services were named as specific gaps in the spectrum of care.

Although mental health issues affect all individuals, participants across county community forums identified youth, post-partum women, and individuals with a substance use disorder as populations who were most at risk for poor mental health, or as segments who had unique mental health needs. At-risk youth included those whose parents had a substance use disorder. There was discussion of the need to focus on the impact of Adverse Childhood Experiences (ACEs), and how community services should build resilience and promote mental wellness for those at-risk and affected. ACEs are stressful or traumatic events, such as abuse, neglect, and substance abuse or mental illness within the household, which are strongly correlated to the development of physical and mental health issues for those exposed to them.[3] Many community forum participants discussed the need for increased education, training, and child psychiatrists to work with youth populations. In some community forums, discussions focused on a need to consider and address the social factors that are contributing to high rates of sadness and hopelessness among high school and middle school students. There was also discussion about the impacts of child abuse, foster care, parents with substance use issues, lack of support and education for parents, and the need for behavioral health interventions across multiple settings (e.g., schools, at home, healthcare).

For the lesbian, gay, bisexual, transgender, and queer/questioning (LGBTQ) community, some community forum participants identified the need for culturally competent providers, especially for LGBTQ youth and older adults. Key informants working with LGBTQ populations suggested that many medical professionals receive little education and training around how to meet the needs of non-heterosexual individuals. LGBTQ populations are more than three times as likely to experience major depression and anxiety disorder.

Across counties, many community forum participants identified a need for individual and community-level support programs to improve mental health, such as support groups in schools. Offering support groups in schools would be one way of improving access to services for youth. Support for grandparents and caregivers, especially those caring for children as a result of substance use in the home or a traumatic event, was identified as a missing community resource.

Stigma, or the disapproval or discrimination against a person based on a particular circumstance (e.g., mental health condition), was identified by several participants as a major barrier to care. Stigma prevents individuals from receiving the help they need, as individuals with a mental health issue may not seek care for fear that they will be shamed or discriminated against. Across the state, community forum participants called for more education aimed at providers and residents to reduce the burdens and stigma associated with mental health issues.

QUANTITATIVE EVIDENCE

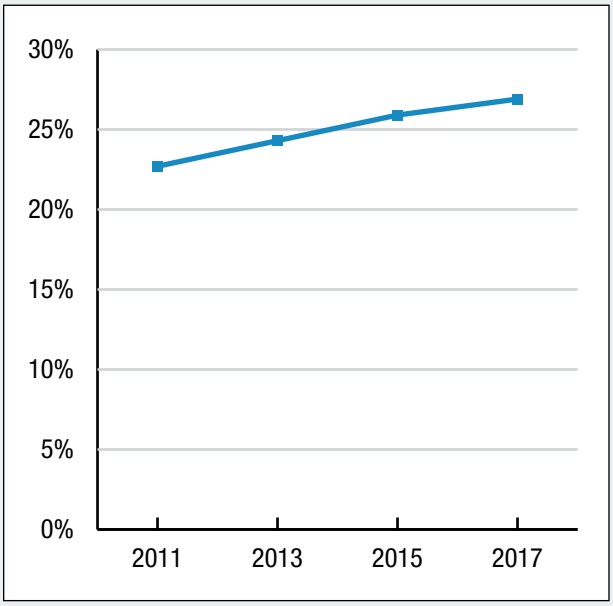
In Maine:

- The rate of suicide deaths per 100,000 was 16.6 in 2011 compared to 15.9 in 2016. This is significantly higher than the national rate of 13.5 in 2016.
- The percentage of high school students reporting being sad or hopeless for two weeks in a row increased from 22.7% in 2011 to 26.9% in 2017.
- The percentage of adults reporting current symptoms of depression declined from 10.7% in 2011 to 8.1% in 2016.
- The percentage of adults who have ever been told they have anxiety by their health provider increased from 19.3% in 2011 to 22.4% in 2016.

Health Equity:

- Rates of lifetime diagnosed depression were higher among individuals who are American Indian or Alaskan Native (33%) and two or more races (34.6%) compared to those who are white (23%).
- Rates of lifetime diagnosed depression were highest among those with less than a high school diploma (36.5%) as compared to those with a high school diploma or GED (21.2%), and those with a bachelor's degree or higher (14.9%).
- Rates of diagnosed depression were higher among females (25.9%) than males (16.0%).

Figure 1. Maine: Sad/Hopeless for 2 Weeks in a Row (High School)



- Suicide deaths were significantly higher among males (24.3 per 100,000) than females (7.9 per 100,000) in 2016.
- The rate of high school students who seriously considered suicide was significantly higher among students who identified as bisexual (42.9%), gay or lesbian (36.3%), or other sexual orientation (24.2%), compared to students who identified as heterosexual (10.8%).

See the Key Indicators Table starting on page 37, as well as the 2018 State Health Profile, Health Equity Data Summaries, County Profiles, and other data reports on **www.mainechna.org**. These documents also include information on data sources and definitions.

COMMUNITY RESOURCES TO ADDRESS MENTAL HEALTH

Table 3 lists types of assets and gaps, statewide organizations, and types of regional, county or local organizations identified across multiple community forums.

Table 3. Assets and Gaps/Needs: Mental Health

ASSETS	GAPS/NEEDS
• Mental health providers • Hospitals • Federally Qualified Health Centers • A National Alliance for Mental Illness (NAMI Maine) • MaineCare expansion	• Mental Health for children and older adults • Culturally sensitive care • More resources for community health programs • Access to preventative care • Normalizing mental health conditions to reduce stigma and discrimination • Housing • Transportation • Universal mental health screening • Increased access for those who are uninsured • Increased access to inpatient and outpatient services • Increased use of telehealth services • More education about ACEs to build resiliency and understand them better

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.[4] Tobacco, alcohol, marijuana, and nonmedical use of prescription pain relievers (e.g., OxyContin, Vicodin) are the leading substance use health issues for adults.[5] 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.[6]

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 disorders are not engaged in needed services.[7] Barriers to care include a lack of education, awareness, and understanding around the signs, symptoms, risk factors, and consequences associated with substance misuse, social stigma, and workforce shortages. Statewide, 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, and historically, coverage for treatment services has been less comprehensive than for physical health services. This is further complicated by the cost of co-pays, transportation, and medications, even for those who are eligible for free or discounted services or for those with commercial insurance, as many private substance use treatment providers do not accept insurance and require cash payments.

QUALITATIVE EVIDENCE

Opioid use disorder was the leading substance use issue discussed in community forums across the state. Participants discussed the need for more comprehensive, accessible, and affordable services to help those in need. Specifically, they identified a need for immediate access to services in urgent care and integrated care models, and for services that support people through relapse and long-term substance use disorder, intensive outpatient services, faith-based programs, short and long-term inpatient services, harm reduction (e.g., needle exchange), peer recovery supports, and case management services. The stigma attached to substance use disorder among the community and providers was identified by forum participants and key informant interviewees as a foundational barrier to access that requires community collaboration and engagement to address.

Community forum participants across the state were also concerned with ensuring timely and effective support for both parents or guardians with substance use disorders, especially those not receiving treatment, and for the children of these parents and guardians. The need for services and support for the children of parents that are affected by substance use disorder was seen as particularly important, as growing up under these conditions was one of the primary Adverse Childhood Experiences of concern.

Key informants identified a number of priority health issues for individuals with substance use disorders and those in treatment/recovery. This included education and outreach around how to access healthcare and treatment options, routine basic health care (primary care, dental care), and care that addresses co-occurring mental health and substance use conditions. Informants also identified needs specific to youth, including information on where and how to access treatment and better access to confidential services. Another key theme was the need to provide better access to many of the resources that make up the social determinants of health such as affordable, safe, and supportive housing, transportation, and nutritious foods.

Tobacco, alcohol, and marijuana use were also identified as issues of concern. Tobacco and alcohol use are known risk factors for a number of chronic and complex conditions, including dependence, cancer, respiratory diseases, cardiovascular diseases, and liver disease. They may also contribute to mental health issues, obesity, and cognitive decline. The increased use of e-cigarettes (also called vaping or Juuling), was identified as a risk factor for nicotine dependence,

especially for youth. Some community forum participants identified marijuana use as an emerging concern. There was also a lack of clarity on health effects, recreational versus medicinal use, and the short-term and long-term impacts of legalized marijuana for both individuals and communities.

QUANTITATIVE EVIDENCE

In Maine:

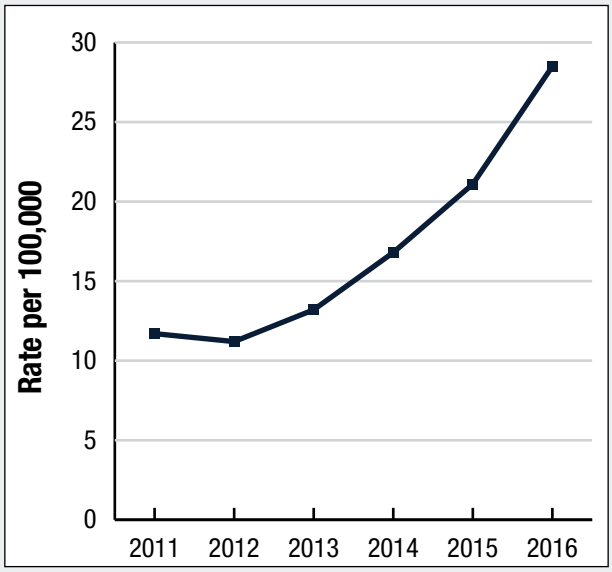
- Alcohol induced deaths increased between 2011 and 2016 from 7.4 to 11.8 per 100,000, which is significantly higher than the national rate of 9.5.
- Drug induced deaths increased between 2011 and 2016 from 12.0 to 29.7 per 100,000, which is significantly higher than the national rate of 20.8.
- Overdose deaths increased between 2011 and 2016, from 11.7 to 28.5 per 100,000 population, which is significantly higher than the national rate of 19.8.
- Drug affected infant births increased between 2011 and 2017 from 52.6 to 77.9 per 1,000 births.

Health Equity

- Past-30-day misuse of prescription drugs among high school students was higher for bisexual (8.7%), gay or lesbian (10.9%), and other sexual orientation (11.1%) students compared to heterosexual students (5.0%).
- There were no significant differences in past 30-day misuse of prescription drugs among adults by sexual orientation, race, ethnicity, or sex.

See the Key Indicators Table starting on page 37, as well as the 2018 State Health Profile, Health Equity Data Summaries, County Profiles, and other data reports on **www.mainechna.org**. These documents also include information on data sources and definitions.

Figure 2. Overdose Deaths



YEAR	NUMBER OF DEATHS
2011	155
2012	146
2013	174
2014	216
2015	268
2016	351

COMMUNITY RESOURCES TO ADDRESS SUBSTANCE USE

Table 4 lists types of assets and gaps, statewide organizations, and types of regional, county or local organizations identified across multiple community forums.

Table 4. Assets and Gaps/Needs: Substance Use

ASSETS	GAPS/NEEDS
• Maine Substance Use Prevention Services grantees • Medication-Assisted Treatment • Residential Treatment Facilities • Suboxone clinics • Licensed Drug and Alcohol Counselors and Certified Alcohol and Drug Abuse Counselors providers • Licensed Master Social Workers and Conditional and Licensed Clinical Social Workers providers • Recovery centers • University of Maine training programs for workforce development • Controlled substance initiative • Alcoholics Anonymous and Narcotics Anonymous • Strong community engagement to address substance use	• Increased funding for prevention • Prevention strategies for age birth and up • More prevention in schools • Transition housing • Structure/reimbursement for treatment services • Increased inpatient availability and outpatient follow-up and accountability • Local residential care/methadone • Greater access to jobs • Increased number of recovery coaches (potential opportunity for students) • Coordination of efforts • Transportation to groups and appointments • Cost of treatment providers • Certified recovery coaching • Increased access to counseling for long term or intensive care • Stigma/lack of support

ACCESS TO CARE

Whether an individual has health insurance—and the extent to which it helps to pay for needed acute services and access to a full continuum of high-quality, timely, and accessible preventive and disease management or follow-up services—is critical to overall health and well-being. Access to a usual source of primary care is particularly important, since it greatly affects the individual's ability to receive regular preventive, routine, urgent care, and to manage chronic conditions. Though the percentage of uninsured individuals in Maine has slightly declined over time (from 10.7% in 2011 to 8.0% in 2016), lack of insurance or being uninsured and underinsured remain a leading barrier to accessing health care in Maine. Medicaid expansion, which holds the promise of providing health insurance coverage for an additional 70,000 Mainers, was signed into law on January 3, 2019.

Barriers to accessing care also include the availability and affordability of care. Low-income individuals, people of color, those with less than a high school diploma, rural residents, and LGBTQ populations face even greater disparities in health insurance coverage compared to those who are heterosexual, white, and well-educated. More information on health disparities by sex, race, Hispanic ethnicity, sexual orientation, educational attainment, and income can be found on our website, www.mainechna.org.

