

University of Southern Maine USM Digital Commons

Population Health

Maine Rural Health Research Center (MRHRC)

4-28-2022

Maine: A Health-Focused Landscape Analysis

Katherine Ahrens PhD

University of Southern Maine, Muskie School of Public Service, Maine Rural Health Research Center

Amanda Burgess MPPM, MPH

University of Southern Maine, Muskie School of Public Service, Maine Rural Health Research Center

Carly Milkowski MPH

University of Southern Maine, Muskie School of Public Service, Maine Rural Health Research Center

Yvonne Jonk PhD

University of Southern Maine, Muskie School of Public Service, Maine Rural Health Research Center

Louisa Munk MPH

University of Southern Maine, Muskie School of Public Service, Maine Rural Health Research Center

See next page for additional authors

Follow this and additional works at: https://digitalcommons.usm.maine.edu/population_health

Part of the Health Policy Commons, Health Services Research Commons, Public Policy Commons, and the Social Statistics Commons

Recommended Citation

Ahrens, K., Burgess, A., Milkowski, C., Munk, L., Jonk, Y., & Ziller, E. (2022). Maine: A Health-Focused Landscape Analysis. [Chartbook]. University of Southern Maine, Maine Rural Health Research Center.

This Chartbook is brought to you for free and open access by the Maine Rural Health Research Center (MRHRC) at USM Digital Commons. It has been accepted for inclusion in Population Health by an authorized administrator of USM Digital Commons. For more information, please contact jessica.c.hovey@maine.edu.

uthors	
atherine Ahrens PhD; Amanda Bu Junk MPH; and Erika Ziller PhD	rgess MPPM, MPH; Carly Milkowski MPH; Yvonne Jonk PhD; Louisa

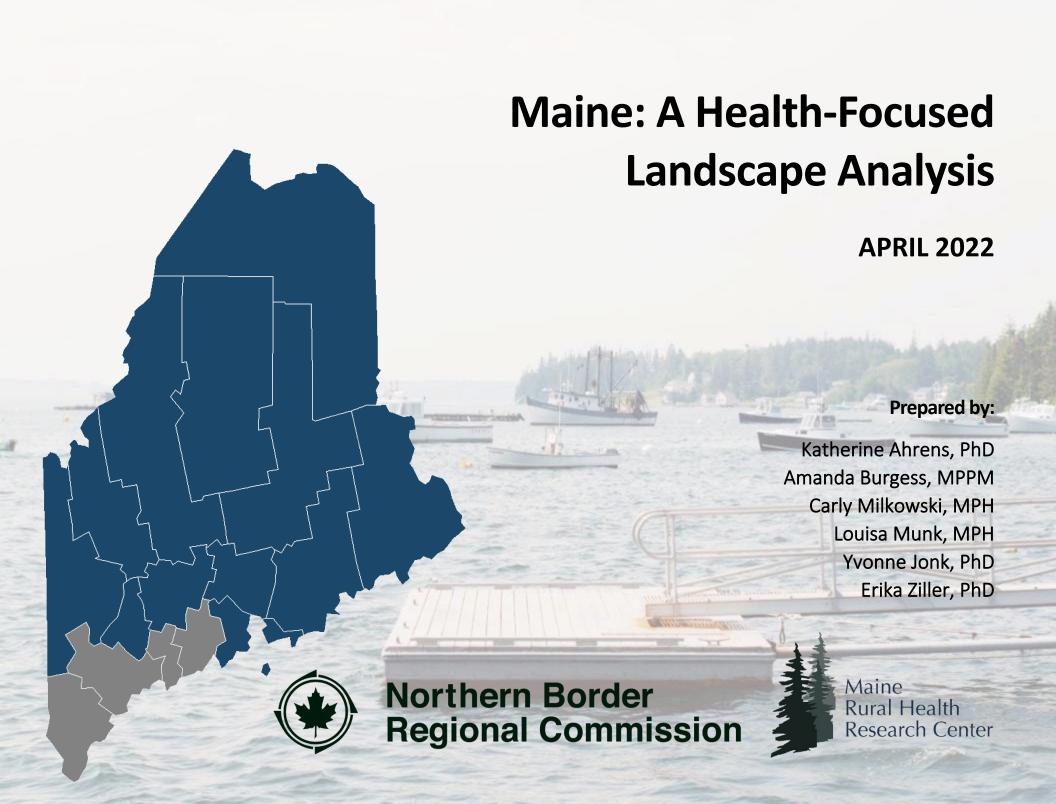


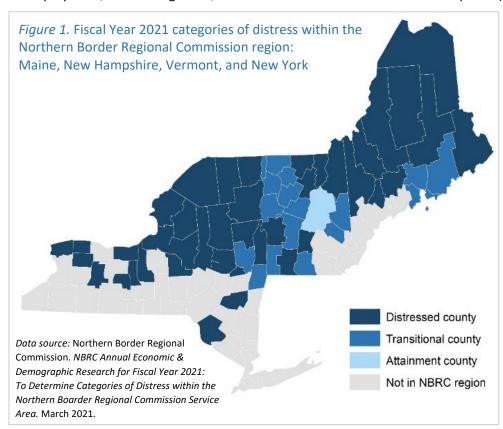
TABLE OF CONTENTS

INTRODUCTION	1
KEY TAKEAWAYS	
SECTION I. Demographic Characteristics	
SECTION II. Socioeconomic Characteristics	
SECTION III. Access to Healthcare	
SECTION IV. Health Outcomes	6
SECTION V. Health Behaviors and Access	7
SECTION VI. Community Safety and Physical Environment	
SECTION VII. Death Rates per 100,000 Population, Cause Specific	
SECTION VIII. Top Five Causes of Death	
SECTION IX. Internet Access	11
SECTION X. Summary of Health Measures	
SECTION XI. Health Professional Shortage Areas	
SECTION XII. Rural Health Clinics	
SECTION XIII. Federally Qualified Health Centers	15
SECTION XIV. Hospitals	
SECTION XV. Drug Poisoning Mortality	
SECTION XVI. Substance Use Treatment	18
METHODS NOTE	19
APPENDIX I. Maine County Map	20
APPENDIX II. Data Sources	21
APPENDIX III. Additional Resources	71

INTRODUCTION

The Northern Border Regional Commission (https://www.nbrc.gov/) is a Federal-State partnership formed by Congress in 2008. Its purpose is to fund economic and community development projects in economically distressed and (primarily) rural counties located in four northeastern border states: Maine, New Hampshire, New York, and Vermont.

Counties within the Northern Border Regional Commission Region (NBRC) are categorized annually as "distressed" (have high rates of poverty, unemployment, and outmigration, with severe and persistent economic distress and underdevelopment), "transitional" (have recently experienced high rates of poverty, unemployment, and outmigration, with economic distress and underdevelopment), or "attainment counties" (neither distressed nor transitional) (Figure 1).



Counties designated as distressed and transitional are eligible for Northern Border Regional Commission awards, with a 20% match required for distressed counties and a 50% match required for transitional counties. Counties designated as attainment counties are not eligible for awards, but projects might be eligible if they are located within sub-county areas designated as isolated areas of distress, are part of a multi-county or multi-state project, or if the project is of significant benefit to distressed or transitional counties outside that county. Annual appropriation is divided equally among Maine, New Hampshire, New York, and Vermont.

Since 2010, the Northern Border Regional Commission has provided more than \$90 million in funding for economic and infrastructure development projects in Maine, New Hampshire, New York, and Vermont. In addition, the Commission has leveraged matched funds from the federal government and state governments.

The 2021 Federal Appropriations package included an increase in funding for the Northern Border Regional Commission (from \$25 million to \$30 million) and a temporary waiver of the matching funds requirement for grantees. To be eligible for grant consideration, projects must fall within specific categories. One category is "basic health care and other public services to assist economically distressed areas."

