Community Health Needs Assessment: 2016

Wentworth-Douglass Hospital

Wentworth-Douglass Health System

Dear patients and community members,

Wentworth-Douglass Hospital is pleased to share with you the results of our 2016 community health needs assessment. This assessment is conducted every three years to help us better understand and plan for the current and future health needs of communities within our service area.

Based on a comprehensive data assessment, and in alignment with input from community members, we have identified ten significant health needs in our service area. These needs include:

- Affordability of Care and Insurance Barriers
- Community Health Education
- Dental Health and Access to Dental Health Care
- General Healthcare and Access to Primary Care Services
- Mental Health and Access to Mental Health Services
- Needs of the Aging Population
- Obesity, Nutrition and Physical Activity
- Poverty and Lack of Economic Opportunity
- Substance Misuse and Access to Substance Misuse Treatment Services
- Transportation

In addition to continuing our current Community Benefit Programs, which include providing free transportation via the Care Van service, free and discounted care to those who cannot afford healthcare (Charity Care Program), and dental care for adults and children in the community at the Community Dental Center; the Wentworth-Douglass Hospital Board of Trustees has also approved funding to expand behavioral health services and various other services to better meet the health needs of our community.

As we end 110 years of caring in 2016, we look forward to providing better care every day for patients and giving back to our community. Thank you for allowing us to be part of your lives and for choosing us for your health care needs.

Sincerely,

Donna Rinaldi

Donna Rinaldi
Board of Trustees
Chair, Community Benefit Taskforce
Wentworth-Douglass Health System

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Community Health Needs Assessment

Prepared for
Wentworth-Douglass Hospital

By
Verité Healthcare Consulting, LLC

September 1, 2016

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ABOUT WENTWORTH-DOUGLASS HOSPITAL

Wentworth-Douglass Hospital is an affiliate of Wentworth-Douglass Health System - a nationally recognized, not-for-profit charitable health care organization located in the Seacoast community of Dover, New Hampshire, with a 110-year history of compassionate care and innovation.

Serving its communities since 1906, it is a family of 250 providers and over 2,300 employees and volunteers dedicated to the health, safety and well-being of residents and visitors to the Seacoast area of New Hampshire and Southern Maine. Wentworth-Douglass Health System is comprised of a 178-licensed bed hospital, several walk-in immediate care facilities, multiple testing centers, 26 provider practices at Wentworth Health Partners, The Works Health and Fitness Center, and the Wentworth-Douglass Foundation, providing philanthropic support for care and services in the community.

Wentworth-Douglass Hospital offers advanced technologies including the latest in minimally invasive surgery, including the daVinci® surgical robot, and the conforMIS knee replacement. The Seacoast Cancer Center offers comprehensive cancer care for the area, providing medical oncology, immunotherapy and radiation oncology treatment. Clinical affiliation with Massachusetts General Hospital for stroke, trauma, gynecologic oncology and thoracic surgery provides access to specialized care close to home. The Children's Hospital at Dartmouth (CHaD) affiliation provides pediatric subspecialists onsite in Dover for pediatric cardiology, gastroenterology, neurology and more. The Hospital also is certified as a Level III Adult and Pediatric Trauma center. Additional information on the hospital and its services is available https://www.wdhospital.com/wdh.

ABOUT VERITÉ HEALTHCARE CONSULTING

Verité Healthcare Consulting, LLC (Verité) was founded in May 2006 and is located in Alexandria, Virginia. The firm serves clients throughout the United States as a resource that helps health care providers conduct Community Health Needs Assessments and develop Implementation Strategies to address significant health needs. Verité has conducted more than 50 needs assessments for hospitals, health systems, and community partnerships nationally since 2010.

The firm also helps hospitals, hospital associations, and policy makers with community benefit reporting, program infrastructure, compliance, and community benefit-related policy and guidelines development. Verité is a recognized, national thought leader in community benefit and in the evolving expectations that tax-exempt healthcare organizations are required to meet.

EXECUTIVE SUMMARY

Introduction

This Community Health Needs Assessment (CHNA) was conducted by Wentworth-Douglass Hospital (Wentworth-Douglass or "the hospital") to identify significant community health needs and to inform development of an Implementation Strategy to address those needs. The hospital's assessment of community health needs also responds to regulatory requirements.