QUALITATIVE EVIDENCE

Many community forum participants and key informant interviewees identified Medicaid expansion as a critical component of improving access to health care in Maine. With expansion, key informants and forum participants recognized the need for enrollment supports such as the former program "Connecting Kids to Coverage."

Beyond insurance, forum participants across the state discussed the need for consistent provider relationships and affordable medications. Access to affordable medications was identified as a concern, especially for those with chronic or complex medical conditions and disabilities. Continuity of care, specifically the ability to maintain a relationship with a single provider over time, was identified as an important component of access to care. Related to this, community forum participants identified a need to recruit and retain providers long-term. In discussions at community forums, some participants identified a need to improve coordination of services to create patient-centered medical homes.

Telemedicine was identified as a potential strategy in improving access to care for those in rural areas. However, there were issues identified that could challenge its effectiveness, including access to broadband, specialized equipment, and education for patients and providers on how to use and access services. There was also concern that while telemedicine could improve access, it would not address issues of isolation. However, it may be a service that could be utilized to create touch-points where there were none before; for example, individuals could keep appointments in foul weather by utilizing telehealth platforms.

Health literacy, navigation of health resources, and access to health care that is both culturally and linguistically competent was identified as a critical barrier to care for immigrants and refugees. Community outreach and support for those who may not trust or understand the health system was identified as a need in several counties. Key informants also identified treatment bias for those with physical disabilities, mental health conditions, and substance use disorders. In some cases providers have limited capacity in terms of equipment or experience in caring for individuals with disability. This included those with physical or developmental disabilities that experienced limitations on specific services (e.g., providers with accessible equipment and capacity to provide dental and gynecology services).

QUANTITATIVE EVIDENCE

In Maine:

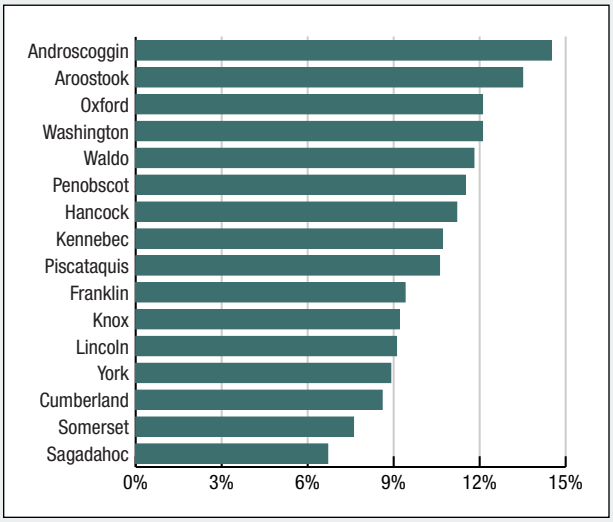
- The percentage of the Maine population that is uninsured declined between 2011 and 2016 from 10.7% to 8.0% and was comparable to the national average in 2016 of 8.6%.
- The percentage of individuals who reported being unable to obtain healthcare due to cost declined from 2011 and 2016 from 11.6% to 10.8%. This compares to a national average of 12.0%.
- In Maine, nearly 19.3% of bisexual residents, and 22.5% of residents who identified as something other than gay, lesbian, bisexual, or heterosexual, were uninsured, compared to 11.6% of heterosexual residents.

Health Equity:

The rate of adults reporting that they were unable to receive medical care or delayed medical care due to cost had disparities by race, ethnicity, sexual orientation, and income.

- By race, the rate was higher for African Americans (22.4%), American Indians or Alaskan Native (20.3%), and two or more races (16.4%) as compared to whites (10.3%).
- By ethnicity, the rate was higher for Hispanic (18.4%), than non-Hispanic (10.5%).
- By sexual orientation, the rate was higher among adults who identified as bisexual (21.4%) and gay or lesbian (14.4%) as compared to those who identified as heterosexual (10.1%).

Figure 3. Unable to obtain care due to cost



- By income, the rate was 20.9% for those adults who earn less than $15,000 per year, 18.0% for those who earn $15,000-$24,999, 12.5% for those who earn $25,000-$34,999, 8.5% for those who earn $35,000-$49,999 and 6.0% for those who earn $50,000 or more.

See the Key Indicators Table starting on page 37, as well as the 2018 State Health Profile, Health Equity Data Summaries, County Profiles, and other data reports on **www.mainechna.org**. These documents also include information on data sources and definitions.

COMMUNITY RESOURCES TO ADDRESS ACCESS TO CARE

Table 5 lists types of assets and gaps, statewide organizations, and types of regional, county or local organizations identified across multiple community forums.

Table 5. Assets and Gaps/Needs: Access to Care

ASSETS	GAPS/NEEDS
• Peer Navigator programs and models • Community health workers • Transportation • Hospital services • Community Action Program (CAP) agencies • Federally Qualified Health Centers • Prescription assistance programs • Hospitals • MaineCare expansion • Local transportation services through volunteer and non-profit partners • Telehealth • MaineCare covered transportation	• Mental Health for pediatrics and home-bound older adults • Culturally sensitive care • More resources/community health programs • More funding for community organizations • Comprehensive integrated care • Transportation solutions • Better coordination of electronic medical records • Preventative services • Affordable prescriptions • Patient education • Wellness coaches • Lack of providers

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 that 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.[8]

The social determinants of health that arose during community forum discussions across the state were transportation, housing, food insecurity, and Adverse Childhood Experiences (ACEs).

QUALITATIVE EVIDENCE

A dominant theme from key informant interviews and community forums was the tremendous impact that the underlying social determinants, particularly housing and transportation, have on health. Access to affordable and reliable forms of transportation was problematic, especially in rural areas, but also for low-income individuals in the more populated parts of the state. The cost of owning a personal vehicle, the cost insurance and repairs, and the status of a divers license, including suspensions and revocations, may all contribute to a lack of access to transportation. Lack of access to a personal vehicle can be especially challenging in areas without reliable public transportation, like rural Maine. This may result in difficulty accessing health services, employment, and basic necessities (e.g., food, clothing, medication). The issue is further complicated for older adults with mobility impairments and individuals with disabilities who require specialized forms of transportation or extra assistance.

Community forum participants and key informant interviewees also identified access to safe and affordable housing as a key determinant of health. Particular concern was expressed for older adults who may no longer be able to stay in their homes (for financial or safety reasons), those in recovery from substance use disorder, and immigrants and refugees. Specific areas of concern included access to safe housing (specifically for immigrants and refugees), housing affordability for older adults and individuals on fixed incomes, limited housing stock, and barriers for those with challenging rental histories. In some communities, housing stock may be old or in need of repairs, which creates unsafe and unstable living environments.

Food insecurity was also identified as a significant concern, especially for youth, low-income families, and older adults. Discussion centered on the need to consider policy solutions to address food insecurity, and support for existing resources such as the Supplemental Nutrition Assistance Program (SNAP), food pantries, soup kitchens, and Meals on Wheels. SNAP benefits were identified as an asset; however, families' ability to access healthy food may be challenged by lack of access to transportation and the quality of food available. Schools and school nutrition were discussed as important factors in addressing food insecurity, and concerns were voiced in many communities about the need to reduce food waste in the schools and increase the time that children are given to eat meals.

There was discussion of the need to focus on ACEs in the context of opioids, substance exposed infants, and supporting grandparents raising grandchildren. Several community forum discussions centered on the desire to support youth wellness by screening for and addressing ACEs. This included a need for education on the impact of ACEs and how to address ACEs among school professionals, providers, and the general community.

QUANTITATIVE EVIDENCE

In Maine:

- The percent of children living in poverty declined between 2011 and 2016 from 18.7% to 17.2% compared to the national average of 21.1%.
- The percent of individuals living in poverty declined between 2011 and 2016 from 14.1% to 12.5% compared to the national average of 14.0%.
- The percentage of high school students who reported at least three adverse childhood experiences was 23.4% in 2017.
- The percentage of households that lack enough food to maintain healthy, active lifestyles for all household members declined between 2011 and 2015 from 15.7% to 14.8% compared to the national average of 13.4%.

Health Equity:

The rate of individuals earning less than $25,000 per year varied by race, ethnicity, education, sexual orientation, and sex in 2011-2016:

- By race, 57.3% of American Indian or Alaskan Natives, 59.3% of black or African Americans, and 48.2% of two or more races, compared to 28.4% of whites earned less.
- By ethnicity, 36.2% of Hispanics compared to 29.1% of non-Hispanics earned less.
- By education, 59.6% of those with less than a high school diploma, compared to 36.2% of those with a high school diploma, 23.4% of those with some college, and 9.7% of those with a bachelor's degree or higher earned less.
- By sexual orientation, 49.1% of bisexuals, 35.5% of gay or lesbians, 66.2% of those with other sexual orientation, and 29.1% of those heterosexual earned less.
- By sex, 29.5% of females and 24.0% of males earned less.

See the Key Indicators Table starting on page 37, as well as the 2018 State Health Profile, Health Equity Data Summaries, County Profiles, and other data reports on **www.mainechna.org**. These documents also include information on data sources and definitions.

Figure 4. The percentage of high school students who reported at least three adverse childhood experiences (2017)

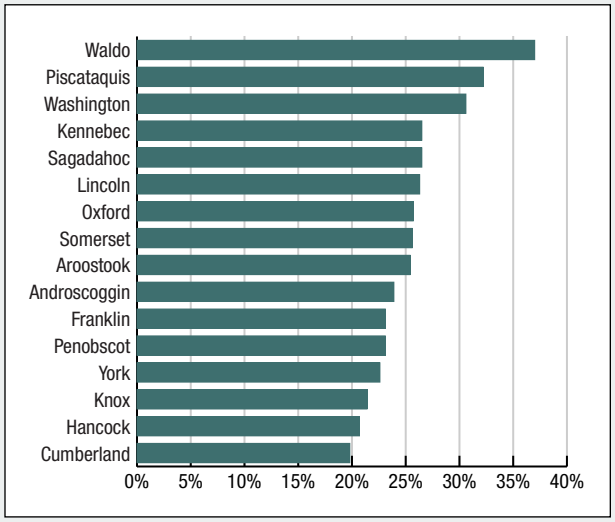
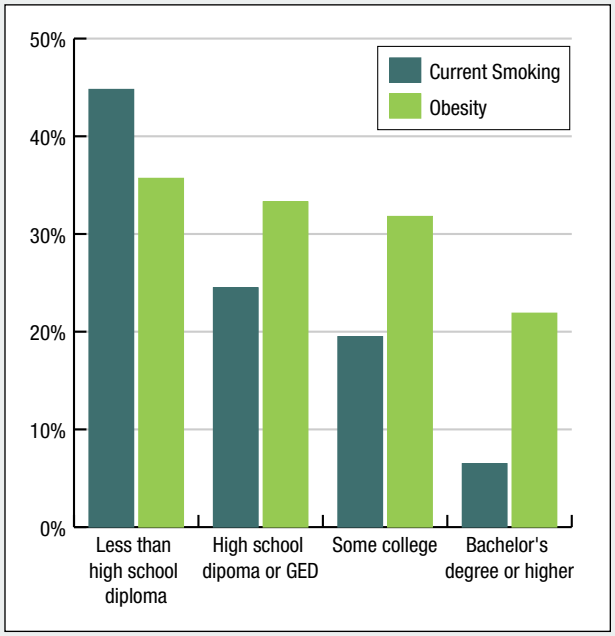


Figure 5. Rates of adult obesity and smoking by educational level (2016)



COMMUNITY RESOURCES TO ADDRESS SOCIAL DETERMINANTS OF HEALTH

Table 6 lists types of assets and gaps, statewide organizations, and types of regional, county or local organizations identified across multiple community forums.

Table 6. Assets and Gaps/Needs: Social Determinants of Health

ASSETS	GAPS/NEEDS
• Community based organizations • Community outreach workers • Area Agencies on Aging • Shelters • Public health services • Community health workers • Food and clothing drives • Healthy food options • Screening for social determinants of health needs	• Nutrition counseling/healthy, affordable food options • Increase heating assistance • Affordable and safe housing • Community agencies collaboration • Neighbors Helping Neighbors • Screening for insecurities • Volunteer drivers • Workforce development including: education about work ethics, skills training, professionals to come into schools and talk to kids about job opportunities, student success, post-secondary education and training • Innovation center and funding • Adult role models • Instability in the home • Vehicles and transportation • Homelessness • Generational trauma • Training around ACEs/poverty/trauma • Healthy environments, social connections, community spaces

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." Maine's older population is growing in all parts of the state, and it remains the oldest state in the nation as defined by median age—44.7 compared to the national median age of 38 in 2017. 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 the older population. Aging in the same home someone has lived in for many years is often preferred. However, this may be impossible for some older residents, for financial, medical, or safety reasons. With aging in place as a preferred lifestyle, concerns around isolation can become more significant.