In order to inform the distribution of Northern Border Regional Commission funds, the Maine Rural Health Research Center conducted a landscape analysis of population health and healthcare access for each state and for the region overall.

The measures presented in this chartbook may assist in the planning and selection of high impact projects for rural counties in greatest need of economic and infrastructure development investments to improve population health and healthcare access in Maine.

KEY TAKEAWAYS

The analyses in this chartbook identify strengths and assets of the state of Maine, as well as opportunities for improvement, across a comprehensive set of population health and health care access measures. These data are intended to inform strategic initiatives to support health and health care in the state, particularly in rural counties and counties in the Northern Border region. Key findings include:

Most counties in Maine face shortages of primary care, mental health, and/or dental health professionals.

- Fifteen Maine counties are designated partial health professional shortage areas in all three domains: primary care, mental health, and dental health (see page 13).
- One Maine county (Sagadahoc County) has no health professional shortage areas in any of the domains.

Some rural Maine counties have limited access to health care and poor population health status.

- Ranked alongside the 102 counties in the Northern Border region, most Maine counties perform poorly on measures of insurance coverage among children and adults under age 65 (see page 5).
- The counties with the highest rates of insurance coverage in the state (Androscoggin, Cumberland, Kennebec, Sagadahoc and York Counties) are predominantly urban counties (see page 5).
- Five of Maine's rural counties (Aroostook, Oxford, Piscataquis, Somerset, and Washington) have a high proportion of residents who report frequent physical and/or mental distress (see page 6).

Rates of injury-related death are highest in Piscataquis, Somerset, and Washington Counties.

- Piscataquis, Somerset, and Washington Counties have higher rates of suicide, firearm, and motor vehicle crash deaths than most other counties in the Northern Border region (see page 9).
- Overall, Maine's drug poisoning mortality rate was 25.8 per 100,000—the second highest among states in the Northern Border Region. Washington County had the highest rate of drug poisoning mortality in the state (30.0 per 100,000 population) (see page 17).

Maine performs well on measures of community safety and physical environment.

• Maine counties generally have lower rates of violent crime and severe housing problems, higher rates of homeownership, and lower levels of air pollution than other counties in the Northern Border region (see page 8).

SECTION I. Demographic Characteristics

		Rurality	Ą	ge	Sex			Race/e	thnicity¹			Language
Geography	Population	Living in a rural area	Below 18 years of age	Age 65 and older	Female	Non-Hispanic white	Non-Hispanic Black	Hispanic	American Indian & Alaska Native	Asian	Native Hawaiian/ Other Pacific Islander	Not proficient in English
	(N)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
United States	328,239,523	19.3%	22.3%	16.5%	50.8%	60.1%	12.5%	18.5%	1.3%	5.9%	0.2%	4.3%
Maine	1,344,212	61.3%	18.5%	21.2%	51.0%	93.0%	1.6%	1.8%	0.7%	1.3%	<0.1%	0.5%
Androscoggin County*	108,277	43.4%	21.5%	18.2%	51.0%	90.2%	4.3%	1.9%	0.4%	0.9%	<0.1%	0.7%
Aroostook County*	67,055	80.3%	18.3%	24.9%	50.6%	93.7%	1.1%	1.4%	1.9%	0.5%	<0.1%	0.7%
Cumberland County	295,003	36.1%	18.3%	19.0%	51.6%	90.1%	3.1%	2.2%	0.4%	2.4%	<0.1%	1.0%
Franklin County*	30,199	83.0%	17.7%	22.7%	50.9%	95.6%	0.5%	1.3%	0.5%	0.5%	<0.1%	0.2%
Hancock County†	54,987	90.1%	17.0%	25.3%	51.5%	94.5%	0.9%	1.6%	0.5%	1.2%	<0.1%	0.1%
Kennebec County*	122,302	62.8%	19.1%	20.6%	51.3%	94.4%	0.7%	1.7%	0.6%	1.0%	<0.1%	0.4%
Knox County	39,772	67.9%	17.6%	26.0%	50.4%	95.0%	0.8%	1.6%	0.5%	0.7%	<0.1%	0.1%
Lincoln County	34,634	100.0%	16.8%	28.2%	51.0%	95.7%	0.6%	1.3%	0.4%	0.8%	<0.1%	0.2%
Oxford County*	57,975	83.1%	18.2%	22.6%	50.6%	95.0%	0.6%	1.5%	0.5%	0.8%	<0.1%	0.2%
Penobscot County*	152,148	57.7%	18.0%	19.1%	50.4%	93.4%	0.9%	1.5%	1.3%	1.2%	<0.1%	0.3%
Piscataquis County*	16,785	100.0%	16.8%	27.4%	50.0%	94.7%	0.5%	1.5%	0.7%	1.1%	<0.1%	0.1%
Sagadahoc County	35,856	61.7%	19.0%	22.8%	51.4%	94.4%	0.8%	1.9%	0.5%	0.9%	<0.1%	0.4%
Somerset County*	50,484	80.5%	18.8%	21.3%	50.3%	95.4%	0.6%	1.2%	0.6%	0.7%	<0.1%	0.4%
Waldo County†	39,715	91.3%	18.2%	23.3%	50.6%	95.3%	0.6%	1.6%	0.5%	0.6%	<0.1%	0.2%
Washington County*	31,379	92.4%	18.9%	24.8%	51.0%	89.3%	0.6%	2.6%	5.3%	0.5%	<0.1%	0.5%
York County	207,641	56.8%	18.4%	21.2%	51.2%	93.9%	1.0%	1.8%	0.4%	1.4%	<0.1%	0.5%

Data sources: Census Population Estimates, 2010 and 2019; American Community Survey, 2015-2019 5-year estimates.

Note: Rural counties are in bold font. * = NBRC distressed county; † = NBRC transitional county, ‡ = NBRC attainment county.

¹Race/ethnicity data may not sum to 100% due to missing data.

SECTION II. Socioeconomic Characteristics

		Employment			Inco	ome		Social support	Educ	ation
Geography	Employed full time, ages 16 to 64	Unemployed, ages 16 and older seeking work	Employed in healthcare and social assistance	Median household income	Population in poverty	Children in poverty	Children eligible for free or reduced-price lunch	Children in single-parent households	High school graduation rate	Adults with some college completion
	(%)	(%)	(%)	(\$)	(%)	(%)	(%)	(%)	(%)	(%)
United States	66.4%	3.7%	15.8%	65,712	12.3%	16.8%	52.2%	25.5%	85.0%	66.1%
Maine	63.1%	3.0%	21.7%	58,824	10.9%	13.8%	44.1%	20.6%	85.9%	68.3%
Androscoggin County*	66.4%	3.0%	21.4%	58,958	10.4%	15.3%	54.2%	20.9%	77.4%	66.9%
Aroostook County*	62.9%	4.6%	27.1%	40,675	15.5%	20.2%	51.9%	19.2%	85.7%	65.2%
Cumberland County	64.3%	2.4%	20.3%	75,254	7.8%	9.2%	30.7%	19.5%	89.5%	78.5%
Franklin County*	55.6%	3.8%	18.8%	51,136	12.6%	16.6%	50.3%	18.3%	87.2%	62.5%
Hancock County†	59.8%	3.5%	18.4%	58,926	10.6%	14.2%	42.8%	21.4%	86.6%	64.7%
Kennebec County*	65.1%	2.9%	27.9%	55,358	11.5%	13.9%	47.2%	20.9%	83.7%	67.4%
Knox County	59.4%	2.9%	20.0%	55,910	10.9%	17.5%	41.9%	24.6%	86.2%	60.7%
Lincoln County	61.1%	3.0%	19.0%	58,619	11.0%	16.4%	42.4%	21.3%	83.5%	57.3%
Oxford County*	59.7%	3.6%	21.0%	50,344	13.0%	17.6%	60.4%	19.0%	82.7%	55.9%
Penobscot County*	59.8%	3.2%	25.2%	50,702	12.4%	13.9%	46.1%	21.9%	85.8%	67.3%
Piscataquis County*	59.1%	3.7%	28.7%	43,509	16.5%	23.8%	64.6%	20.2%	NA	49.0%
Sagadahoc County	66.9%	2.3%	8.5%	65,841	8.6%	11.4%	38.3%	23.9%	85.0%	67.8%
Somerset County*	60.8%	4.5%	20.7%	45,333	18.3%	22.6%	64.8%	23.6%	83.8%	56.0%
Waldo County†	59.9%	3.2%	18.7%	51,073	13.7%	18.6%	55.2%	16.3%	84.8%	65.5%
Washington County*	53.7%	4.6%	24.1%	39,068	19.6%	24.6%	61.1%	23.1%	NA	54.5%
York County	66.3%	2.7%	21.1%	66,803	7.9%	9.9%	35.7%	20.1%	89.2%	69.9%