Federal regulations require that tax-exempt hospital facilities conduct a CHNA every three years and adopt an Implementation Strategy that addresses significant community health needs. Tax-exempt hospitals also are required to report information about the CHNA process and about community benefits they provide on IRS Form 990, Schedule H.

As described in the instructions to Schedule H, community benefits are programs or activities that provide treatment and/or promote health and healing as a response to identified community needs. Community benefit activities and programs also seek to achieve objectives, including:

- Improving access to health services,
- Enhancing public health,
- Advancing increased general knowledge, and
- Relief of a government burden to improve health.[1]

To be reported, community need for the activity or program must be established. Need can be established by conducting a CHNA.

CHNAs seek to identify significant health needs for particular geographic areas and populations by focusing on the following questions:

- ***Who*** in the community is most vulnerable in terms of health status or access to care?
- ***What*** are the unique health status and/or access needs for these populations?
- ***Where*** do these people live in the community?
- ***Why*** are these problems present?

The question of ***how*** the hospital can best address significant needs is the subject of the separate Implementation Strategy.

[1]Instructions for IRS form 990 Schedule H, 2015.

Methodology Summary

Federal regulations that govern the CHNA process allow hospital facilities to define the "community a hospital serves" based on "all of the relevant facts and circumstances," including the "geographic location" served by the hospital facility, "target populations served" (e.g., children, women, or the aged), and/or the hospital facility's principal functions (e.g., focus on a particular specialty area or targeted disease)."[2] The community assessed by Wentworth-Douglass accounts for over 70 percent of the hospital's 2015 inpatient discharges and emergency department visits.

Secondary data from multiple sources were gathered and assessed. Statistics for numerous health status, health care access, and related indicators were analyzed, including comparisons to benchmarks where possible. Findings from recent assessments of the community's health needs conducted by other organizations were reviewed as well.

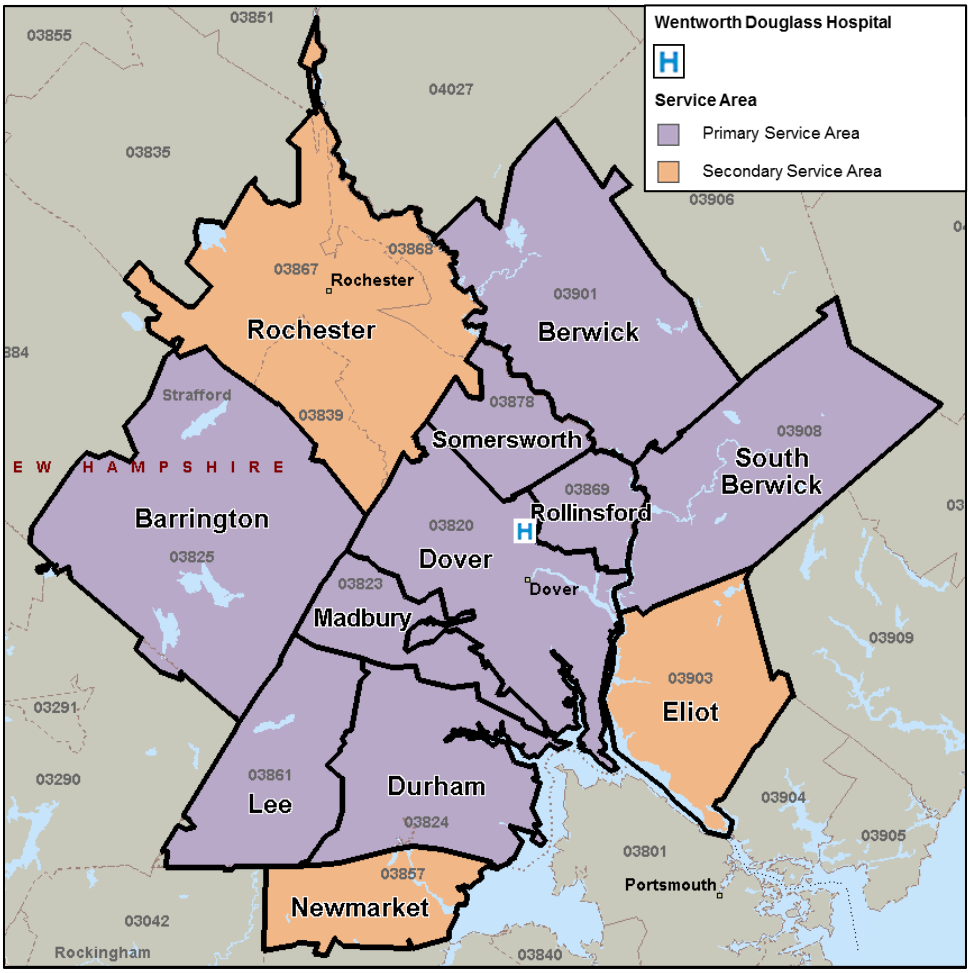
Input from a total of 55 individuals, 23 external community stakeholders and 32 staff members, was received through key informant interviews. These informants represented the broad interests of the community and included individuals with special knowledge of or expertise in public health.