QUALITATIVE EVIDENCE

Community forum participants in many counties discussed the need for a stronger continuum of services for people as they age. Many felt that, as an aging state, there was a need to support healthy aging initiatives that considered comprehensive service planning, aging in place, and whole-person approaches to healthy living. Access to nursing homes, long-term care, and palliative care were identified as specific service needs, particularly in rural areas of the state.

Socialization was discussed as an important protective factor for cognitive decline and healthy aging. Many forum participants and key informant interviewees identified a need to educate providers and caregivers on how to identify and address depression and isolation amongst older adult populations. Many participants felt that loneliness and isolation impeded the ability of older adults to live independently.

Limited access to transportation was identified as a barrier to accessing health care for older adults, but also access to other needed goods and services (e.g., groceries, prescriptions, physical activity). The rising cost of care and prescriptions was also a key theme in discussions around the health needs of older adults. The need for affordable and safe housing, including the need for heating fuel assistance, was identified as a critical issue.

Access to forms of physical activity was a topic discussed at many community forums across the state. Participants identified several benefits of continued physical activity, including improved muscular and cardiorespiratory fitness, mental health, mobility, and reduction of cognitive decline. Some community forum participants identified fall prevention as a priority issue for older adults. The benefits of continued physical activity include muscular and cardiorespiratory fitness, reduced depression, and cognitive decline. Older adult falls were highlighted as an area where more prevention could reduce injury.

Forum participants identified a need for more education and resources around improving cognitive health, including programs that specifically addressed Alzheimer's disease and dementia. Caregiving to support aging adults, including but not limited to those with cognitive decline, was also highlighted as a challenge. Support for those who care for individuals with health issues and cognitive decline was also identified as a critical need.

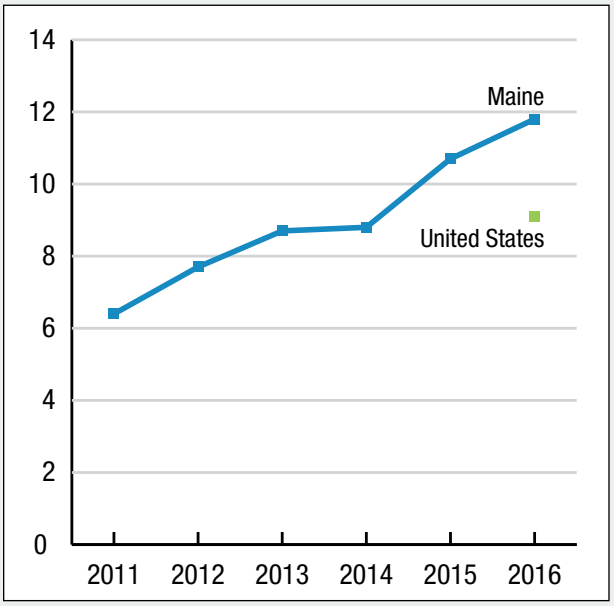
QUANTITATIVE EVIDENCE

In Maine:

- The percentage of the population age 65 and older living alone did not change significantly between 2011 (45.3%) and 2016 (45.0%) compared to 42.6% in the U.S.
- The percentage of adults with arthritis increased between 2011 and 2016, from 29.5% to 33.7% compared to 22.7% in the U.S.
- Fall-related deaths (unintentional) per 10,000 increased from 6.4 in 2011 to 11.8 in 2016, which is significantly higher than the national rate of 9.1.
- The percentage of adults with cognitive decline was 10.3% in 2016 which is comparable to the national rate of 10.6%.
- The percentage of adults who reported caregiving 20 hours or more per week was 4.4% in 2015.

See the Key Indicators Table starting on page 37, as well as the 2018 State Health Profile, Health Equity Data Summaries, County Profiles, and other data reports on **www.mainechna.org**. These documents also include information on data sources and definitions.

Figure 6. Fall-related death (unintentional) rate per 10,000



COMMUNITY RESOURCES TO ADDRESS OLDER ADULT HEALTH/ HEALTHY AGING

Table 7 lists types of assets and gaps, statewide organizations, and types of regional, county or local organizations identified across multiple community forums.

Table 7. Assets and Gaps/Needs: Older Adult Health/Healthy Aging

ASSETS	GAPS/NEEDS
• Changing culture/reducing stigma • Programs that allow people to age in place/age friendly communities • Strong community networks/volunteers • Area agencies on aging • Falls prevention assessment/services • Supplemental Nutrition Assistance Program and Education (SNAP-Ed) • Church and other community groups	• In home and other supports for folks living with Alzheimer's • Affordable and safe housing • Aging in place • Better service/provider availability • Support to fight social isolation • Resources for families to support older adult care • Lack of volunteers and supports for older adults • Lack of promotion of fall prevention training • Follow up support • Health literacy • Home adaption • Polypharmacy • Housing/home maintenance • Structural support for caregivers • Transportation • Additional geriatricians • Additional long term care facilities

PHYSICAL ACTIVITY, NUTRITION, AND WEIGHT

Lack of physical fitness and poor nutrition are among the leading risk factors associated with obesity and chronic health issues. Adequate nutrition helps prevent disease and is essential for the healthy growth and development of children and adolescents. Overall fitness and the extent to which people are physically active reduces the risk for many chronic conditions and is linked to good emotional health. During the past two decades, obesity rates in the United States have doubled for adults and tripled for children. These trends have spanned all segments of the population, regardless of age, sex, race, ethnicity, education, income, or geographic region.

QUALITATIVE EVIDENCE

Obesity was identified as an issue for both youth and adults. Key informants, including school nurses, suggested several reasons for the increase in obesity among young people, including poor eating habits and increased use of technology that leads to a sedentary lifestyle. Several people identified a need to address these issues within families to ensure that good habits were developed and maintained in schools and within the home. For adults, some forum participants identified a need to address mental health issues that may contribute to overeating and sedentary lifestyle.

Physical activity needs for older adults and those in rural communities were identified as particularly important to address. For older adults, physical activity is important for cognitive health, and depending on where they live, safe access to exercise may be limited. In rural communities, access may similarly be limited to a few well-maintained sidewalks and walking paths. There may be trails and recreational opportunities, but these are often not accessible to those with limited mobility. In some communities, there are recreational opportunities that exist that need greater promotion and outreach to particular populations. For example, youth programs such as Winter Kids and Girls on the Run were identified as existing programs for youth beyond traditional school sports activities.

There were many nutrition-related resources available in communities. However, many community forum participants and key informants were concerned with individuals' ability to access these resources, particularly families with young children, those in substance use recovery, and older adults. They felt these populations needed more education and targeted outreach regarding available nutrition support programs.

At a policy level, one community forum discussion group suggested that local employers increase insurance benefits for employee wellness initiatives, and offer nutrition assistance subsidies for local food production.

QUANTITATIVE EVIDENCE

In Maine:

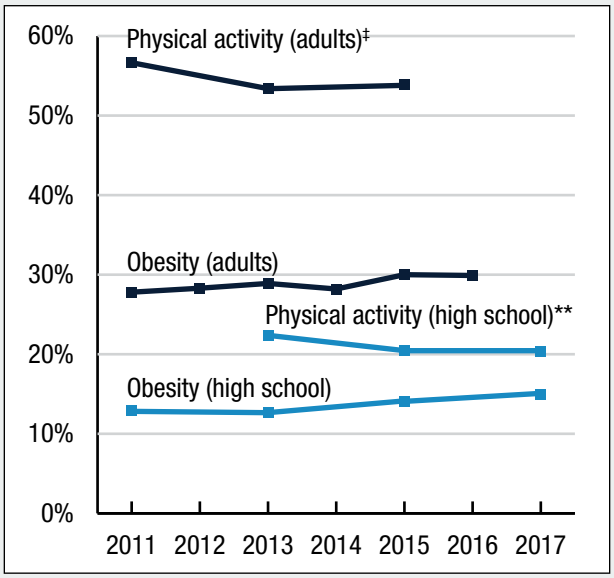
- The percentage of adults who are obese increased between 2011 and 2016 from 27.8% to 29.9%.
- The percentage of adults who met aerobic activity guidelines was 56.7% in 2011 and 53.9% in 2015.
- The percentage of high school students who were obese increased between 2011 and 2017 from 12.9% to 15.0%.
- The percentage of high school students who reported having five or more fruits and vegetables a day was 16.8% in 2013 and 15.6% in 2017.
- The percentage of high school students who met physical activity recommendations was 22.4% in 2013 and 20.3% in 2017.

Health Equity

The rate of obesity varied by race, educational attainment, income, and sexual orientation.

- By race, the rate of obesity was higher for American Indian or Alaskan Natives (37.0%) as compared to black or African Americans (26.5%), two or more races (27.3%), and whites (28.9%).
- By education, the rate of obesity was higher for those with less than a bachelor's degree (some college 31.8%) compared to those with a bachelor's degree (21.9%).
- By income, the rate of obesity was significantly higher for those with an income of $25,000-$34,999 (34.2%), compare to those with an income of $50,000 or more (27.3%).

Figure 7. Physical activity and obesity levels for adults and high school students



‡ Met aerobic physical activity recommendations (adults)
** Physical activity for at least 60 minutes per day on seven of the past seven days (high school)

- By sexual orientation, the rate of obesity among high school students was significantly higher for those who identified as bisexual (22.0%), gay or lesbian (21.8%), or other (20.4%), compared to those who identified as heterosexual (13.9%).

See the Key Indicators Table starting on page 37, as well as the 2018 State Health Profile, Health Equity Data Summaries, County Profiles, and other data reports on **www.mainechna.org**. These documents also include information on data sources and definitions.

COMMUNITY RESOURCES TO ADDRESS PHYSICAL ACTIVITY, NUTRITION, AND WEIGHT

Table 8 lists types of assets and gaps, statewide organizations, and types of regional, county or local organizations identified across multiple community forums.

Table 8. Assets and Gaps/Needs: Physical Activity, Nutrition, Weight

ASSETS	GAPS/NEEDS
• Nutrition Education Programs • Supplemental Nutrition Assistance Program and Education (SNAP-Ed) • Let's Go! • My Plate basics • Dietitian consults and education conducted by hospital and primary care • Endocrinology services • Meals on Wheels • Winter Kids • Exercise facilities and classes (though some may be cost prohibitive) • School wellness teams • Local recreation departments • YMCA • National Diabetes Prevention Program • Farms • Girls on the Run	• Nutrition assistance subsidies for local healthy food production • Funding after school and summer feeding programs • Remove cost as a barrier to activities/ venues promoting physical activity • Finance nutrition education programs for broader audiences (ex: parameters for SNAP-Ed) • Cooking whole foods on a budget classes • Greater promotion of opportunities for physical activity • Support mental health component to overeating and sedentary lifestyle (ex: check in with sponsor) • Access to healthy produce • Public awareness/encouragement of programs

DEMOGRAPHICS

Maine is made up of 16 counties, that encompass 3,500 miles of coastline, 6,000 lakes, and 17 million acres of forest. This terrain supports Maine's tourism, forestry, fishing, and farming industries. Blueberries, lobsters, potatoes, maple syrup, pulp, paper, wood, apples, and tourmaline are among Maine's products.[9]

Maine's population was 1,329,923 in 2016. In 2010, 61.3% of Maine's population lived in a rural setting and 26.2% lived inside urbanized areas compared to 19.3% living in a rural setting and 71.2% living inside urbanized areas nationally.[10]

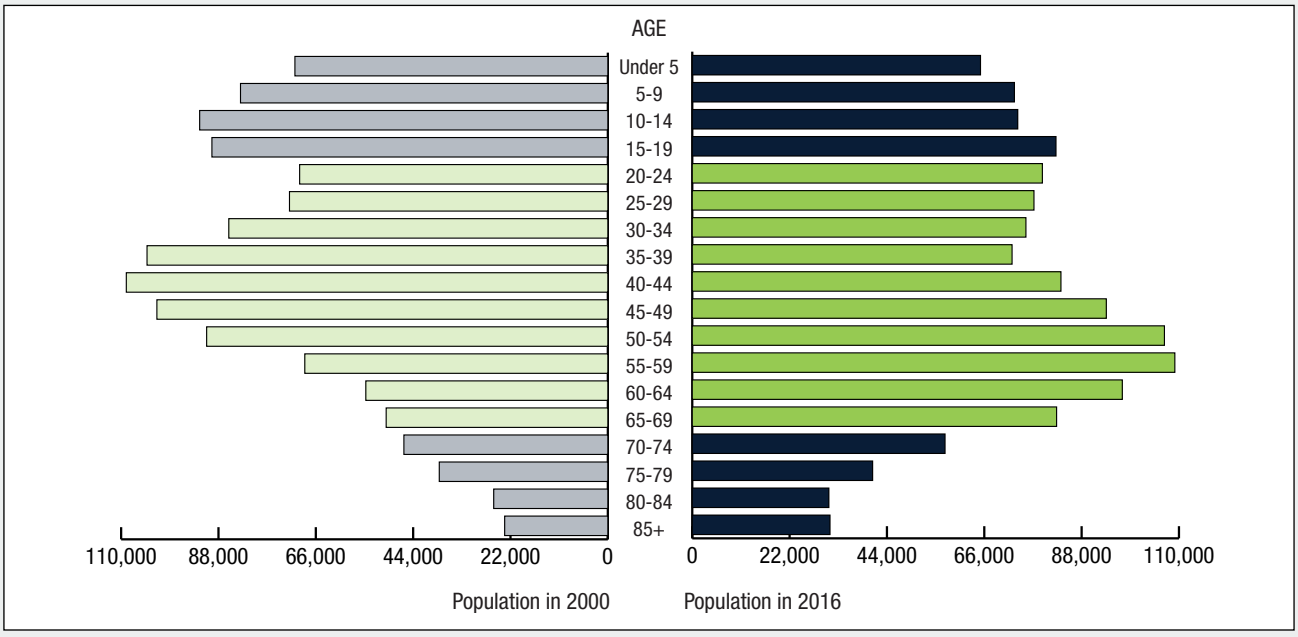
More expansive data tables are included in the State Health Profile and Health Equity Data Summaries. The Health Equity Data Summaries provide selected data analyzed by sex, race, Hispanic ethnicity, sexual orientation, educational attainment and income. Both the health profile, summaries, as well as an interactive data portal can be found at **www.mainechna.org**.