Data sources: American Community Survey, 2015-2019 5-year estimates; Bureau of Labor Statistics, 2019; Business Dynamics Statistics, Center for Economic Studies, US Census Bureau, 2018; Small Area Income and Poverty Estimates, 2019; National Center for Education Statistics, 2018-2019; EDFacts, 2017-2018.

Note: Rural counties are in bold font. * = NBRC distressed county; † = NBRC transitional county, ‡ = NBRC attainment county. NA = not available.

SECTION III. Access to Healthcare

				Access to care	:				Quality of care		
Geography	Uninsured among ages 0-64	Uninsured among adults ages 18-64	Uninsured among children ages 0-18	Ratio of population to primary care physicians	Ratio of population to primary care providers other than physicians	Ratio of population to dentists	Ratio of population to mental health providers	Preventable hospital stays per 100,000 Medicare enrollees	Mammography screening among female Medicare enrollees ages 65-74	Flu vaccinations among fee-for- service Medicare enrollees	County performance indicator
	(%)	(%)	(%)	(N:1)	(N:1)	(N:1)	(N:1)	(N)	(%)	(%)	
United States	10.4%	12.4%	5.2%	1,319	942	1,405	383	4,236	42.0%	48.0%	
Maine	10.2%	11.7%	5.7%	899	655	1,484	202	3,447	46.0%	46.0%	
Androscoggin County*	9.8%	11.6%	4.6%	1,146	506	1,805	205	3,280	42.0%	49.0%	✓
Aroostook County*	13.8%	15.4%	8.3%	907	713	1,676	177	5,412	55.0%	37.0%	\Diamond
Cumberland County	8.4%	9.6%	4.7%	597	509	964	137	2,565	45.0%	55.0%	✓
Franklin County*	11.0%	12.6%	6.0%	934	974	2,745	339	3,020	51.0%	43.0%	✓
Hancock County†	12.1%	13.4%	7.9%	703	764	1,964	248	3,343	45.0%	52.0%	\triangle
Kennebec County*	9.2%	10.5%	5.2%	830	493	1,176	195	3,243	46.0%	48.0%	✓
Knox County	11.7%	13.2%	7.3%	994	1,136	1,371	187	2,440	48.0%	50.0%	\triangle
Lincoln County	13.4%	14.8%	8.4%	881	845	2,886	468	3,661	43.0%	37.0%	\Diamond
Oxford County*	11.8%	13.6%	5.7%	1,646	1,318	2,761	387	3,009	48.0%	34.0%	\triangle
Penobscot County*	11.7%	13.3%	6.4%	771	401	1,170	178	4,273	42.0%	43.0%	\triangle
Piscataquis County*	12.4%	14.0%	6.9%	1,680	799	3,357	454	4,521	42.0%	34.0%	\Diamond
Sagadahoc County	8.6%	9.5%	5.7%	1,620	1,992	1,707	454	2,878	38.0%	41.0%	\triangle
Somerset County*	11.7%	13.5%	6.0%	1,807	1,030	5,609	574	3,632	47.0%	43.0%	O
Waldo County†	11.4%	13.1%	6.0%	1,369	1,073	2,837	382	3,588	45.0%	41.0%	\triangle
Washington County*	16.3%	18.6%	9.1%	1,749	897	2,092	169	3,314	44.0%	34.0%	\Diamond
York County	8.6%	9.8%	4.6%	1,339	1,348	2,056	241	3,535	50.0%	52.0%	✓

Data sources: Small Area Health Insurance Estimates, 2018; Area Health Resource File, American Medical Association, 2018; Center for Medicare & Medicaid Services, National Provider Identification, 2020; Area Health Resource File, National Provider Identification, 2019; Mapping Medicare Disparities Tool, 2018.

Note: Rural counties are in bold font. * = NBRC distressed county; † = NBRC transitional county; ‡ = NBRC attainment county. If a cell is highlighted in light blue, the county in that row is in the bottom 10% of all counties in NBRC states (ME, NH, NY, VT) for that measure.

SECTION IV. Health Outcomes

		Length of life			Quality of life		
Geography	Life expectancy (years)	Premature age- adjusted mortality (deaths among residents under age 75 per 100,000 population)	Child mortality (number of deaths among children under age 18 per 100,000 population)	Frequent physical distress (% of adults)	Frequent mental distress (% of adults)	Diabetes prevalence (% of adults aged 20+)	County performance indicator
United States	79.2	339.2	49.1	11.4%	12.7%	10.5%	
Maine	78.7	338.4	43.0	13.0%	15.7%	10.4%	
Androscoggin County*	77.1	395.9	38.5	13.0%	15.7%	12.2%	\triangle
Aroostook County*	78.6	347.2	68.8	15.1%	17.2%	15.0%	\otimes
Cumberland County	80.2	278.1	37.7	9.5%	12.3%	8.3%	V
Franklin County*	78.1	345.9	56.3	12.4%	14.9%	9.6%	V
Hancock County†	79.6	318.3	29.1	12.0%	14.4%	9.5%	✓
Kennebec County*	78.1	364.2	39.2	13.3%	15.5%	10.4%	✓
Knox County	79.0	327.3	59.9	11.7%	14.0%	8.1%	✓
Lincoln County	80.2	291.5	51.9	11.5%	14.6%	9.6%	✓
Oxford County*	77.5	387.6	35.1	14.3%	15.6%	10.7%	0
Penobscot County*	77.7	371.6	46.2	14.0%	16.0%	12.3%	\triangle
Piscataquis County*	76.7	405.6	NA	14.9%	16.8%	13.1%	0
Sagadahoc County	80.0	287.2	47.8	11.3%	13.9%	9.0%	V
Somerset County*	76.5	429.3	56.9	15.4%	17.0%	12.3%	0
Waldo County†	78.6	326.8	37.2	12.3%	15.3%	11.3%	V
Washington County*	76.6	412.7	NA	15.7%	17.2%	11.5%	0
York County	79.2	328.2	43.9	11.1%	13.8%	9.8%	V

Data sources: National Center for Health Statistics-Mortality Files, 2016-2019; Behavioral Risk Factor Surveillance System, 2018; United States Diabetes Surveillance System, 2017.

Note: Rural counties are in bold font. * = NBRC distressed county; † = NBRC transitional county; ‡ = NBRC attainment county. If a cell is highlighted in light blue, the county in that row is in the bottom 10% of all counties in NBRC states (ME, NH, NY, VT) for that measure. NA = not available.