Certain community health needs were determined to be "significant" if they were identified as problematic in three or more of the following four data sources: (1) the most recently available secondary data regarding the community's health, (2) recent assessments developed by other organizations (e.g., local Health Departments), (3) the 2015 community member survey that Wentworth-Douglass commissioned from RKM Research and Communications, Inc., and (4) key informants who participated in the interview process.

[2] 501(r) Final Rule, 2014.

Community Served by the Hospital

The following map portrays the community served by Wentworth-Douglass Hospital.



Summary Characteristics

- The Hospital's defined community includes 14 ZIP codes across three counties and two states.
- 72.1% of inpatient discharges in 2015 originated from within the defined community.
- Total population in 2015: 136,204
    - Projected population change between 2015 and 2020: 1.8%
- The demographic segment with the largest projected growth estimate is among senior adults (aged 65+). This group is expected to experience an 18.0% increase by 2020.
- Ten significant community health needs were identified through the assessment

Significant Community Health Needs

Significant community health needs were determined through a multifaceted analysis, incorporating both qualitative and quantitative data and feedback from existing secondary sources, key stakeholder interviews, and a community survey. Based on this analysis, the following ten issues, presented below in alphabetical order, have been identified as significant health needs in the community served by Wentworth-Douglass Hospital:

- Affordability of Care and Insurance Barriers
- Community Health Education
- Dental Health and Access to Dental Care
- General Healthcare and Access to Primary Care Services
- Mental Health and Access to Mental Health Services
- Needs of the Aging Population
- Obesity, Nutrition, and Physical Activity
- Poverty and Lack of Economic Opportunity
- Substance Misuse and Access to Substance Misuse Treatment Services
- Transportation

Highlights regarding why each issue was identified as "significant" are referenced below.

Affordability of Care and Insurance Barriers

- In the Wentworth-Douglass community, 11 percent of residents were uninsured in 2014, a rate higher than the New Hampshire and Maine averages (**Exhibit 14**).
- Rockingham County ranked in the bottom quartile among peer counties for "Cost Barrier to Care," a CHSI indicator that measures "the percent of adults who did not see a doctor due to cost" (**Exhibit 18**).
- To date, Maine has been one of the states that have not expanded Medicaid, as originally contemplated by the Patient Protection and Affordable Care Act (ACA, 2010). The uninsured rate would likely decline in York County if Maine expanded Medicaid.
- According to the household community survey Wentworth-Douglass commissioned, survey respondents indicated that lack of care when ill was most attributable to affordability of care (40 percent) and high co-pays (9 percent).
- Insurance restrictions, lack of insurance funding, and administrative requirements impacting care were all issues identified by interviewees as significant in the community. All of these issues were thought to increase the costs of care and restrict the options available to residents in the community.

Community Health Education

- Lack of patient education is a contributing factor to avoidable hospital admissions (**Exhibits 17 and 18**).Interviewees indicated that members of the community may not be aware of what resources are available, how to access health services, and how to navigate throughout the system.
- The Frisbie Memorial Hospital CHNA identified drug and alcohol education as a priority need.

- Among survey respondents, over 80 percent selected "Health Education" as a funding priority to improve access to health-related services in the community.
- Interviewees indicated that providers may be unware of how to best provide care to some members of the community, including individuals with hearing disabilities, recent immigrants, and members of the lesbian, gay, bisexual, transgender and queer (LGBTQ) community. Further, interviewees suggested that community health could be improved if primary care providers had added training in treating diverse populations.