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 immediate community resources for support compared to young people.[11] An aging population leads to increased pressure on the healthcare system and shortages in 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.[12]

- The percentage of the population over age 65 increased from 14.4% in 2000 to 18.2% in 2012-2016, compared to 14.5% nationally.
- The population age 45-65 increased from 25% to 31% between 2000 and 2016.
- The median age in Maine was 44.0 compared to the national median age of 37.7 in 2012-2016.

Figure 8. Age distribution for the state of Maine in 2000 and 2016



RACE/ETHNICITY AND FOREIGN BORN POPULATIONS

An extensive body of research illustrates the health disparities that exist for racial/ethnic minorities, non-English speakers, and foreign-born populations. For example, according to the U.S. Centers for Disease Control, non-Hispanic blacks have higher rates of premature death, infant mortality, and preventable hospitalization than non-Hispanic whites.[13] While the numbers of non-white residents in Maine are relatively small, this does not mean that these populations do not experience the health disparities found in other parts of the United States, including increased levels of stress due to racism.

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.[14,15] 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 adverse health outcomes.

Table 9. Race/Ethnicity in Maine, 2012–2016

	MAINE	
	PERCENT	**NUMBER**
American Indian/ Alaskan Native	**0.6%**	**8,013**
Asian	**1.1%**	**14,643**
Black/African American	**1.2%**	**16,303**
Hispanic	**1.5%**	**19,772**
Some other race	**0.2%**	**3,151**
Two or more races	**2.0%**	**27,126**
White	**94.8%**	**1,260,476**

Data Source: US Census Bureau, 2012–2016, American Community Survey 5-Year Estimates

American-born children of these groups, and secondary migrants are among those who may not be counted in these groups, but whose circumstances may result in similar health disparities.

SOCIOECONOMIC STATUS

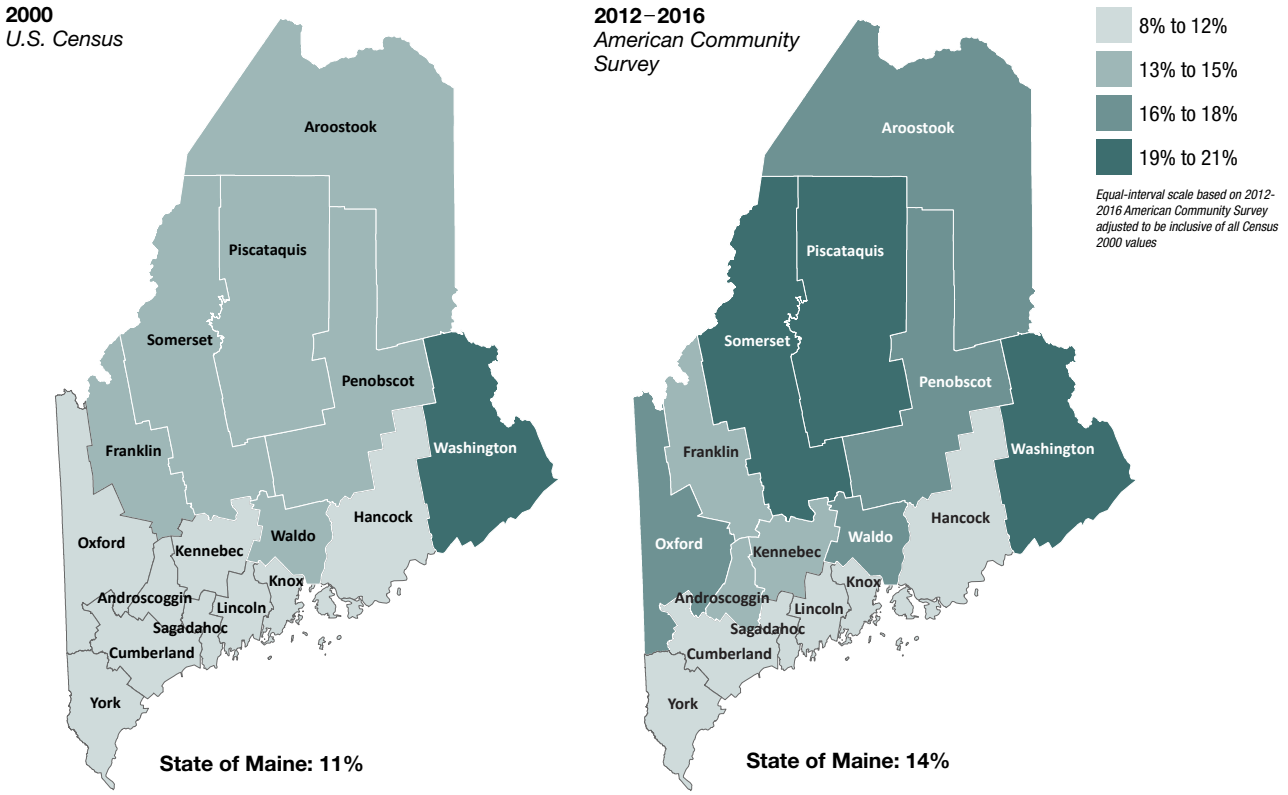
Socioeconomic status (SES) is measured by data on income, poverty, employment, and education. The extent to which one lives in areas of economic disadvantage is closely linked to overall health status. Low income status is highly correlated to a lower than average life expectancy.[16] Lack of gainful 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.[17]

The health benefits of higher education typically include better access to resources, safer and more stable housing, and better engagement with providers. Proximate factors associated with low education that affect health outcomes include the inability to navigate the healthcare system, educational disparities in personal health behaviors, and exposure to chronic stress.[18] It is important to note that, while education affects health, poor health status may also be a barrier to education. See Table 10 for key socioeconomic data for Maine.

Additionally, in Maine:

- The estimated high school graduation rate increased between 2011 and 2017 from 83.8% to 86.9%. The U.S. high school graduation rate was 84.6% in 2016-2017.[19]
- The percentage of the population over age 25 with an associate's degree or higher increased between 2011 and 2016, from 35.3% to 39.9%. In the U.S., 43.5% of adults over age 25 had an associate's degree or higher in 2016.[20]

Figure 9. Percent of Population in Poverty in 2000 as measured by U.S. Census, and in 2012–2016 as measured by the American Community Survey



The maps in Figure 9 show the percentage of population in poverty by county during two time periods. The map on the top left shows the population in poverty in 2000 as measured by the U.S. Census. The map on the top right shows the population in poverty from years 2012 through 2016 as measured by the American Community Survey.

Table 10. Socioeconomic Status Maine, 2012–2016

	MAINE	U.S.
Median household income	**$50,826**	**$55,322**
Unemployment rate*	**3.8%**	**4.7%**
Individuals living in poverty	**13.5%**	**15.1%**
Children living in poverty	**17.9%**	**21.2%**
65+ living alone	**45.0%**	**42.6%**

Data Sources: US Census Bureau, 2012-2016
**U.S. Bureau of Labor Statistics, 2015-2017*

POPULATIONS WITH HEALTH DISPARITIES

The following ten medically underserved populations were identified as important to more deeply understand the disparities in health needs, health access barriers, and priorities for health and wellness improvement in Maine. Conclusions were drawn from quantitative data and qualitative information collected through forums and key informant interviews. It is important to note that within the special population groups identified there is great diversity, and some of the needs are unique to a sub-population and others are cross cutting.

VETERANS

While veterans' health needs are often similar to those of general population, veterans have higher rates of chronic disease, and in particular chronic conditions associated with substance use. Other primary needs are mental health, audiology, dermatology, and primary prevention services.

Primary concerns identified for this population include:

- **Mental health** needs among veterans are important given the relationship between service and traumatic brain injury and post-traumatic stress disorder, as well as potential exposure to chemical weapons during service. Suicide is a major concern, and veterans are working to address mental health stigma and suicide prevention through the Silhouette Project. Homelessness, associated with mental health, is a priority, and Maine has a major statewide initiative focused on reducing veteran homelessness.
- **Health Care Access:** To address needs surrounding access to care, the Veterans Administration (VA) provides services for people who are not commercially insured. These access points are available throughout the state. The VA is one of the first adopters of telehealth to provide services to remote parts of the state, and will contract with local providers when they cannot provide a service firsthand.

9.6% **of Maine residents were veterans in 2016**

To address social determinants of health, particularly employment, the **Veterans of Foreign Wars (VFWs) and Veteran Service Organizations** work at the local level. Primary prevention is an area of focus for the VA, and an area of opportunity to develop further partnership across health systems.

While telehealth improves access to health care, one key informant reported that there are some veterans who are not comfortable with a virtual visit. Although the VA provides a van service, lack of convenient transportation can still be a barrier to care. For some, there is the perception that the quality of providers is poor, which can also be a barrier to access. In addition, some veterans may not realize that they may be eligible for health care services. This is addressed at the local level, by veteran's advocates who provide information to the veteran population on their eligibility for various services.

TRIBAL COMMUNITIES

On average, 8,013 Maine residents identified as American Indian/Alaska Native per year in 2012-2016. However, these U.S. Census estimates do not measure Tribal membership and are acknowledged to be an undercount.

Tribal representatives and Maine Shared CHNA partners have begun to engage in conversation to increase Tribal representation and tribal-informed data in the next Maine Shared CHNA.

OLDER ADULTS WHO ARE ISOLATED OR HAVE MULTIPLE CHRONIC CONDITIONS

While many adults over the age of 65 live healthy and active lives, there is a group of older adults more vulnerable based on isolation and multiple chronic conditions. Adults aged 65 and older make up 18% of the population in Maine. The percent of older adults has increased by 4% since the 2000 census and is expected to continue to increase. Many chronic conditions have risk factors tied to age, including diabetes, chronic obstructive pulmonary disease (COPD), and cancer. Older adults often have more chronic health problems, but they are less able to manage them if they have fewer resources or limited access to needed services. Unlike younger adults with chronic disease, the population over 65 has access through Medicare; however, gaps in this coverage and the ability to manage chronic conditions at home still create income-based disparities. Managing these conditions at home is compromised when people are forced to make choices between housing, healthy food, and medications.

Along with the concerns described in the section titled Older Adult Health/Healthy Aging that began on page 17, other concerns identified for this population include:

- **Safe and affordable housing** options for older adults are a challenge in both urban and rural areas due to the age and poor quality of the housing stock, which creates a major health concern. As people age, their ability to maintain older homes often becomes more challenging. In addition, many older houses may need alterations for those with chronic conditions.
- **Social isolation, depression, and cognitive impairment** are all health areas where older adults need support. Depression is related to loss of family and friends, chronic disease and the stigma of seeking mental health treatment. Substance use is not a major focus for those working with older adults, but may be under-recognized. In addition, older adults, especially those with substance use challenges may have increasing difficulty managing medications.

45% **of Maine residents over the age of 65 lived alone in 2016**

- **Many older adults are interested in aging in place.** One barrier to aging in place is the cost of finding affordable housing and access to transportation. This challenge is magnified in rural areas. Various community efforts to support aging in place exist, including ones to create age-friendly communities that are working to improve the supports to health and safety as people age. These include supports such as getting to and from appointments, groceries, pantries, and other important service locations. For those with health and mobility challenges, the needs are greater. A variety of programs, including Meals on Wheels, offer great support, but in some communities they have long wait lists.
- **Self-management support** was identified as an area for potential further collaboration between health care and local supports, particularly for those with diabetes, congestive heart failure, and COPD.