SECTION V. Health Behaviors and Access

	Tobacco use	Food	d access, physical	activity, and ob	esity	Alcol	hol use	Sexual	health	
Geography	Adult smoking (%)	Adult obesity (%)	Food environment index ¹	Physical inactivity ² (%)	Access to exercise opportunities ³	Excessive drinking ⁴ (%)	Alcohol- impaired driving deaths (as % of driving deaths)	Sexually transmitted infections (Chlamydia cases per 100,000 population)	Teen births (# per 1,000 female population ages 15-19)	County performance indicator
United States	16.6%	29.7%	7.8	22.7%	84.2%	19.2%	27.0%	539.9	20.9	
Maine	19.4%	29.8%	8.0	20.8%	70.0%	22.0%	35.4%	325.2	14.0	
Androscoggin County*	21.8%	33.4%	7.8	22.6%	84.2%	21.2%	28.3%	528.6	20.7	V
Aroostook County*	23.0%	37.7%	7.2	30.7%	55.6%	16.4%	29.5%	252.8	18.4	$\overline{\mathbf{V}}$
Cumberland County	14.3%	23.3%	8.3	15.1%	83.8%	24.7%	29.0%	358.6	7.1	✓
Franklin County*	19.7%	32.4%	8.3	21.5%	46.8%	22.6%	43.5%	240.1	13.1	\triangle
Hancock County†	18.3%	26.7%	8.2	18.3%	69.5%	22.0%	45.7%	231.2	14.7	✓
Kennebec County*	22.1%	32.0%	8.0	22.3%	76.5%	20.1%	43.7%	298.8	14.2	✓
Knox County	18.3%	28.2%	8.0	17.1%	44.8%	21.8%	36.4%	286.5	16.8	✓
Lincoln County	18.5%	25.4%	8.2	19.4%	56.7%	24.0%	35.0%	269.0	17.5	✓
Oxford County*	21.7%	32.2%	7.8	23.9%	41.0%	20.0%	45.5%	289.0	19.4	\triangle
Penobscot County*	21.9%	34.2%	7.5	23.5%	63.4%	18.4%	34.8%	367.2	12.6	✓
Piscataquis County*	24.4%	36.3%	7.2	26.5%	48.0%	21.4%	30.8%	256.4	20.2	\triangle
Sagadahoc County	17.9%	24.1%	8.5	18.4%	81.4%	21.4%	21.1%	285.4	15.5	V
Somerset County*	25.8%	33.7%	6.9	27.0%	59.5%	19.7%	30.6%	304.2	24.5	\triangle
Waldo County†	19.5%	30.6%	8.0	19.5%	50.0%	22.9%	37.8%	195.8	20.1	V
Washington County*	24.6%	33.8%	7.1	27.3%	52.0%	21.5%	44.4%	297.5	24.0	0
York County	17.0%	29.9%	8.4	20.5%	77.9%	23.9%	33.7%	290.9	11.6	V

Data sources: Behavioral Risk Factor Surveillance System, 2018; United States Diabetes Surveillance System, 2017; United States Department of Agriculture Food Environment Atlas, 2015 and Map the Meal Gap from Feeding America, 2018; Business Analyst, Delorme map data, ESRI, & US Census Tigerline Files, 2010 and 2019; Fatality Analysis Reporting System, 2015-2019; National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention, 2018; National Center for Health Statistics - Natality files, 2013-2019.

Note: Rural counties are in bold font. * = NBRC distressed county; † = NBRC transitional county; ‡ = NBRC attainment county. If a cell is highlighted in light blue, the county in that row is in the bottom 10% of all counties in NBRC states (ME, NH, NY, VT) for that measure.

¹The food environment index is a measure of food security and access to healthy food and ranges from 0 (worst) to 10 (best). ²Physical inactivity is a measure of the percentage of adults reporting no leisure-time physical activity in the past month. ³Access to exercise opportunities is a measure of the percentage of individuals in a county who live reasonably close to a location for physical activity (a census block within a half mile of a park, an urban census block within one mile of a recreational facility, or a rural census block within three miles of a recreational facility). ⁴Excessive drinking is a measure of the percentage of a county's adult population that reports binge or heavy drinking in the past 30 days.

SECTION VI. Community Safety and Physical Environment

	Community safety	Hou	using	Environmental quality	Country
Geography	Violent crime (# of offenses per 100,000 population)	Severe housing problems (% of households)	Homeownership (% of occupied units owned)	Air pollution - particulate (micrograms per cubic meter)	County performance indicator
United States	386.5	17.5%	64.0%	7.2	
Maine	125.8	14.3%	72.3%	6.6	
Androscoggin County*	139.1	14.3%	64.3%	5.6	√
Aroostook County*	120.4	13.0%	72.0%	7.4	V
Cumberland County	128.3	15.3%	69.3%	6.5	V
Franklin County*	111.0	11.0%	79.4%	6.4	V
Hancock County†	60.1	15.1%	76.3%	4.6	V
Kennebec County*	168.2	13.6%	70.5%	5.7	V
Knox County	52.8	15.2%	77.2%	6.6	▽
Lincoln County	154.4	14.2%	79.2%	6.6	V
Oxford County*	111.9	13.7%	80.8%	6.9	V
Penobscot County*	86.3	14.2%	69.4%	8.0	V
Piscataquis County*	118.1	14.0%	75.9%	6.1	V
Sagadahoc County	37.0	14.4%	74.5%	6.6	V
Somerset County*	136.5	15.7%	76.1%	6.8	V
Waldo County†	72.8	13.5%	79.2%	6.7	✓
Washington County*	122.8	12.6%	76.5%	5.5	V
York County	150.8	14.4%	73.9%	6.6	V

Data sources: Uniform Crime Reporting – Federal Bureau of Investigation, 2014 and 2016; Comprehensive Housing Affordability Strategy (CHAS) data, 2013-2017; American Community Survey, 2015-2019 5-year estimates; Environmental Public Health Tracking Network, 2016.

Note: Rural counties are in bold font. * = NBRC distressed county; † = NBRC transitional county; ‡ = NBRC attainment county. If a cell is highlighted in light blue, the county in that row is in the bottom 10% of all counties in NBRC states (ME, NH, NY, VT) for that measure.

SECTION VII. Death Rates per 100,000 Population, Cause Specific

	Length of life	Injury-related deaths		Injury-related de	ath subcategories		
Geography	Premature death (years of potential life lost before age 75, # per 100,000)	All injury deaths (# per 100,000)	Suicide deaths (# per 100,000)	Firearm deaths (# per 100,000)	Drug overdose deaths (# per 100,000)	Motor vehicle crash deaths (# per 100,000)	County performance indicator
United States	6,906.6	72.3	13.8	11.9	21.2	11.4	
Maine	7,020.8	93.0	17.7	11.4	28.4	11.5	
Androscoggin County*	7,751.4	88.4	19.0	9.8	26.9	11.9	V
Aroostook County*	7,189.2	82.4	16.1	14.8	13.4	10.7	V
Cumberland County	5,583.2	81.3	12.6	6.9	29.3	6.1	V
Franklin County*	7,066.8	96.6	19.6	17.3	16.7	16.1	Λ
Hancock County†	6,425.6	93.6	16.5	10.6	14.6	14.4	V
Kennebec County*	7,600.3	98.2	18.6	11.9	37.1	12.2	V
Knox County	7,112.6	101.5	20.3	12.1	20.1	11.9	V
Lincoln County	6,470.7	96.9	21.8	12.3	26.2	16.3	\triangle
Oxford County*	8,491.4	92.9	19.3	13.2	20.2	14.9	<u> </u>
Penobscot County*	7,613.9	95.3	17.4	13.0	35.6	13.0	V
Piscataquis County*	8,610.2	109.4	25.2	16.6	21.8	18.6	0
Sagadahoc County	6,237.8	79.5	23.9	15.8	14.0	8.9	\triangle
Somerset County*	9,072.1	112.7	25.1	21.3	31.0	18.2	0
Waldo County†	6,906.1	91.5	21.6	14.2	17.6	16.3	Λ
Washington County*	8,937.8	127.0	23.3	15.2	40.2	15.8	0
York County	7,034.9	99.3	18.3	9.8	34.5	11.0	V

Data source: National Center for Health Statistics – Mortality Files, 2013-2019.