Dental Health and Access to Dental Care

- County Health Rankings (CHR) data indicate that there are fewer dentists in Rockingham, Strafford, and York Counties than state averages (**Exhibit 17**).
- There are two areas designated as dental health professional shortage areas in the community, in Somersworth and Newmarket (**Exhibit 31**).
- Among survey respondents, 24 percent of community adults had not gone for a dental visit in the past year.
- Other community health assessments also identified dental health and access to dental services as important community health needs, such as the Frisbie Memorial Hospital CHNA and the Exeter Area CNA.
- Interviewees identified dental care as a significant need in the community, particularly the need for oral surgeons. Dental services remained particularly difficult for low income and uninsured populations to access.

General Healthcare and Access to Primary Care Services

- Several areas in the community, including Somersworth and Newmarket, are designated as Health Professional Shortage Areas (**Exhibit 31**).
- There is a lower ratio of primary care physicians to residents in Rockingham County and Strafford County (New Hampshire) and York County (Maine) than state averages (**Exhibit 17**).
- Per-capita hospital admissions for preventable conditions are higher in Rockingham and Strafford Counties than the rate in New Hampshire (**Exhibit 17**). These admissions may be due to issues with the accessibility and utilization of primary care, preventive care, and health education.
- Health assessments performed by other health and social service organizations in the Wentworth-Douglass area identified access to basic and primary medical care as a need in the community, including the Frisbie Memorial Hospital CHNA and the Exeter Area Community Needs Assessment.
- According to the household community survey Wentworth-Douglass commissioned, 22 percent of respondents in the Wentworth-Douglass primary service area indicated that it was more difficult to get health care services over the past few years.
- Over a year had passed since the last doctor's visit for 18 percent of community survey respondents, with 8 percent not going to the doctor for two years or longer.
- Key stakeholder interviewees stated that there was insufficient capacity, including in the workforce, along the entire continuum of care. Insufficient capacity was particularly noted in medical, mental health, palliative and hospice, and substance abuse services. These capacity limits were demonstrated by long waits for beds, referrals, and services.

Mental Health and Access to Mental Health Services

- Rockingham, Strafford, and York County all have mental health providers' rates that are lower than their respective state's average (**Exhibit 17**).
- All three counties also ranked in the bottom quartile in older adult depression in CHSI rankings (**Exhibit 18**).
- Strafford and York Counties both have suicide mortality rates higher than their respective state's average (**Exhibit 19**).
- Among Youth Risk Behavior Survey (YRBS) respondents, students in Strafford County are more likely to have seriously considered attempting suicide or attempted suicide than New Hampshire averages (**Exhibit 25A**).
- There are two areas designated as mental health professional shortage areas in the community, in Somersworth and Newmarket (**Exhibit 31**).
- Many other recent health assessments also indicated that mental and behavioral health was a significant concern in the community, including the Frisbie Memorial Hospital CHNA, Seacoast Public Health Network Community Health Improvement Plan (CHIP), Exeter Area Community Needs Assessment, and Strafford County Public Health Network CHIP.
- Community respondents indicated that mental health counseling was the health care service with the highest perceived need in the area (9 percent). Youth mental health counseling was tied for the second most responded answer (3 percent).
- Key stakeholder interviewees identified mental health services as particularly insufficient in capacity. While capacity has recently increased, interviewees indicated that the demand for behavioral and mental health treatment has outpaced the increased resources. Residents reported recent increases in the amount of stress, anxiety, and depression in the community.
- Interviewees identified mental health services for children as a significant need. While depression and anxiety in youth populations are thought to be increasing, there are few providers who specialize in adolescent therapy or psychiatry. Children were also thought to not comply with prescribed interventions to reduce the risk of standing out among their peers. Interviewees also suggested that gaps in services could be reduced by providing training in behavioral health to primary care providers.

Needs of the Aging Population

- The population of the Wentworth-Douglass community is expected to grow by 1.8 percent between 2016 and 2021, while the population aged 65 and older is expected to grow by 18 percent (**Exhibit 5**). Meeting the needs of this aging population is projected to be a significant issue.
- The three counties in the community all ranked in the bottom quartile of compared peer counties for older adult depression in CHSI rankings (**Exhibit 18**).
- Recent community assessments identified the needs of the aging population as a significant need currently and in the future, including the Strafford Regional Planning Commission and the Exeter Area Community Needs Assessment.
- Interviewees identified needs relating to the aging population as significant in the community. In particular, palliative and hospice care services were identified as some that needed to increase availability. Transportation, basic needs, and care coordination for elderly patients were also identified as significant needs in the community.