Partners engaged in this effort include but are not limited to the Area Agencies on Aging, the Maine Council on Aging, and the Maine State Office of Aging and Disability Services. The Maine Council on Aging released the report "Blueprint for Action on Healthy Aging" in October 2018. Another emerging partner is ambulatory services, which can play a role in supporting vulnerable older adults through the Community Paramedicine program. This program supports risk assessments in homes and connects individuals with food and other resources in the community.

NON-ENGLISH SPEAKERS, IMMIGRANTS, AND REFUGEES

Immigrants, although a subset of the racial and ethnic minorities in the state, are a diverse group of people with a range of health and related needs. Many of the health needs for this population fall into the category of social determinants of health, including affordable and comprehensive health insurance, safer and more affordable housing, better access to transportation, and more opportunities to bolster community relations and social cohesion.

In addition to Maine Shared CHNA Engagement Activities, the City of Portland provided information from its comprehensive 2018 Minority Health Assessment. For this assessment the City interviewed over 1,000 Cumberland County residents who were born in over 15 countries.

The Minority Health Assessment respondents identified diabetes, high blood pressure, and oral health as the most significant health problems in the community. This same group self-identified stress, oral health, and healthy aging as their own primary concerns. In terms of health risks or risky behaviors, substance use and housing were identified in the Minority Health Survey as most concerning. The City of Portland Minority Health Assessment 2018 Report provides additional information and results by age, ethnicity, and other individual characteristics. Additional community needs mentioned by key informants include poor surgery outcomes, need for cancer prevention and cancer education, and the taboo subject of sexually transmitted diseases.

Primary concerns identified for this population include:

- **Mental health** was identified as one of the leading health issues for this population, specifically trauma and stress around immigration status in the current political climate, separation from families, and negative experiences in their home country.
- **Housing** challenges include exposure to lead in unabated apartments, as immigrants may not always know the health risks of lead exposure, nor may they always have a choice in where they live. Poor quality apartments can cause health issues, even if residents keep apartments clean, due to negligent landlords and lack of knowledge or ability to make home improvements.

16.7% **of Hispanic residents were uninsured in 2016, compared to 8.0% of Maine residents overall**

- **Health literacy** was identified as a need, specifically in the areas of chronic disease management and prevention, substance use, and life skills (e.g., how to manage medications or how to fit healthy food choices into the household budget). Diseases like diabetes and high blood pressure are new for many immigrants and understanding the link between these diseases and the change in food and lifestyles of their home and cultures requires education and outreach. Community partners exist to bridge this knowledge with health care providers, and key informants talked about the importance of strong relationships between health providers and community based organizations with knowledge of immigrant and refugee communities.
- **The undocumented population and asylum seekers** experience unique challenges. Many are working in dangerous occupations, are without health insurance, and employers often do not provide time off for medical appointments. With respect to transportation, the ability to get a driver's license can be a barrier as people feel intimidated by the language barrier or their immigration status.
- **Navigation of health resources, and access to health care that is both culturally and linguistically competent** was a critical barrier for immigrants and refugees. Forum participants recognized how community health workers (CHWs) support access in a number of ways, including cultural competence, language access, navigating resources, and acting as a bridge between providers and the immigrant community. In addition to CHWs, key informant interviewees also suggested creating stronger relationships between health care providers and community based organizations. Examples of potential community partners include churches, sports teams,

and music groups. For instance, these partners could provide community health education as part of their regular activities.

- **Culturally competent health care:** There is a need for a transformation from cultural competence among health care organizations, to actively outreaching to and being a welcoming place of care for all populations. Some forum participants and key informants felt it important to acknowledge that there are some healthcare providers who are biased, discriminatory, and/or hostile toward immigrant and refugee patients. This includes making assumptions about an individual's ability to speak and understand English. However, many providers recognize their lack of cultural competence to provide quality services, particularly in the mental health area, and are eager for training.

INDIVIDUALS WITH PHYSICAL DISABILITIES

A disability is any condition of the body that makes it more difficult for the person with the condition to do certain activities (activity limitation) and interact with the world around them (participation restrictions).[21] It can be harder for disabled populations to maintain good health due to facing additional barriers that the general population does not. Various physical disabilities are associated with secondary and tertiary issues that can arise because of the original disability. Common health concerns are obesity and smoking. Obesity rates are high due to a lack of options for physical activity. Health issues tend to be more catastrophic for those with disabilities.

15.8% **of Maine residents were disabled in 2016 compared to 12.8% nationally**

Primary concerns identified for this population include:

- **Employment:** In addition to health challenges, a common barrier for people with disabilities is employment resulting in lower income. Employment is challenging for this population, even in a strong economy and despite laws like ADA, as disabled populations may be the last to get hired and the first to be fired. Lack of employment directly results in higher rates of poverty.
- **Bias and discrimination:** With respect to healthcare access, key informants talked about the structural need to make health facilities more accessible, as well as health care difficulties surrounding discrimination and bias in treatment. More than one informant talked about the need for health provider training to address bias and discrimination when treating patients with disability. For example, one patient talked about a nurse with a medical chart who had preconceived ideas about the patient's needs, as a result that the patient did not feel they were allowed or able to explain their needs. One informant noted that while people with disabilities do not necessarily expect all providers to understand all potential disabilities and impairments that a patient might be experiencing, providers should, nevertheless, provide unbiased and thoughtful care. Lack of communication is a strong concern around receiving appropriate services and timely diagnoses.
- **Abuse and neglect:** Another vulnerability mentioned for the disabled population is caregiver abuse or neglect, and the need for education on appropriate screening to determine occurrence of caregiver abuse.

Hearing impairment is sometimes considered a physical disability. However, there are members of the deaf community who do not consider themselves disabled. In considering the specific needs of the deaf community, it is important to have their perspective which we were unable to receive in our key informant interview phase.

Resources and assets for this population include AlphaOne, the Disability Rights Center, the Maine Developmental Disabilities Council, The Iris Network, the Maine Statewide Independent Living Council (SILC), and the Maine Educational Center for the Deaf and Hard of Hearing (MECDHH).

CHILDREN AND ADOLESCENTS

In community forums and with key informants the children and adolescents with Adverse Childhood Experiences were identified as those most at risk for immediate and long term health concerns. Children and adolescent priority health needs include improved access to some specific services such as dentistry and behavioral health. Improving health of children and adolescents benefits the wellness of the whole family such as decreasing food insecurity, improving physical activity rates, and ensuring health insurance access for whole families.

Primary concerns identified for this population include:

- **Oral health** access for children is needed across the state, particularly for children with MaineCare insurance, and in the Northern part of the state. With an absolute shortage in dental providers for the total population, and a more severe shortage for those on MaineCare, there are efforts to expand dental provider capacity. The University of New England is forging partnerships with Federally Qualified Health Centers for externships, which are bringing a public health focus to new dentists. The Partnership for Children's Oral Health is working to build partnership and collaboration around this topic.
- **Behavioral health** needs for youth, including both young children and adolescents, are an issue. Children are arriving at elementary schools with high behavioral needs, and some of this is attributed to growing substance use among adults. One in five (23.4%) of high school students report having Adverse Childhood Experiences (ACEs) in 2017. The need to focus on screening and education on ACEs was a topic across many of the community forums. Depression and stress were also specific concerns for community members. Community members also discussed the need to address excessive screen time.

17.2% **of Maine children lived in poverty in 2016**

- **Substance use** issues for young people included opioids, marijuana, and tobacco use, including vaping or "Juuling." Access to substance use treatment services for teens that is confidential and trusting is a need. In addition, education and outreach to teens about where they can find these services is needed.
- **Food insecurity** is a concern for both rural and urban children. The Supplemental Nutrition Assistance Program (SNAP) is helpful, but transportation to access that food can still be a challenge. School food programs support access but forum participants identified concerns that children don't have enough time to eat and that there is a lot of food waste.
- **Health insurance** access for the whole family is important for improving health of children. Access to health insurance is a challenge for families who may not be eligible for Medicaid, as other comprehensive insurance options remain unaffordable.
- **Support for parents in recovery, grandparents raising grandchildren, and foster parents** is needed for families affected by substance use disorders. Social and emotional support for foster parents and grandparents is needed, as well as community education and awareness to address stigma and support families.

SEXUAL ORIENTATION AND GENDER IDENTITY

While societal acceptance of those who identify as lesbian, gay, bisexual, transgender, and queer or questioning has increased greatly in the past few decades, this population still faces discrimination and health disparities. This is particularly true of those in rural areas of Maine, where societal changes have been slower.

The LGBTQ population is a large and diverse population. Non-english speakers, racial and ethnic minorities and transgender people have different social experiences and health needs. Minority populations find it particularly challenging to find culturally competent services and they are at greater health risk.

There is limited health data collected for lesbian, gay, bisexual, and transgender (LGBT) Mainers. Furthermore, data on transgender adults specific to Maine is not available. Therefore, adult quantitative data references only LGB individuals. Some people in both groups self-identify as non-binary or queer, and these terms are also not necessarily captured in quantitative data.

Primary concerns identified for this population include:

- **Higher rates of depression:** LGBT youth have higher rates of feeling sad or hopeless, and considering suicide compared to youth who identify as heterosexual. Among LGB adults, higher rates of depression diagnosis over the lifetime when comparing those who identify as heterosexual as compared to those who identify as bisexual, gay or lesbian, or other sexual orientation.

3.8% of adults identified as LGB in 2015

10.8% of high school students identified as LGBT in 2017

- **Substance use:** LGBT youth and LGB adults are more likely to use tobacco and other substances.
- **Violence:** LGBT youth also have higher rates of being bullied on school property and of sexual assault compared to youth who identify as heterosexual.
- **Health access and discrimination and bias:** There is a lack of understanding of what it means for a person to be non-binary and transgender among providers and at the community level. This lack of understanding puts individuals at higher risk of discrimination. In addition, forum participants and interviewees discussed the need for more comprehensive and affordable mental health care for LGBTQ and non-binary adults and youth. Insurance should include coverage for the specific needs of transgender and non-binary people. More healthcare

Table 11. Sexual Orientation and Gender Identity

	BISEXUAL	HETERO-SEXUAL	GAY OR LESBIAN	TRANS-GENDER	OTHER	MAINE OVERALL
Sad, hopeless 2 weeks in a row high school students, 2017	64.4%	21.8%	54.7%	70.7%	39.3%	26.9%
Seriously considered suicide high school students, 2017	42.9%	10.8%	36.3%	54.3%	24.2%	14.7%
Bullied on school property high school students, 2017	37.5%	19.6%	34.2%	46.2%	27.7%	21.9%
Obesity high school students, 2017	22.0%	13.9%	21.8%	29.1%	20.4%	15.0%
Sexual assault high school students, 2017	18.7%	5.5%	14.6%	25.1%	13.3%	7.2%

See the Health Equity Summaries for the confidence intervals for this data

services for this population are especially needed in rural areas of the state. Endocrinology and surgical resources for transgender youth were identified as a specific gap.

Discrimination and bias by healthcare providers is also a concern for those who identify as LGBTQ. Due to this concern, youth and adults may not be comfortable correcting their provider. This highlights the need for consistent cultural competency training on LGBTQ health. Other risks that key informant interviewees identified for this population are higher rates of obesity and earlier mortality.

- **Youth needs:** Key informant interviewees identified many of the above mentioned differences between the health status of LGBT and non-LGBT youth. To address the sexual health needs of youth LGBTQ-inclusive sexual education is needed in schools. LGBTQ youth need more opportunities to feel safe, secure, and proud of their identity, which is important for their social and emotional development. While there is an active PRIDE community among adults, youth may struggle to find peers and dating opportunities and this contributes to isolation and depression. Within schools there is a need for evidenced based practices to create a culture of safety for LGBTQ youth and appropriately educate school staff.

PEOPLE WITH MENTAL HEALTH CONDITIONS AND DEVELOPMENTAL DISABILITIES

Individuals with mental health conditions and developmental disabilities each have unique needs and priorities. For those with intellectual disabilities, the primary need identified was accurate diagnosis, and access to providers that can meet their needs in primary care and oral health. For individuals with severe and persistent mental illness the primary challenge is to have their medical needs fully met.