Note: Rural counties are in bold font. * = NBRC distressed county; † = NBRC transitional county; ‡ = NBRC attainment county. If a cell is highlighted in light blue, the county in that row is in the bottom 10% of all counties in NBRC states (ME, NH, NY, VT) for that measure.

SECTION VIII. Top Five Causes of Death

		Top five causes of death (Age-adjusted rate of death per 100,000 population)								
Geography	Heart disease	Cancer	Accidents (unintentional injuries)	Chronic lower respiratory diseases	Stroke (cerebrovascular diseases)	performance indicator				
United States	164.8	152.3	47.5	40.2	37.3					
Maine	147.8	168.6	63.3	48.6	33.9					
Androscoggin County*	169.4	180.3	61.8	60.5	40.6	\triangle				
Aroostook County*	155.0	163.0	50.1	58.6	33.3	V				
Cumberland County	128.3	150.6	57.8	37.8	30.5	V				
Franklin County*	151.2	176.4	61.0	53.1	37.3	V				
Hancock County†	135.9	158.5	61.4	42.3	33.4	√				
Kennebec County*	154.5	178.5	69.3	51.9	42.8	V				
Knox County	161.3	177.7	60.6	41.4	32.5	V				
Lincoln County	140.0	153.8	57.9	32.4	38.5	V				
Oxford County*	141.9	176.9	63.3	65.3	30.3	V				
Penobscot County*	158.7	175.2	67.2	55.0	33.9	V				
Piscataquis County*	179.7	206.0	70.9	42.8	37.8	\triangle				
Sagadahoc County	148.5	157.3	43.1	38.1	42.8	V				
Somerset County*	193.8	196.8	70.8	72.5	35.1	\triangle				
Waldo County†	165.7	164.9	56.5	49.6	35.2	V				
Washington County*	184.9	193.2	100.0	53.6	32.6	\triangle				
York County	130.0	168.3	69.9	44.4	28.2	√				

Data source: National Center for Health Statistics – Mortality Files, 2015-2019.

Note: Rural counties are in bold font. * = NBRC distressed county; † = NBRC transitional county; ‡ = NBRC attainment county. If a cell is highlighted in light blue, the county in that row is in the bottom 10% of all counties in NBRC states (ME, NH, NY, VT) for that measure.

SECTION IX. Internet Access

		Household access to the internet		Household access to broadband	
Geography	Access with an internet subscription	Access without an internet subscription ¹	No internet access	Access with broadband of any type	County performance indicator
	(%)	(%)	(%)	(%)	
United States	86.6%	2.5%	10.9%	86.4%	
Maine	82.9%	3.5%	13.7%	82.1%	
Androscoggin County*	82.2%	3.5%	14.2%	81.7%	✓
Aroostook County*	70.0%	6.2%	23.8%	69.2%	\triangle
Cumberland County	87.8%	3.2%	9.0%	87.2%	V
Franklin County*	78.5%	3.8%	17.7%	77.5%	V
Hancock County†	83.0%	3.2%	13.8%	82.2%	V
Kennebec County*	82.5%	2.8%	14.8%	81.9%	V
Knox County	85.9%	3.5%	10.6%	84.8%	V
Lincoln County	81.2%	3.9%	14.9%	80.2%	V
Oxford County*	78.5%	4.0%	17.5%	77.3%	V
Penobscot County*	82.6%	3.9%	13.5%	81.6%	V
Piscataquis County*	70.7%	8.2%	21.2%	68.9%	\triangle
Sagadahoc County	84.0%	2.9%	13.1%	83.4%	V
Somerset County*	76.9%	3.5%	19.6%	76.0%	V
Waldo County†	81.4%	2.6%	16.0%	80.3%	V
Washington County*	75.5%	4.3%	20.2%	74.3%	\triangle
York County	86.2%	2.7%	11.2%	85.4%	V

Data source: American Community Survey, 2015-2019 5-year estimates.

Note: Rural counties are in bold font. * = NBRC distressed county; † = NBRC transitional county; ‡ = NBRC attainment county. If a cell is highlighted in light blue, the county in that row is in the bottom 10% of all counties in NBRC states (ME, NH, NY, VT) for that measure. For this table, only two measures ("No internet access" and "Access with broadband of any type") were used to assess the bottom 10% of all counties in NBRC states. The "Household access to the internet" measures sum to 100%.

¹Respondents reported accessing the internet without paying a cell phone company or internet service provider.

SECTION X. Summary of Health Measures

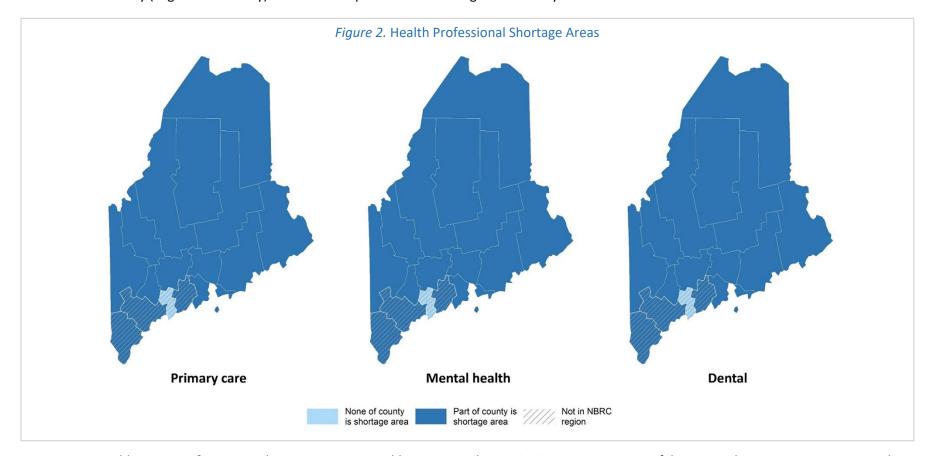
County	Access to healthcare	Health outcomes	Health behaviors and access	Community safety and physical environment	Death rates per 100,000 population	Top five causes of death	Internet access
Androscoggin County*	✓	<u> </u>	V	V	V	\triangle	✓
Aroostook County*	0	0	\triangle	V	✓	✓	\triangle
Cumberland County	✓	V	✓	✓	✓	✓	✓
Franklin County*	✓	V	\triangle	V	\triangle	✓	✓
Hancock County†	\triangle	V	V	V	✓	✓	✓
Kennebec County*	✓	V	✓	✓	✓	✓	✓
Knox County	\triangle	V	V	V	√	V	✓
Lincoln County	0	V	V	V	\triangle	V	✓
Oxford County*	\triangle	0	\triangle	V	\triangle	✓	✓
Penobscot County*	\triangle	\triangle	V	V	√	V	V
Piscataquis County*	0	0	A	V	0	\triangle	\triangle
Sagadahoc County	\triangle	V	V	V	\triangle	✓	V
Somerset County*	0	0	\triangle	V	\otimes	\triangle	V
Waldo County†	\triangle	V	V	V	\triangle	V	V
Washington County*	0	0	0	V	0	\triangle	\triangle
York County	V	V	V	V	V	V	V

Note: Rural counties are in bold font; * = NBRC distressed county; † = NBRC transitional county; ‡ = NBRC attainment county.

SECTION XI. Health Professional Shortage Areas

Health Professional Shortage Areas reflect areas and populations that experience a shortage of health professionals in three domains: primary care, mental health, and dental health. At the county level, Health Professional Shortage Areas indicate whether all, part ("partial"), or none of the county is a shortage area. The Health Resources & Services Administration designates these areas on an annual basis.

- Fifteen Maine counties are designated partial health professional shortage areas in all three domains: primary care, mental health, and dental health (Figure 2, left to right).
- One Maine county (Sagadahoc County) has no health professional shortage areas in any of the domains.