Obesity, Nutrition, and Physical Activity

- Strafford County is ranked in the bottom quartile of all New Hampshire counties in adult obesity (**Exhibit 16**). Strafford County also ranked in the bottom quartile of all peer counties for obesity in CHSI rankings (**Exhibit 18**).
- Rockingham County ranked in the bottom quartile for limited access to healthy food among peer counties in CHSI (**Exhibit 18**).
- Food deserts, defined as low-income areas more than one mile from a supermarket or large grocery store in urban areas and more than 10 miles from a supermarket or large grocery store in rural areas, are present in both Rochester and Somersworth in the Wentworth-Douglass Hospital community (**Exhibit 30**).
- Other, recent needs assessments identified both obesity and nutrition as significant needs in the community. This includes the Maine Collaborative report, the Strafford County Public Health Network CHIP, the Exeter Area CNA, and others.
- Interviewees identified nutrition, physical inactivity, and obesity as significant concerns throughout all populations of the Wentworth-Douglass community. Over consumption of food, excessive use of prepacked meals and fast food, and sedentary lifestyles all were main contributors to obesity concerns.

Poverty and Lack of Economic Opportunity

- The percent of residents below the federal poverty line was higher in Strafford County than the New Hampshire average (**Exhibit 10**). Strafford County also rated poorly in poverty measures when compared to peer counties in CHSI data (**Exhibit 18**).
- There are multiple low income census tract areas throughout the community. These areas are most prevalent in Dover, Rochester, and Somersworth (**Exhibit 11**).
- Fourteen schools in the community have over 40 percent of students receiving free and reduced lunch assistance due to family income (**Exhibit 12**).
- Unemployment levels, presently and over the past five years, are higher in Rockingham County than New Hampshire averages (**Exhibit 13**). Rockingham County has comparatively greater unemployment in CHR data (**Exhibit 16**).
- In the Wentworth-Douglass community, 32 percent of those surveyed indicated that "access to good jobs" was a priority area to improve in the community, one of the highest options selected.
- Seven percent of households surveyed reported a member missing or reducing meals due to financial concerns.
- Interviewees indicated that lower-income, working residents experienced many challenges in achieving good health. Furthermore, many jobs that are available in the community are thought to be low wage positions and may be only part-time without offering benefits.
- Rockingham County ranked in the bottom quartile for high housing costs in Community Health Status Indicators (CHSI). Additionally, both Rockingham and Strafford Counties rank in the bottom quartile for housing stress (**Exhibit 18**).
- The City of Rochester Consolidated Action Plan and the Strafford Regional Planning Commission Report both indicate that housing that is both safe and affordable is a significant need in the community.
- Among survey respondents, 36 percent believed that affordable housing was an area where significant improvement was needed, the second most-often cited concern.

- Many interviewees indicated that affordable housing was a significant need in the community, as evidenced by waiting lists for housing assistance and levels of homelessness in the community. Seniors in particular were thought to have a need for affordable housing to age well in the community.

Substance Misuse and Access to Substance Misuse Treatment Services

- Rockingham, Strafford, and York Counties all ranked in the bottom quartile of their state in percent of the population that drinks excessively. Each county also ranked in the bottom halves for drug overdose deaths (**Exhibit 16**).
- The percentage of driving deaths that involved alcohol was higher in all three counties than statewide in New Hampshire or Maine (**Exhibit 17**).
- York County ranked in the bottom quartile of peer counties for adult binge drinking in CHSI (**Exhibit 18**).
- All three counties rank worse than state averages for binge drinking in Behavioral Risk Factor Surveillance System data (**Exhibit 24**).
- Both Strafford County and York County YRBS data indicate that their students were more likely to use prescription drugs without a prescription than state averages (**Exhibit 25**).
- Strafford County YRBS data indicate its students were more likely to have ever used cocaine, heroin, and methamphetamines than New Hampshire averages (**Exhibit 25A**).
- Most other health assessments in the community indicated substance abuse was an issue, including the Frisbie Memorial Hospital CHNA, Seacoast Public Health Network CHIP, York County Community Action Corporation report, and Exeter Area CNA.
- Among survey respondents, 50 percent identified drug use in the community as an "extremely or very serious" issue. No other issue had more than 30 percent.
- Substance abuse was identified by interviewees as the issue of greatest concern to community health in the Wentworth-Douglass Hospital community. In particular, misuse of heroin, opioids, and alcohol was cited as contributing the most issues in the community across many demographic groups. Treatment programs for substance abuse were also identified as being limited.