21% **of Maine adults had ever been diagnosed with depression in 2016 compared to 17.4% nationally**

Individuals with intellectual disability

Primary concerns identified for this population include:

- **Healthcare Access:** Health access needs include providers skilled in working with patient population, support for weight management, and outpatient mental health services. There is a need for providers skilled in providing care and accurate diagnosis for this population. Diagnosis is challenging as individuals with intellectual disability have limited communication skills and their caregivers may not be able to provide continuity of knowledge of their needs and experiences. Because the patient population is small, there are no primary care practices that specialize in serving those with developmental disability. Particular health service needs of the population are weight management and outpatient mental health services. Obesity is a challenge for some due to the affiliation between some intellectual disabilities and other health conditions that cause weight gain. For others it is the need for additional supports to have a healthy diet and physical activity.
- **Oral Health:** Access to dental providers that are willing to work with this population, provide sedation, and willing to work in a hospital setting is very limited. For example, an individual may be in the hospital for behavioral needs, and it is difficult to bring a dental provider into the hospital setting to serve them.
- **Employment:** There are significant needs for employment supports for those with an intellectual disability and this is currently an area of focus for the Department of Labor and Department of Education.
- **Crisis services:** Access to crisis services for this population has been a challenge, but state policy has changed with the intent to improve access to residential care and prevention for these individuals.

- **Integration of services:** There is a need for integration of services for mental health and services for those with an intellectual disability.
- **Children with intellectual disabilities:** A major challenge for youth is access to applied behavioral analysis (ABA) which supports families for 25 hours a week in areas ranging from toileting, managing tantrums, and other behavioral concerns. There is an inadequate number of people qualified to provide this service and many families are on a waitlist. Access to this service can have huge health impacts and reduce the need for medication. Parent management training for parents of children with attention deficit disorder is another important service where there is not adequate access across the state.

Individuals with a mental health diagnosis

Primary concerns identified for this population include:

- **Housing:** Stable housing is a concern for those with a severe mental health condition. They may not be able to pay rent, and due to hospitalizations or incarcerations, their rental history may be challenging. There is a need for housing supports and affordable housing.
- **Primary care:** Too often the medical needs of someone with serious mental illness are brushed off or not fully treated. The Behavioral Health Homes have worked to address this, but key informants noted it is important to continue to work on this disparity in medical treatment. Of adults with mental illness, one in three (29.1%) also had a chronic disease in 2016.
- **Integration of services:** The co-occurrence of mental health and substance use is not adequately treated through health providers and systems.
- **Trauma informed services:** This is an important need for those with a mental health condition and for the general population as a method for suicide prevention. There is a need for providers experienced in working with individuals with significant trauma, addressing the risks, and building the protective factors.
- **Suicide prevention:** Suicide occurs among those with and without a diagnosed mental health condition. With increasing rates of suicide over the last ten years, suicide prevention activities are working to reduce risks at all ages with partnerships with schools for youth, employers for middle age, and Area Agencies on Aging for older adults. There is a need for continued partnership with employers to address the high rate of suicide of middle age adults, particularly men.

LOW-INCOME AND RURAL INDIVIDUALS

The health needs of low income families and those in rural communities are very similar, as many needs of rural families are linked to poverty. Poverty was a primary concern mentioned by key informants for health in rural Maine because it relates to so many of the barriers to good health.

Primary concerns identified for this population include:

- **Transportation:** People are not able to access care and cannot get to where health services are delivered. A major issue in rural Maine is that many people don't have access to reliable and affordable transportation. Community efforts and non-profits work to provide these services but they cannot fully meet the transportation needs.

53.7% of Maine residents earned less than $50,000 in 2016

- **Physical activity:** Poverty is also a barrier to physical activity, which leads to chronic disease. In rural communities, the physical design of communities can contribute to inactivity if there are limited safe and interesting places for people to be active. While there are many rural communities with trail and outdoor access, this may not be accessible for those with limited mobility or access to transportation.

- **Coordination of care:** The coordination of health care is a major concern, especially for people with complex disabilities. It is important that there is one entity that can be the guardian of medications for individuals with multiple chronic diseases, and that rarely happens.
- **Substance use disorder, including opioids.** This is a challenge throughout the state, but access to substance use treatment in rural areas is a particular concern. One key informant noted that some people find employment simply by driving people to and from the methadone clinic in Bangor.
- **Opportunity for employment:** The unemployment rate and feelings of hopelessness when thinking about the future is an issue that contributes to poverty and poor mental health in rural communities.
- **Health literacy:** There is need for more education on how health behaviors and healthy living can have a positive impact on health as well as education on chronic disease management.
- **Oral health:** Access is a concern, both in terms of limited dentists, and affordability or insurance coverage. MaineCare only covers oral health care for children up to age 21, emergency services for adults, and other coverage limitations. These restrictions limit access to preventative oral health care for adults in poverty. Poor dental care is rampant in many rural communities and poor oral health is connected to a number of other health issues.
- **Multi-generational poverty:** Families that have lived in poverty for several generations continue to struggle as their children are unable to take advantage of or understand opportunities outside of the community, family, and culture they live in. This contributes to poor health as individuals without jobs are unlikely to have access to preventive healthcare or comprehensive health insurance to cover major health bills; and are at higher risk to engage in unhealthy behaviors such as inactivity, substance use, and smoking.

Table 12. Income and Health in Maine

	LESS THAN $15,000	$15,000–24,999	$25,000–$34,999	$35,000–$49,999	$50,000 OR MORE	MAINE OVERALL
Proportion of adults by income level 2016	9.4%	17.4%	11.5%	15.4%	46.3%	N/A
Health rating: fair to poor	38.4%	26.9%	18.4%	13.0%	8.0%	16.4%
Obesity adults	38.1%	31.1%	34.2%	33.1%	27.3%	29.9%
Current smoking adults	38.6%	31.2%	21.9%	22.1%	11.1%	19.8%
Sedentary lifestyle adults, 2016	38.1%	29.3%	27.2%	22.9%	11.0%	20.6%
High blood pressure adults, 2015	43.7%	39.5%	36.6%	33.0%	30.0%	34.1%
Diagnosed depression (lifetime) adults, 2016	45.4%	27.8%	25.3%	19.3%	13.4%	21.1%
Currently receiving outpatient mental health treatment* adults	37.7%	21.3%	20.1%	20.1%	13.8%	18.8%

**Different income category used. For currently receiving outpatient mental health treatment the income categories used are less than $15,000, $15,000-$24,999, $25,000-$49,999, and $50,000-$74,999.*

INDIVIDUALS WITH SUBSTANCE USE DISORDER

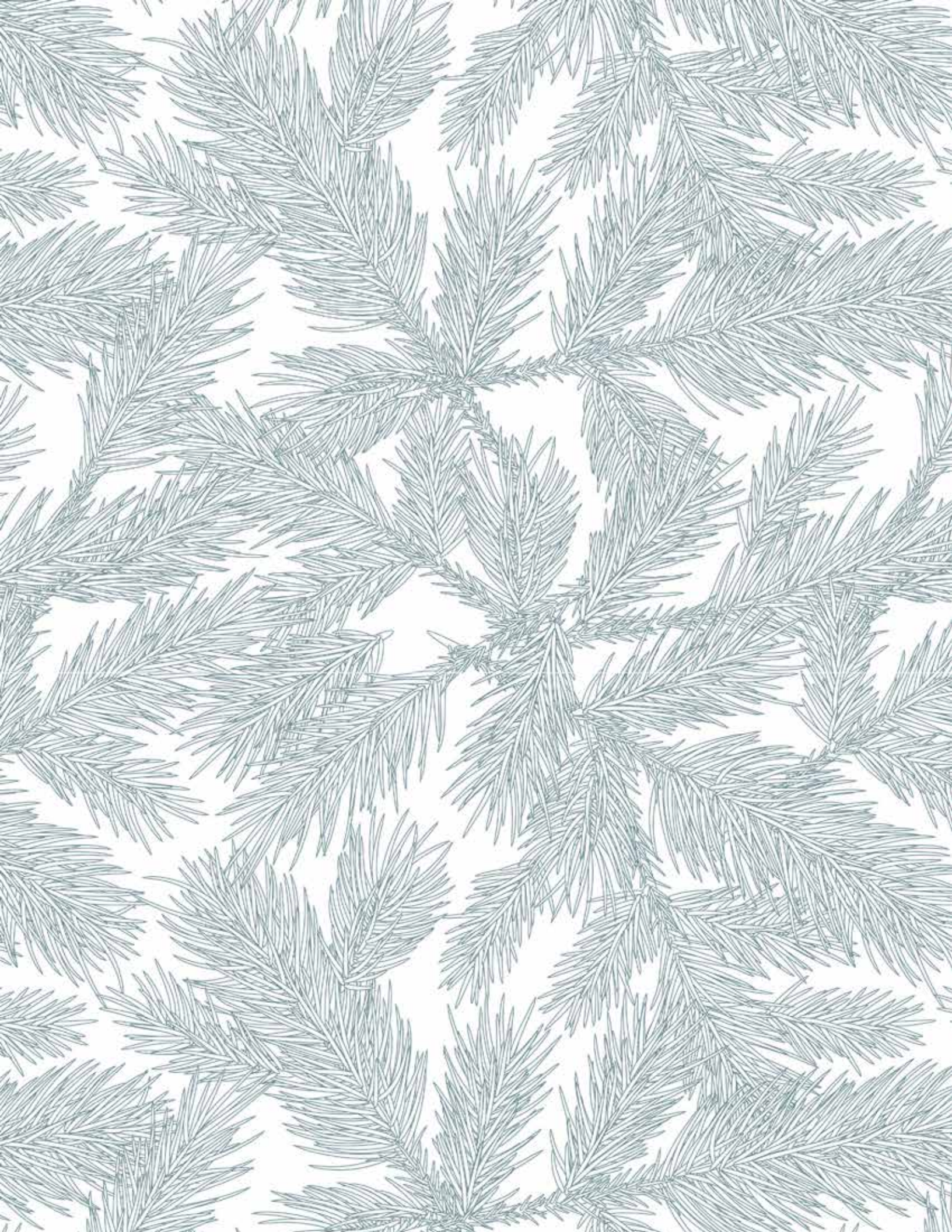
The opioid epidemic requires renewed attention to the range and quality of services for individuals in recovery. The primary needs identified are ensuring access to basic needs for health such as housing, insurance, a stable relationship with a primary care provider, and employers willing to hire or employ someone in recovery. With the focus on recovery from opioid use disorder, key informants noted that is important to keep in mind the range of services needed to treat misuse of many substances including cocaine, alcohol, and marijuana. The most vulnerable of those in recovery are the nearly 8 in 100 drug-affected infants (77.9 per 1,000) born in 2017, down only slightly from the prior two years (80.5 in 2015 and 80.6 in 2016).

Primary concerns identified for this population include:

- **Housing is a big gap:** Many individuals in recovery have poor rental histories whether due to being unable to pay rent, extended hospitalizations, incarceration, or other factors. This creates a barrier to finding affordable rental housing. Individuals need financial resources to support their rent payments while in treatment and not working so that they do not lose housing.
- **Insurance:** Access to insurance can be a key to substance use treatment and recovery. Young adults who need treatment are particularly at risk due to lack of insurance. Those age 18–35 may be working, but not eligible for insurance through their employer, and not eligible for MaineCare. Without access to insurance and treatment, some try to treat themselves through purchasing Suboxone on the street.
- **Primary Care:** Many in recovery lack a focus on their physical health; they do not have a primary care provider, and have not had a physical or lab work in years. It is important to have a stable primary care relationship with a single provider, and for patients to be comfortable disclosing that they are in recovery without fear. Medication management is needed as people in recovery are often taking mental health medications.

2.5% **of adults needed but did not receive treatment for illicit drug use in 2015-2016**

- **Nutrition:** Healthy food and nutrition are important during recovery. There are many resources available to support this, but people need help connecting with those resources.
- **Supportive recovery environment:** This is more widely available in urban communities, but in rural parts of the state people have limited access to recovery support systems. In rural areas, it is more difficult for people to access resources such as parenting support and adult education classes due to distance and transportation. Employers can play an important role in recovery support. For instance, in some communities there are businesses open to hiring people in recovery.
- **Access to quality, well-regulated services:** Recovery from substance use disorder has become a business in a way that it was not a decade ago. As new organizations develop and offer treatment programs, families are looking for ways to assess the quality and match of services to their own or a family member's needs. There is a concern that people may be paying out of pocket for recovery programs that are ineffective. Key informants noted the need for tools and guidance to help people ready for treatment identify appropriate quality treatment programs.
- **Coordination:** There are programs and services starting to support those in recovery, and as a result there is a need for further partnership and coordination. A few areas identified for further coordination are: coordinating overdose and harm reduction work in the communities, Medication-Assisted Treatment access in primary care, policy for treatment of those in recovery in various health care settings (inpatient, emergency room), and collaboration with community treatment providers and hospitals.



KEY INDICATORS TABLE

The Key Indicators provide an overview of the health of the state. They are a broad sampling of health topics, including health behaviors, outcomes, living conditions, and health care quality and access. See the State Health Profile for a full set of data. The table uses symbols to show whether there are important changes in each indicator over time, and to show if Maine is notably better or worse than the nation. See the box below for a key to the symbols:

CHANGE shows **statistically significant changes** in the indicator over time, based on regression analysis.