Data source: Health Resources & Services Administration, Area Health Resources Files, 2020-2021. Note: For a map of the state with county names, see Appendix I.

SECTION XII. Rural Health Clinics

Rural Health Clinics provide primary care services and preventative services in underserved rural communities. Centers for Medicare & Medicaid Services (CMS) certified Rural Health Clinics must be located in a rural underserved area, have a team of physician and non-physician clinicians, and provide outpatient primary care services and basic laboratory services. Rural Health Clinics receive enhanced reimbursement for Medicare and Medicaid services.

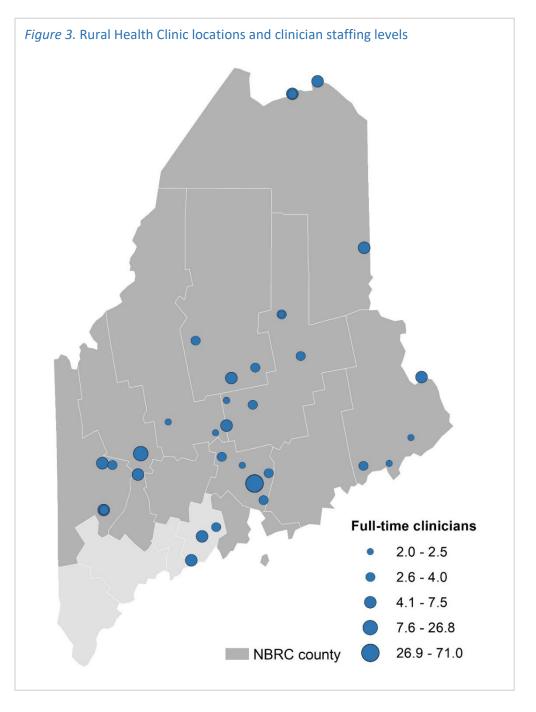
As of March 2021, Maine had 37 Rural Health Clinic locations:

- 34 Rural Health Clinics are located in Northern Border Region counties
- 34 Rural Health Clinics are hospital based
- Clinician full-time equivalents (FTE):
 - o 1 FTE is equal to a single person working 40 hours a week
 - Clinicians: physicians, physician assistants, and nurse practitioners
 - o Maine Rural Health Clinics range from 2 to 71 clinician FTEs
 - A majority of Rural Health Clinics (64%) have fewer than five full-time clinicians



Note: For a map of the state with county names, see Appendix I.

Services file, March 2021.

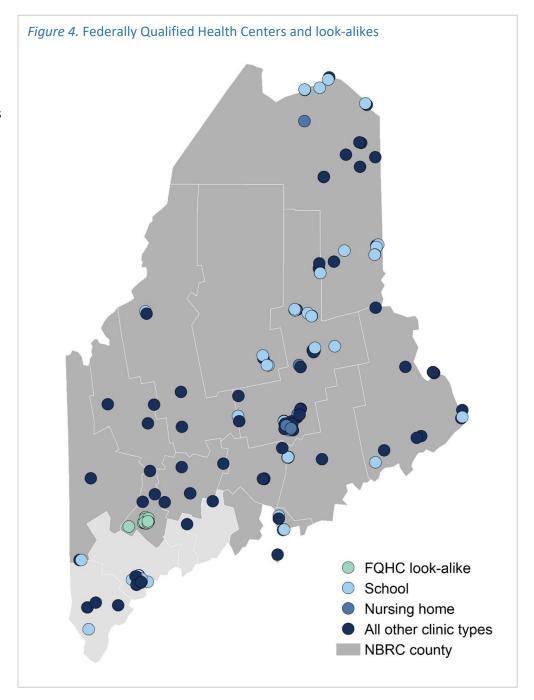


SECTION XIII. Federally Qualified Health Centers

Federally Qualified Health Centers (FQHCs) are community health centers that provide primary care to underserved populations. Health centers can receive federal grant funding through Section 330 of the Public Health Service Act. Health centers that are look-alikes meet the Health Resources & Services Administration's health center requirements, serve similar populations, but do not receive federal grant funding. The Centers for Medicare & Medicaid Services certify participants in the Health Center program as FQHCs for payment purposes.

As of June 2021, there were 188 FQHCs or look-alikes in Maine, including:

- 15 FQHC look-alikes in Androscoggin County
- 54 FQHC school clinics
- 14 FQHC nursing home clinics
- 105 other FQHC service delivery clinics



Data source: Health Resources & Services Administration, June 2021. *Note:* For a map of the state with county names, see Appendix I.

SECTION XIV. Hospitals

There are 33 general acute hospitals in Maine.¹ Eight are in urban areas and 25 are in rural areas.² Of the rural hospitals, 16 are Critical Access Hospitals, which is a designation given to eligible rural hospitals by the Centers for Medicare & Medicaid Services. Eligible hospitals must have 25 or fewer acute care inpatient beds, provide 24/7 emergency care, and generally must be located more than 35 miles from another hospital.

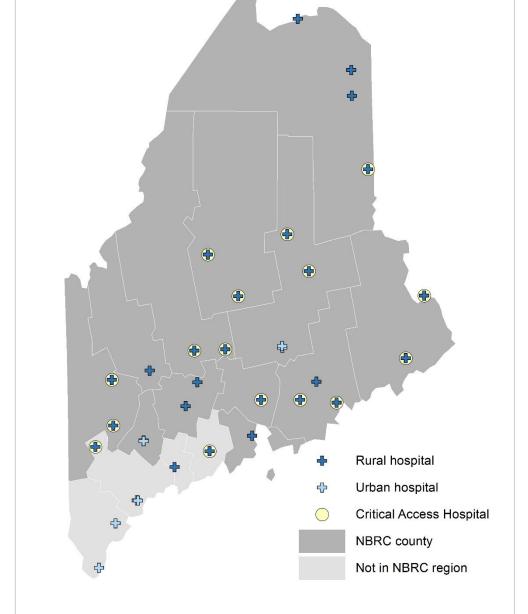


Figure 5. Hospital locations

Data sources: Health Resources & Services Administration, June 2021. Note: For a map of the state with county names, see Appendix I.

¹ Includes short-term and Critical Access Hospitals; specialty hospitals (e.g., children's, psychiatric, rehabilitation, transplant, Veterans Affairs) are not captured.

² As defined by the Federal Office of Rural Health Policy, 2020.

SECTION XV. Drug Poisoning Mortality

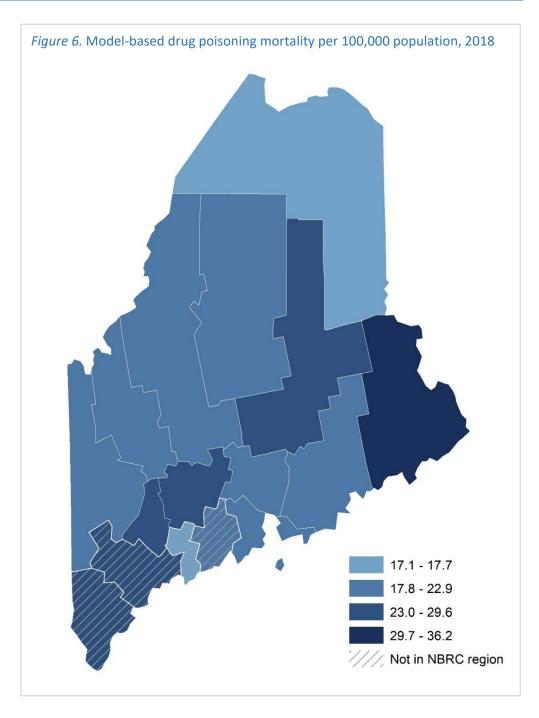
Maine's 2018 drug poisoning mortality rate was 25.8 per 100,000, higher than the US rate of 20.6 per 100,000 and second highest among states in the Northern Border region.³

County-level model-based estimates of drug poisoning mortality:⁴

- Lowest in Aroostook County (17.1 per 100,000)
- Highest in Washington County (30.0 per 100,000)

Data source: National Center for Health Statistics (NCHS), Drug Poisoning Mortality in the United States, 1999-2018. September 2020. Note: For a map of the state with county names, see Appendix I.