Transportation

- Residents in Rockingham and York Counties were more likely to commute in their car alone for more than 30 minutes daily than respective state averages (**Exhibit 17**).
- Food deserts are present in both Rochester and Somersworth in the Wentworth-Douglass Hospital community (**Exhibit 30**). These food deserts suggest that grocery stores may be absent and/or transportation to healthy food options may be difficult in some areas in the community.
- Other, recent community assessments also identified the need for expanded transportation options as a significant need in the community, including the Exeter Area CNA and the York County Community Action Corporation's Needs Assessment.
- Among community survey respondents, 35 percent identified good public transportation options as a significant need in the area.
- Transportation issues were also identified by 9 percent of survey respondents as a cause of unmet sick care.

- Interviewees indicated that transportation assistance was a significant need in the community to access not only medical services, but also food and prescription drugs. Seniors, adolescents, disabled populations, low-income residents, and rural residents were all cited as groups most in need of transportation assistance.

The next sections of this CHNA report present the assessment of data on which these findings are based.

CHNA DATA AND ANALYSIS

METHODOLOGY

This section provides information on how the CHNA was conducted.

Data Sources

Community health needs were identified by collecting and analyzing data from multiple sources. Considering a vast array of information is important when assessing community health needs, to ensure the assessment captures a wide range of facts and perspectives and to increase confidence that significant community health needs have been identified accurately and objectively.

Statistics for numerous community health indicators were analyzed, including data provided by local, state, and federal government agencies, local community service organizations, and Wentworth-Douglass. Comparisons to benchmarks were made wherever possible. This CHNA also incorporated findings from other recently conducted, relevant community health assessments, including ones conducted recently by other area healthcare providers and social agencies.

Input from 55 individuals, 23 external community stakeholders and 32 staff members, representing the broad interests of the community was taken into account through key informant interviews. Interviewees included: individuals with special knowledge of or expertise in public health; local public health departments; agencies with current data or information about the health and social needs of the community; representatives of social service organizations; and leaders, representatives, and members of medically underserved, low-income, and minority populations.

Additionally, findings were considered from the 2015 community member survey that Wentworth-Douglass commissioned from RKM Research and Communications, Inc. For this survey, Wentworth-Douglass worked with a coalition of hospitals "to understand the community health needs of residents who live in Wentworth-Douglass Hospital's Primary Service Area." The study was completed by a telephone survey and, in the Wentworth-Douglass Primary Service Area, 407 respondents were interviewed. The RKM survey analyses are included in this CHNA as primary data.

Collaborating Organizations

The Wentworth-Douglass Hospital committee guiding development of this CHNA included representatives from Wentworth Health Partners.

Prioritization Process

Certain community health needs were determined to be "significant" if they were identified as problematic in three or more of the following four data sources: (1) the most recently available secondary data regarding the community's health, (2) recent assessments developed by other organizations, including local public entities, (3) the 2015 community member survey that

Wentworth-Douglass commissioned from RKM Research and Communications, Inc., and (4) key informants who participated in the interview process.

Information Gaps

This CHNA relies on multiple data sources and on community input gathered between May 2016 and August 2016. A number of data limitations should be recognized when interpreting results. For example, some data, such as County Health Rankings, Community Health Status Indicators, and the Behavioral Risk Factors Surveillance System, exist only at a county-wide level of detail. These data sources do not allow assessing health needs at a more granular level of detail, such as by ZIP Code or census tract. As the hospital's community includes ZIP Codes in portions for three counties, application of county-wide data to those areas is imprecise.

Secondary data upon which this assessment relies measure community health in prior years. For example, the most recently available cancer incidence data published by the Maine Department of Health are from 2011. The impacts of recent public policy developments, changes in the economy, and other community developments are not yet reflected in those data sets.