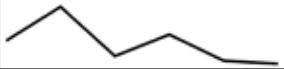
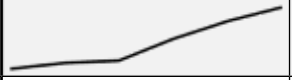
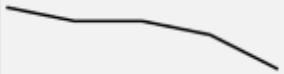
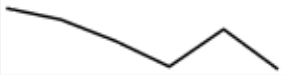
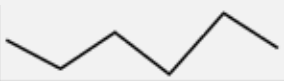
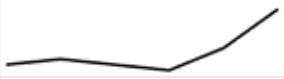
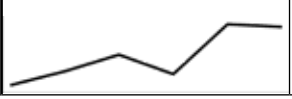
- ★ means the health issue or problem is **getting better** over time.
- ! means the health issue or problem is **getting worse** over time.
- ○ means the change was not statistically significant.
- N/A means there is not enough data to make a comparison.

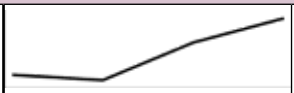
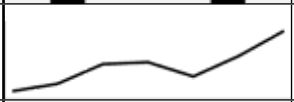
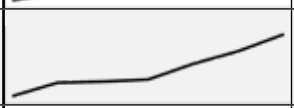
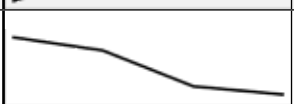
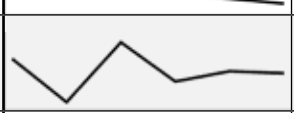
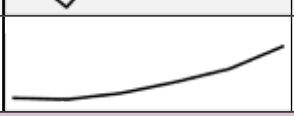
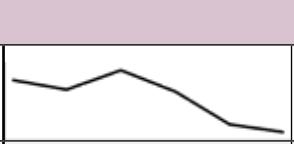
BENCHMARK compares Maine data to national data, based on 95% confidence interval (see description on page 3).

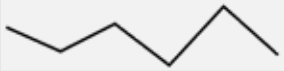
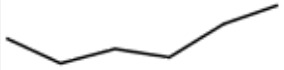
- ★ means Maine is doing **significantly better** than the national average.
- ! means Maine is doing **significantly worse** than the national average.
- ○ means there is no statistically significant difference between the data points.
- N/A means there is not enough data to make a comparison.

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.

	MAINE STATEWIDE DATA									BENCHMARK	
INDICATOR	**STATEWIDE TREND**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**CHANGE**	**U.S.**	**+/–**
SOCIAL, COMMUNITY & PHYSICAL ENVIRONMENT											
Children living in poverty		18.7%	20.9%	17.7%	19.1%	17.4%	17.2%	–	○	2016 21.1%	○
Median household income		$46,033	$46,709	$46,974	$49,462	$51,494	$53,079	–	★	2016 $57,617	!
Estimated high school student graduation rate		83.8%	85.3%	86.4%	86.5%	87.7%	87.1%	86.9%	★	–	N/A
Food insecurity		15.7%	15.5%	15.5%	15.3%	14.8%	–	–	★	2015 13.4%	N/A
HEALTH OUTCOMES											
14 or more days lost due to poor physical health		20.8%	21.2%	20.5%	20.3%	19.2%	22.4%	–	○	2016 11.4%	N/A
14 or more days lost due to poor mental health		17.4%	17.0%	17.0%	17.2%	16.4%	18.7%	–	○	2016 11.2%	N/A
Years of potential life lost per 100,000 population		–	2010-2012 6,198.7	2011-2013 6,314.1	2012-2014 6,378.5	–	2014-2016 6,529.2	–	○	2014-2016 6,658.0	N/A
All cancer deaths per 100,000 population		181.3	179.0	174.7	169.5	177.0	169.0	–	○	2016 155.8	!
Cardiovascular disease deaths per 100,000 population		196.8	192.6	197.9	191.8	200.7	195.6	–	○	2016 218.2	★
Diabetes		9.6%	9.7%	9.6%	9.5%	9.9%	10.6%	–	○	2016 10.5%	○
Chronic obstructive pulmonary disease (COPD) (adults who had ever been told)		7.8%	7.8%	7.0%	7.7%	8.1%	7.4%	–	○	2016 6.3%	○
Obesity (adults)		27.8%	28.3%	28.9%	28.2%	30.0%	29.9%	–	!	2016 29.9%	N/A

		MAINE STATEWIDE DATA								BENCHMARK	
INDICATOR	STATEWIDE TREND	2011	2012	2013	2014	2015	2016	2017	CHANGE	U.S.	+/–
HEALTH OUTCOMES (CONTINUED)											
Obesity (high school students)		12.9%	–	12.7%	–	14.1%	–	15.0%	○	–	N/A
Obesity (middle school students)		15.5%	–	14.2%	–	14.3%	–	15.3%	○	–	N/A
Infant deaths per 1,000 live births		2007-2011 5.8	–	–	–	–	2012-2016 6.5	–	N/A	2012-2016 5.9	○
Cognitive decline		–	14.2%	–	–	–	10.3%	–	N/A	2016 10.6%	○
Lyme disease new cases per 100,000 population		76.3	83.8	104.1	106.0	91.4	112.4	138.3	!	2016 11.3	N/A
Chlamydia new cases per 100,000 population		233.5	256.8	258.8	262.3	289.7	311.8	340.9	!	2016 494.7	N/A
Fall-related injury (unintentional) emergency department rate per 10,000 population		361.3	354.5	336.1	331.9	–	–	–	★	–	N/A
Suicide deaths per 100,000 population		16.6	14.5	17.4	15.5	16.0	15.9	–	○	2016 13.5	!
Overdose deaths per 100,000 population		11.7	11.2	13.2	16.8	21.1	28.5	–	!	2016 19.8	!
HEALTH CARE ACCESS AND QUALITY											
Uninsured		10.7%	10.2%	11.2%	10.1%	8.4%	8.0%	–	★	2016 8.6%	○
Ratio of primary care physicians to 100,000 population		–	–	–	–	–	–	67.3	N/A	–	N/A

	MAINE STATEWIDE DATA									BENCHMARK	
INDICATOR	**STATEWIDE TREND**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**CHANGE**	**U.S.**	**+/–**
HEALTH CARE ACCESS AND QUALITY (CONTINUED)											
Ratio of psychiatrists to 100,000 population		–	–	–	–	–	–	8.4	N/A	–	N/A
Ratio of practicing dentists to 100,000 population		–	–	–	–	–	–	32.1	N/A	–	N/A
Ambulatory care-sensitive condition hospitalizations per 10,000 population		–	–	–	–	–	74.6	–	N/A	–	N/A
Two-year-olds up-to-date with recommended immunizations		–	–	–	73.9%	76.6%	76.5%	73.7%	○	–	N/A
HEALTH BEHAVIORS											
Sedentary lifestyle – no leisure-time physical activity in past month (adults)		23.0%	20.9%	23.3%	19.7%	24.8%	20.6%	–	○	2016 **23.2%**	N/A
Chronic heavy drinking (adults)		7.3%	6.6%	7.0%	6.8%	7.7%	8.3%	–	○	2016 **5.9%**	N/A
Past-30-day alcohol use (high school students)		28.0%	–	26.0%	–	23.8%	–	22.5%	★	–	N/A
Past-30-day alcohol use (middle school students)		6.3%	–	4.7%	–	3.9%	–	3.7%	○	–	N/A
Past-30-day marijuana use (high school students)		22.1%	–	21.6%	–	19.6%	–	19.3%	★	–	N/A
Past-30-day marijuana use (middle school students)		4.6%	–	4.4%	–	3.8%	–	3.6%	★	–	N/A
Past-30-day misuse of prescription drugs (high school students)		7.1%	–	5.6%	–	4.8%	–	5.9%	○	–	N/A

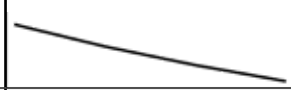
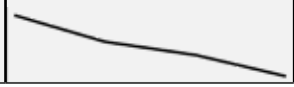
	MAINE STATEWIDE DATA									BENCHMARK	
INDICATOR	**STATEWIDE TREND**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**CHANGE**	**U.S.**	**+/–**
HEALTH BEHAVIORS (CONTINUED)											
Past-30-day misuse of prescription drugs (middle school students)		3.2%	–	2.6%	–	2.2%	–	1.5%	★	–	N/A
Current (every day or some days) smoking (adults)		22.8%	20.3%	20.2%	19.3%	19.5%	19.8%	–	○	2016 17.0%	N/A
Past-30-day cigarette smoking (high school students)		15.5%	–	12.9%	–	10.7%	–	8.8%	★	–	N/A
Past-30-day cigarette smoking (middle school students)		4.2%	–	3.2%	–	2.7%	–	1.9%	★	–	N/A

Table 13. Leading Causes of Death

The following chart shows the leading causes of death for the state of Maine.

MAINE			U.S.		
CAUSE OF DEATH	NUMBER OF DEATHS	AGE-ADJUSTED RATE PER 100,000	CAUSE OF DEATH	NUMBER OF DEATHS	AGE-ADJUSTED RATE PER 100,000
Cancer	3,275	168.9	Heart disease	635,260	165.5
Heart disease	2,907	149.5	Cancer	598,038	155.8
Chronic lower respiratory disease	928	47.4	Unintentional injury	161,374	47.4
Unintentional injury	909	62.4	Chronic lower respiratory disease	154,596	40.6
Cerebrovascular disease	663	34.4	Cerebrovascular disease	142,142	37.3
Alzheimer's disease	577	29.6	Alzheimer's disease	116,103	30.3
Diabetes	463	23.9	Diabetes	80,058	21
Nephritis, nephrotic syndrome, and nephrosis	239	12.4	Influenza and pneumonia	51,537	13.5
Influenza and pneumonia	231	12.0	Nephritis, nephrotic syndrome and nephrosis	50,046	13.1
Suicide	226	15.9	Suicide	44,965	13.5

Table 14. Years of Potential Life Lost

The following chart shows the causes of death with the highest values of years of potential life lost for the state of Maine.

	MAINE		U.S.	
RANK	CAUSE OF YEARS OF POTENTIAL LIFE LOST	NUMBER OF YEARS	CAUSE OF YEARS OF POTENTIAL LIFE LOST	NUMBER OF YEARS
1	Cancer	21,529	Malignant neoplasms	4,362,037
2	Unintentional injury	20,003	Unintentional injury	3,901,259
3	Heart disease	12,332	Heart disease	3,225,740
4	Suicide	6,185	Suicide	1,289,181
5	Chronic lower respiratory disease	3,602	Perinatal period*	860,014
6	Liver disease	2,887	Homicide	795,211
7	Diabetes	2,868	Chronic lower respiratory disease	622,866
8	Perinatal period	2,700	Liver disease	61,0807
9	Cerebrovascular disease	1,941	Diabetes mellitus	596,730
10	Congenital anomalies	1,663	Cerebrovascular disease	543,414

**The deaths during the perinatal period include fetal death (stillbirth) or an early neonatal death before 28 days after birth. They exclude deaths due to congenital anomalies, metabolic injuries, poisonings, cancer, and tetanus.*

APPENDIX A: REFERENCES

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APPENDIX B: HISTORY AND GOVERNANCE

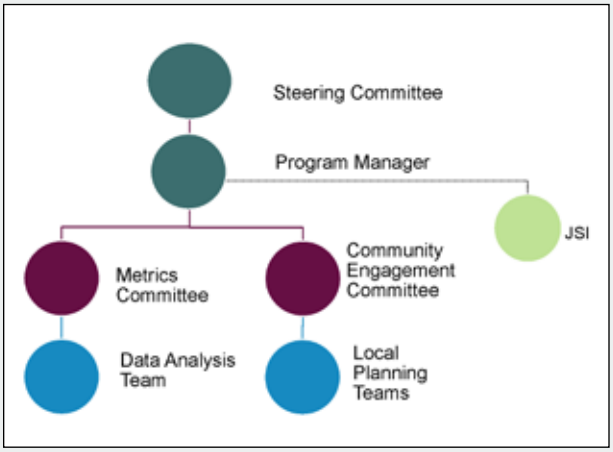
Maine is one of the few states in the nation that conducts a shared public-private statewide community health needs assessment—the Maine Shared CHNA—which was born out of a unique public-private partnership. The partnership began as the OneMaine Health Collaborative in 2007, involving Northern Light Health (formerly Eastern Maine Healthcare Systems), MaineGeneral Health, and MaineHealth. After conversations with the Statewide Coordinating Council for Public Health, the Maine Center for Disease Control and Prevention, an office of the Department of Health and Human Services joined in 2012. In 2013, Central Maine Healthcare (CMHC) joined the group and in 2014, leadership from the signatory partners signed a formal Memorandum of Understanding outlining mutual goals and expectations. A charter was drafted by all five partners to guide a statewide assessment process.