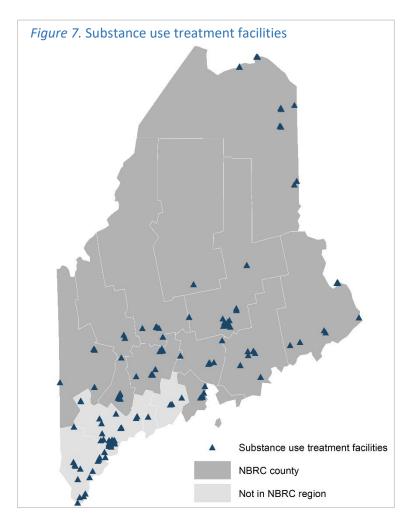
⁴ Model-based death rates are smoothed, county-level crude death rates. These estimates borrow strength across counties to provide stable estimates where data are sparse due to small population sizes. For more information, see the NCHS documentation: https://www.cdc.gov/nchs/data-visualization/drug-poisoning-mortality/

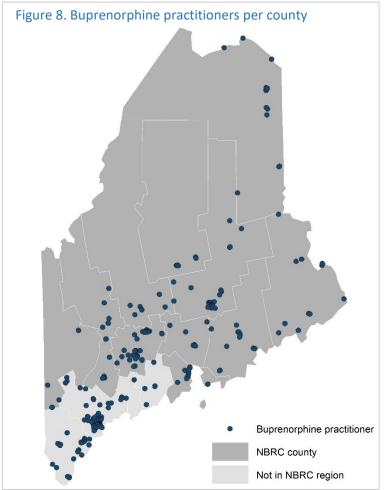


³ Drug poisoning deaths are classified using the International Classification of Diseases, Tenth Revision (ICD-10). Drug-poisoning deaths with the following underlying causes of death are included in the rate: unintentional, suicide, homicide, or undetermined intent. Drug-poisoning deaths include overdose deaths from all types of medications and drugs.

SECTION XVI. Substance Use Treatment

As of August 2021, there were 176 substance use treatment facilities in Maine and 460 licensed buprenorphine practitioners. Counties in the NBRC region had 113 treatment facilities and 299 buprenorphine practitioners. Of counties in the region, Piscataquis County had the fewest substance use treatment facilities (n=1), and was tied with Franklin County for the fewest buprenorphine practitioners (n=7). Penobscot County had the most treatment facilities (n=23) and buprenorphine practitioners (n=82) among Maine's Northern Border counties.





Data source: Substance Abuse and Mental Health Services Administration, Behavioral Health Treatment Services Locator, 2021. Note: For a map of the state with county names, see Appendix I.

METHODS NOTE

This chartbook compiled the most recent publicly available data at the county-level and state-level for Maine.

We used 2021 published county- and state-level health-related measures, aggregated by the County Health Rankings (Robert Wood Johnson Foundation), along with additional data sources (see Appendix II. Data Sources for specific data sources). All data sources are publicly available and free of charge.

Rural status of hospitals was based on the definition used by the Federal Office of Rural Health Policy (FORHP). FORHP defines an area as rural if it is not part of a Metropolitan Statistical Area. FORHP considers census tracts (which can be inside Metropolitan counties) with a Rural-Urban Commuting Area code of 4 or greater as rural as well as tracts with RUCA codes 2 or 3 that are at least 400 square miles in area with a population density of no more than 35 people per square mile.⁵

We used the 2013 Rural-Urban Continuum Codes to label counties as metropolitan "urban" (codes 1-3) or nonmetropolitan "rural" (codes 4-9) in this chartbook's data tables.⁶

To label counties according to the current Northern Border Regional Commission categories (distressed, transitional, attainment counties with an isolated area(s) of distress, attainment counties without an isolated area of distress) we used the March 2021 report, "NBRC Annual Economic & Demographic Research for Fiscal Year 2021: To Determine Categories of Distress within the Northern Boarder Regional Commission Service Areas."

We identified counties that ranked near the bottom (worst performing) for each health-related measure examined using all 102 counties in Maine, New Hampshire, New York, and Vermont for comparison. We assigned the following county performance indicators based on the number of times each county fell into the bottom 10th percentile ranking for each health-related topic:

- ☑ = county is in bottom 10% of all counties for fewer than 2 measures
- = county is in bottom 10% of all counties for 4 or more measures

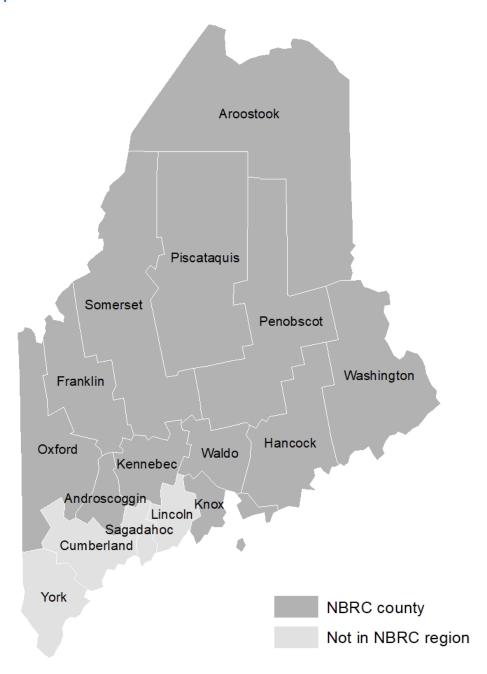
We used ArcGIS to map locations of facilities within each state. NBRC state and county shapefiles were sourced from the US Census Bureau.⁷

⁵ Health Resources & Services Administration (2021, January). "Defining Rural Population." Retrieved July 9, 2021, from https://www.hrsa.gov/rural-health/about-us/definition/index.html.

⁶ USDA United States Department of Agriculture Economic Research Service (2003). Rural Urban Continuum Codes (RUCC. Retrieved September 16. 2021, from https://www.ers.usda.gov/data-products/rural-urban-continuum-codes/.

⁷ US Census Bureau (2018). Cartographic Boundary Files – Shapefile. Retrieved June 7, 2021, from https://www.census.gov/geographies/mapping-files/time-series/geo/carto-boundary-file.html.

APPENDIX I. Maine County Map



APPENDIX II. Data Sources

American Community Survey, US Census Bureau

- > Adults with some college completion: Percentage of adults ages 25-44 with some post-secondary education, 2015-2019 5-year estimates
- Children in single-parent households: Percentage of children that live in a household headed by single parent, 2015-2019 5-year estimates
- Employed full time: Population 16 to 64 years old who worked full-time, year-round, 2015-2019 5-year estimates
- Homeownership: Percentage of occupied housing units that are owned, 2015-2019 5-year estimates
- Households with an internet subscription: Percentage of households with an internet subscription, 2015-2019 5-year estimates
- Households with broadband of any type: Percentage of households with broadband of any type, 2015-2019 5-year estimates
- Internet access without a subscription: Percentage of households with internet access without a subscription, 2015-2019 5-year estimates
- No internet access: Percentage of households with no internet access, 2015-2019 5-year estimates
- % Not proficient in English: 2015-2019 5-year estimates

Area Health Resources Files, American Medical Association

> Ratio of population to primary care physicians: Ratio of population to primary care physicians, 2018

Area Health Resources Files, County Level Data

Health Professional Shortage Areas, 2020-2021

Area Health Resources Files, National Provider Identification file

Ratio of population to dentists: Ratio of population to dentists, 2019

Behavioral Risk Factor Surveillance System

- Adult smoking: Percentage of adults who are current smokers, 2018
- Excessive drinking: Percentage of adults reporting binge or heavy drinking, 2018
- > Frequent mental distress: Percentage of adults reporting 14 or more days of poor mental health per month, 2018
- Frequent physical distress: Percentage of adults reporting 14 or more days of poor physical health per month, 2018

Bureau of Labor Statistics

Unemployed: Percentage of population ages 16 and older unemployed but seeking work, 2019

Business Analyst, Delorme map data, ESRI, & US Census Tigerline Files

Access to exercise opportunities: Percentage of population with adequate access to locations for physical activity, 2010 and 2019

Business Dynamics Statistics, Center for Economic Studies, US Census Bureau

Employment in health care and social assistance: Percentage of workforce employed in the healthcare and social assistance sector, 2018

Census Population Estimates

- Age: Percentage of population age 65 and older, 2019
- Age: Percentage of population below 18 years of age, 2019
- Living in a rural area: Percentage of population living in a rural area, 2010
- Population: Total population, 2019
- Race/ethnicity: Percentage of population that is American Indian and Alaska Native, 2019
- Race/ethnicity: Percentage of population that is Asian, 2019
- Race/ethnicity: Percentage of population that is Hispanic, 2019
- Race/ethnicity: Percentage of population that is Native Hawaiian/Other Pacific Islander, 2019
- Race/ethnicity: Percentage of population that is non-Hispanic Black, 2019
- Race/ethnicity: Percentage of population that is non-Hispanic white, 2019
- Sex: Percentage of population that is female, 2019

Centers for Medicare & Medicaid Services, National Provider Identification

- Ratio of population to mental health providers: Ratio of population to mental health providers, 2020
- Ratio of population to primary care providers other than physicians: Ratio of population to primary care providers other than physicians, 2020

Centers for Medicare & Medicaid Services (CMS), Provider of Services file

- Rural Health Clinic clinician staffing, March 2021
- Rural Health Clinic locations, March 2021
- Rural Health Clinic physician staffing, March 2021

Comprehensive Housing Affordability Strategy (CHAS) data

> Severe Housing problems: Percentage of households with at least 1 of 4 housing problems: overcrowding, high housing costs, lack of kitchen facilities, or lack of plumbing facilities, 2013-2017

ED Facts

High school graduation rate: Percentage of ninth-grade cohort that graduates in four years, 2017-2018

Environmental Public Health Tracking Network

> Air pollution-particulate: Average daily density of fine particulate matter in micrograms per cubic meter (PM2.5), 2016

Fatality Analysis Reporting System

Alcohol-impaired driving deaths: Percentage of driving deaths with alcohol involvement, 2015-2019

Health Resources & Services Administration

- Federally Qualified Health Center locations and designations, June 2021
- Hospital locations, June 2021

Mapping Medicare Disparities Tool

- Flu vaccinations among fee-for-service Medicare enrollees: Percentage of fee-for-service Medicare enrollees that had an annual flu vaccination, 2018
- Mammography screening among female Medicare enrollee ages 65-74: Percentage of female Medicare enrollees ages 65-74 that received an annual mammography screening, 2018
- Preventable hospital stays per 100,000 Medicare enrollees: Rate of hospital stays for ambulatory-care sensitive conditions per 100,000 Medicare enrollees, 2018

National Center for Education Statistics

Children eligible for free or reduced-price lunch: Percentage of children enrolled in public schools that are eligible for free or reduced-price lunch, 2018-2019

National Center for Health Statistics – Drug Poisoning Mortality in the United States, 1999-2018

- Age-adjusted drug poisoning mortality per 100,000 population, 2018
- County-level model-based drug poisoning mortality per 100,000 population, 2018

National Center for Health Statistics – Mortality Files

- Accidents (unintentional injury): Age-adjusted rate of death per 100,000 population, 2015-2019
- Cancer: Age-adjusted rate of death per 100,000 population, 2015-2019
- Child mortality: Number of deaths among children under age 18 per 100,000 population, 2016-2019
- Chronic lower respiratory diseases: Age-adjusted rate of death per 100,000 population, 2015-2019
- > Drug overdose deaths: Number of drug poisoning deaths per 100,000 population, 2017-2019
- Firearm deaths: Number of deaths due to firearms per 100,000 population, 2015-2019
- Heart disease: Age-adjusted rate of death per 100,000 population, 2015-2019
- Injury deaths: Number of deaths due to injury per 100,000 population, 2015-2019
- Life expectancy: Average number of years a person can expect to live, 2017-2019
- Motor vehicle crash deaths: Number of motor vehicle crash deaths per 100,000 population, 2013-2019
- > Premature death: Years of potential life lost before age 75 per 100,000 population (age-adjusted), 2017-2019
- > Stroke (cerebrovascular diseases): Age-adjusted rate of death per 100,000 population, 2015-2019
- Suicide deaths: Number of deaths due to suicide per 100,000 population, 2015-2019

National Center for Health Statistics - Natality files

> Teen births: Number of births per 1,000 female population ages 15-19, 2013-2019

National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention

Sexually transmitted infections: Number of newly diagnosed chlamydia cases per 100,000 population, 2018

Substance Abuse and Mental Health Services Administration, Behavioral Health Treatment Services Locator

- Substance use treatment facilities, 2021
- Buprenorphine practitioners per county, 2021

Small Area Income and Poverty Estimates

- Children in poverty: Percentage of people under age 18 in poverty, 2019
- Median household income: The income where half of households in a county earn more and half of households earn less, 2019

Small Area Health Insurance Estimates

- Uninsured, ages 0-64: Percentage of population under age 65 without health insurance, 2018
- Uninsured adults, age <65: Percentage of adults under age 65 without health insurance, 2018</p>
- Uninsured children: Percentage of children under age 19 without health insurance, 2018

Uniform Crime Reporting – Federal Bureau of Investigation

> Violent crime: Number of reported violent crime offenses per 100,000 population, 2014 and 2016

United States Department of Agriculture Food Environment Atlas and Map the Meal Gap from Feeding America

Food environment index: Index of factors that contribute to a healthy food environment, from 0 (worst) to 10 (best), 2015 and 2018

United States Diabetes Surveillance System

- Adult obesity: Percentage of the population aged 20 and older that reports a body mass index (BMI) of greater than or equal to 30kg/m², 2017
- Diabetes prevalence: Percentage of adults aged 20 and above with diagnosed diabetes, 2017
- Physical inactivity: Percentage of adults aged 20 and older reporting no leisure-time physical activity, 2017

APPENDIX III. Additional Resources

- <u>Maine Shared Community Health Needs Assessment</u> The Maine Shared Community Health Needs Assessment is a collaboration between the Maine Center for Disease Control and Prevention and Maine's four largest health systems. The collaborative has developed <u>reports</u> for each county and local public health district in Maine; <u>health profiles</u> of Maine's three largest metropolitan areas, <u>health equity data briefs</u>, and an <u>interactive database</u> of health data. An update to the Community Health Needs Assessment is ongoing.
- The Way Health Should Be: Social Determinants of Health in Maine, 2019 This report examines the health impact of social determinants including social relationships, physical environments, health insurance status, sexual orientation, employment, educational attainment, and income.



Funded by the Federal Office of Rural Health Policy www.ruralhealthresearch.org

FUNDING ACKNOWLEDGEMENT

This study was funded by a cooperative agreement between the US Federal Office of Rural Health Policy, Health Resources & Services Administration, Department of Health and Human Services (CA#U1CRH03716) and the University of Southern Maine. The findings and conclusions expressed in this report are those of the authors and do not necessarily represent the official position of the US Federal Office of Rural Health Policy.