The Maine Shared CHNA is intended to coordinate state and county needs assessments to meet the needs of hospitals, to support state and local public health accreditation efforts, and to provide valuable population health assessment data for a wide variety of organizations across Maine. Our vision is to turn data into action so that Maine will become the healthiest state in the nation.

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. 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. For more information about the committee structure and our partners, please visit the *About Us* page on our website **www.mainechna.org**.

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.

Figure 10. Maine Shared CHNA Governance Structure, 2018–2019



Members of the Metrics Committee created processes and deliverables for the Steering Committee to review and approve. Members of the Metrics Committee included representatives of the Steering Committee, public health system partners, Federally Qualified Health Centers, academia, non-profits, and others with experience in epidemiology.

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 CHNA state and county-level results; identifying priorities among significant health issues; and identifying local, regional, or statewide assets and resources that may potentially address the significant health needs identified. Members of the Community Engagement Committee shared their expertise to create processes and deliverables for the Steering Committee to review and approve. Members of the Community Engagement Committee included representatives of the Steering Committee, public health system partners, Federally Qualified Health Centers, academia, and Maine non-profits such as United Ways, Community Action Programs, and others with an interest in broad community representation and input.

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

- Almost two hundred indicators were selected to describe health outcomes; health behaviors; healthcare access and quality; and the social, community, and physical environments that affect health and wellness.
- **County Health Profiles** were released in September 2018.
- **District Health Profiles** were released in November 2018.
- **City Health Profiles** for Lewiston/Auburn, Bangor, and Portland were released in January 2019.

Outreach and Engagement

- **Community outreach** was conducted between September 2018 and January 2019. Community forums with residents and service providers were held in all 16 counties. All forms of engagement included forums and key informant interviews. Some local planning teams also conducted additional targeted outreach, focus groups, and surveys. 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.

Final Reports

- **Final CHNA reports** for the state, each county, and districts were released in late spring of 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

The Metrics Committee identified the almost 200 health indicators from over 30 sources to be used for the Maine Shared CHNA. The initial list was based on the indicators from the 2016 effort. This list was first 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 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). This analysis plan was then approved by the Steering Committee.

The Data Analysis Workgroup used the set of indicators and the data analysis plan, as laid out by the Metrics Committee, and collected and analyzed the data. Members of the Data Analysis Workgroup shared their years of epidemiological and data analysis experience and knowledge of best practices to inform all aspects of the final health profiles at the county, public health district, city, and state level. This included not only the data analysis but recommendations on best practices for data presentation and visualization.

The Data Analysis Workgroup met weekly from March through August 2018 to discuss and coordinate an approach for analysis and data sharing between the University of Southern Maine (USM), Maine CDC, and John Snow, Inc. (JSI). The group developed rules regarding time frame (e.g., comparisons across time were to be of periods of equal duration; the most recent data used was from 2010 to present); handling complexity (e.g., how to combine years of data when an indicator's data definition changed over time, such as ICD9/ICD10 coding or BRFSS question changes); benchmarking, map and graph formats; and iconography to be used in profile tables. Some of the methodologies are documented in the Data Definitions section of each health profile. More is provided in the "2018 Maine Shared CHNA Data Analysis Technical Definitions" posted on the Maine Shared CHNA website.

OUTREACH AND ENGAGEMENT

Community outreach and engagement for the Maine Shared CHNA included coordination at both the statewide, public health district, and county level. The statewide Community Engagement Committee met monthly from March 2018 through January 2019 to review and provide input on every aspect of engagement process.

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

Data Health Profiles include:

- 1 State Health Profile
- 16 County Health Profiles
- 5 Public Health District Profiles
  (One for each of the geographically-based multi-county districts.)
- 3 City Health Profiles
  (Bangor, Lewiston/Auburn, and Portland)
- 6 Health Equity Data Summaries, one for each of the following demographic characteristics:
  - Sex
  - Race
  - Hispanic ethnicity
  - Sexual orientation
  - Educational attainment
  - Income

*These reports, along with an interactive data form, can be found under the Health Profiles tab at **www.mainechna.org**.*

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

Forums and Health Priorities

Criteria for visualizing data included areas identified as a health priority in the last CHNA, significant changes in the data over time, or where a county's data was notably better or worse than the state or the nation. Forum agenda items included remarks from health leaders; 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 and Steering Committees created and approved a rubric to guide the selection criteria for the subset of data to be presented in each forum's PowerPoint presentations.

Small groups had 35–45 minutes to discuss the data in the presentation and the full county profile, and to share their own experiences in order to identify their top county health priorities. Table facilitators guided these discussions using key questions and worksheets

COMMUNITY ENGAGEMENT

Persons representing broad interests of the community were consulted during the engagement process. Please see the county reports for organizations engaged in each county.

Key Informant Interviews

The Steering Committee identified several categories of medically under-served and vulnerable populations to ensure their input was heard and captured. A list of 80 potential interview subjects was created with statewide input. Selected key informants either had lived experience in or had 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 in substance misuse disorder recovery/ substance misuse disorder prevention and treatment professionals

The following is a list of organizations who participated in Key Informant Interviews conducted both by JSI and local planning committee members:

- Alpha One
- Androscoggin Home Healthcare + Hospice
- Bingham Foundation
- Cary Medical Center
- Catholic Charities of Maine
- Community Concepts
- Community Caring Collaborative
- Edmund Ervin Pediatric Center, MaineGeneral Health
- EqualityMaine
- Family Medicine Institute
- Frannie Peabody Center
- Greater Portland Council of Governments
- Healthy Acadia
- Healthy Androscoggin
- Healthy Communities of the Capitol Area
- Kennebec Valley Council of Governments
- Long Creek Youth Development Center
- Maine Access Immigrant Network
- Maine Alliance for Addiction and Recovery
- Maine Alliance to Prevent Substance Abuse
- Maine Chapter Multiple Sclerosis Society
- Maine Council on Aging
- Maine Migrant Health
- Maine Seacoast Mission
- Millinocket Chamber of Commerce
- National Alliance on Mental Illness
- Nautilus Public Health
- Northern Light Maine Coast Hospital
- Office of Aging and Disability Services
- Penquis Community Action Agency
- Portland Public Health
- Seniors Plus
- Sunrise Opportunities
- Tri-County Mental Health Services
- United Ambulance Service
- Veterans Administration Maine Healthcare System
- York County Community Action Corporation

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. Votes were tallied and a hierarchy emerged.

The summary votes for each forum were used to develop the county level priorities. If multiple forums were held in a county, the forum results for forums held with the general community were included in the total votes for the county. In cases where a forum was held with a specific population—for example, LGBTQ youth or older adults—then the results of their voting and discussion were included in the section describing the needs of that particular population. To arrive at the top countywide community health issues, votes from the broad community forums were combined for each of the priority areas to identify priority areas which fell within 70% of the combined voting total.

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

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?

Thirty-one interviews were conducted by JSI and 11 by members of Local Community Engagement Planning Committees. Information gathered from the key informant interviews is included in discussions where applicable in the county level report within each of the county priorities. For example, when discussing substance use, a discussion of the needs of vulnerable populations within this priority was also included. The state level report provides a summary of key findings from these interviews for each of the ten vulnerable populations.

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

APPENDIX D: PUBLIC HEALTH DISTRICTS AND HOSPITALS

Figure 11. Public Health Districts and Hospitals

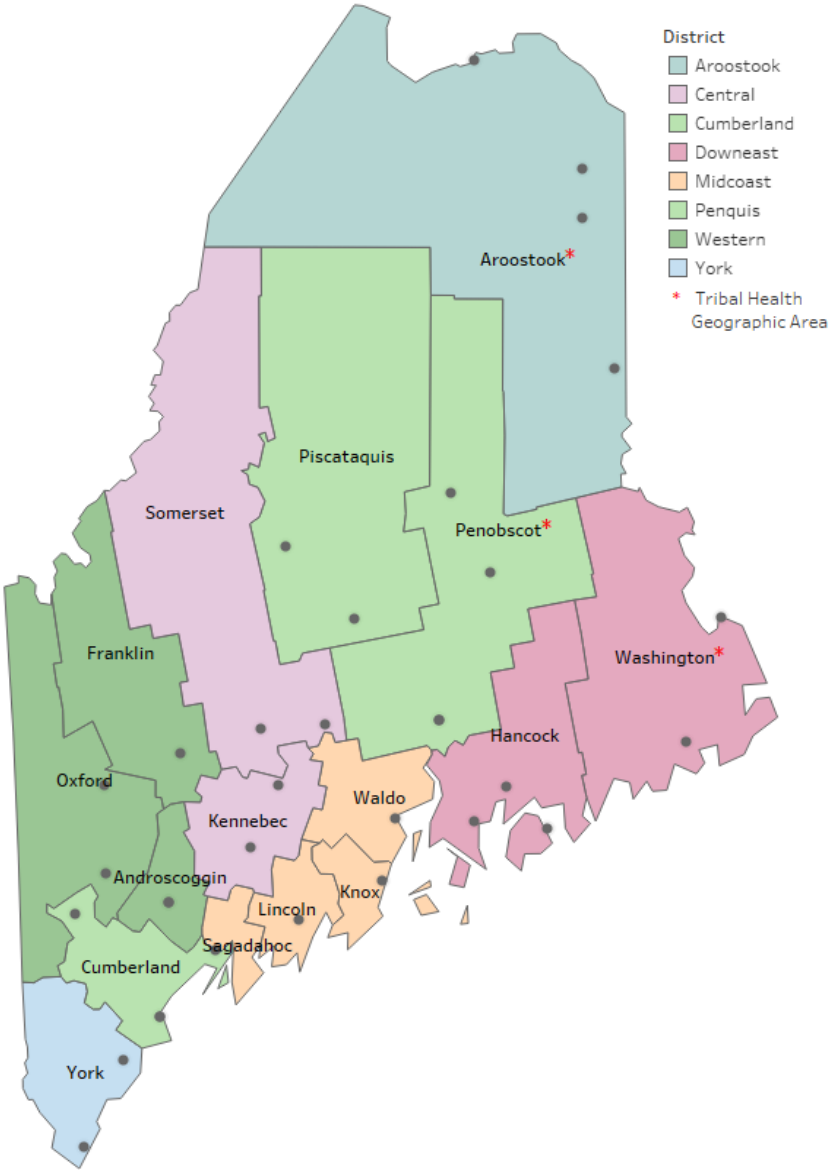


Table 15. Public Health Districts and Hospitals

PUBLIC HEALTH DISTRICTS	HOSPITALS
District 1, York	
York County	• Southern Maine Health Care, MaineHealth, Biddeford • York Hospital, York
District 2: Cumberland	
Cumberland County	• Bridgton Hospital, Central Maine HealthCare, Bridgton* • Maine Medical Center, MaineHealth, Portland • Northern Light Mercy Hospital, Portland • New England Rehabilitation, Portland • Spring Harbor Hospital, MaineHealth, Westbrook
District 3, Western	
Androscoggin County	• Central Maine Medical Center, Central Maine HealthCare, Lewiston • St. Mary's Regional Medical Center, Lewiston
Oxford County	• Rumford Hospital, Central Maine HealthCare, Rumford* • Stephens Memorial Hospital, MaineHealth, Norway*
Franklin County	• Franklin Memorial Hospital, MaineHealth, Farmington
District 4, Midcoast	
Sagadahoc County	• Mid Coast Hospital, Brunswick
Lincoln County	• LincolnHealth, MaineHealth, Damariscotta*
Waldo County	• Waldo County General Hospital, MaineHealth, Belfast*
Knox County	• Pen Bay Medical Center, MaineHealth, Rockport
District 5, Central	
Kennebec County	• MaineGeneral Health, Augusta • Northern Light Inland Hospital, Waterville
Somerset County	• Redington-Fairview General Hospital, Skowhegan* • Northern Light Sebasticook Valley Hospital, Pittsfield*
District 6, Penquis	
Penobscot County	• Millinocket Regional Hospital* • Northern Light Eastern Maine Medical Center, Bangor • Northern Light Acadia Hospital, Bangor • Penobscot Valley Hospital, Lincoln* • St. Joseph Hospital, Bangor
Piscataquis County	• Mayo Regional Hospital, Dover-Foxcroft* • Northern Light CA Dean Hospital, Greenville*
District 7, Downeast	
Washington	• Calais Regional Hospital, Calais* • Down East Community Hospital, Machias*
Hancock County	• Mount Desert Island Hospital, Bar Harbor* • Northern Light Blue Hill Hospital, Blue Hill* • Northern Light Maine Coast Hospital, Ellsworth
District 8, Aroostook	
Aroostook County	• Cary Medical Center, Caribou • Houlton Regional Hospital, Houlton* • Northern Light AR Gould Hospital, Presque Isle • Northern Maine Medical Center, Ft. Kent
District 9, Tribal	
Aroostook, Penobscot, and Washington Counties	This is a population-based district. See individual counties for hospital listings.

**Critical Access Hospital*