This CHNA also incorporates findings from the 2015 community member survey that Wentworth-Douglass commissioned from RKM Research and Communications, Inc. For this survey, Wentworth-Douglass worked with a coalition of hospitals "to understand the community health needs of residents who live in Wentworth-Douglass Hospital's Primary Service Area." The study was completed by a telephone survey and, in the Wentworth-Douglass Primary Service Area, 407 respondents were interviewed. The RKM survey analyses are included in this CHNA as primary data.

The findings of this CHNA may differ from those of others conducted in the community. Differences in data sources, communities assessed (e.g., hospital service areas versus counties or cities), and prioritization processes contribute to differences in findings.

DEFINITION OF COMMUNITY ASSESSED

This section identifies the community that was assessed by Wentworth-Douglass Hospital. The community was defined by considering the geographic origins of the hospital's 2015 inpatient discharges and emergency department visits.

Wentworth Douglass Hospital's community is comprised of 14 ZIP Codes representing twelve towns across Rockingham and Strafford counties in New Hampshire and York County in Maine. The twelve towns are Dover (NH), Somersworth (NH), Barrington (NH), Berwick (ME), South Berwick (ME), Durham (NH), Rollinsford (NH), Lee (NH), Madbury (NH), Rochester (NH) [3], Newmarket (NH), and Eliot (ME).

The community was confirmed by examining the geographic origins of Wentworth-Douglass inpatient discharges. In 2015, approximately 72 percent of the hospital's inpatients originated from the community (**Exhibit 1A**).

Exhibit 1A: Wentworth-Douglass Inpatient Discharges by City/Town, 2015

City/Town	ZIP Codes	County (State)	Inpatient Cases 2015	% of Inpatient Cases
Primary Service Area Subtotal			**4,148**	**56.7%**
Dover	03820	Strafford (NH)	1,912	26.1%
Somersworth	03878	Strafford (NH)	813	11.1%
Barrington	03825	Strafford (NH)	366	5.0%
Berwick	03901	York (ME)	335	4.6%
South Berwick	03908	York (ME)	219	3.0%
Durham	03824	Strafford (NH)	179	2.5%
Rollinsford	03869	Strafford (NH)	147	2.0%
Lee	03861	Strafford (NH)	124	1.7%
Madbury	03823	Strafford (NH)	53	0.7%
Secondary Service Area Subtotal			**1,130**	**15.4%**
Rochester	03839, 03867, 03868	Strafford (NH)	950	13.0%
Newmarket	03857	Rockingham (NH)	105	1.4%
Eliot	03903	York (ME)	75	1.0%
Community Total			**5,278**	**72.1%**
Other Areas			2,048	27.9%
Total Discharges			**7,321**	**100.0%**

Source: Analysis of Wentworth-Douglass Hospital Discharge Data, 2015.

[3] Rochester data for ZIP Code 03839 include the incorporated village of Gonic.

The community was also confirmed by examining the geographic origins of Wentworth-Douglass emergency department visits. In 2015, approximately 78 percent of the hospital's ED visits originated from the community (**Exhibit 1B**).

Exhibit 1B: Wentworth-Douglass Emergency Visits by City/Town, 2015

City/Town	ZIP Codes	County (State)	ED Visits 2015	% ED Visits
Primary Service Area Subtotal			**16,249**	**63.2%**
Dover	03820	Strafford(NH)	7,250	28.2%
Somersworth	03878	Strafford(NH)	4,046	15.7%
Barrington	03825	Strafford(NH)	1,004	3.9%
Berwick	03901	York(ME)	1,388	5.4%
South Berwick	03908	York(ME)	808	3.1%
Durham	03824	Strafford(NH)	649	2.5%
Rollinsford	03869	Strafford(NH)	558	2.2%
Lee	03861	Strafford(NH)	320	1.2%
Madbury	03823	Strafford(NH)	226	0.9%
Secondary Service Area Subtotal			**3,812**	**14.8%**
Rochester	03839,03867,03868	Strafford(NH)	3,248	12.6%
Newmarket	03857	Rockingham(NH)	301	1.2%
Eliot	03903	York(ME)	263	1.0%
Community Total			**20,061**	**78.1%**
Other Areas			5,633	21.9%
Total Visits			**25,694**	**100.0%**

Source: Analysis of Wentworth-Douglass Hospital Discharge Data, 2015.

The total population of the Wentworth-Douglass community in 2016 was approximately 136,000 persons (**Exhibit 2**).

Exhibit 2: Community Population, 2016

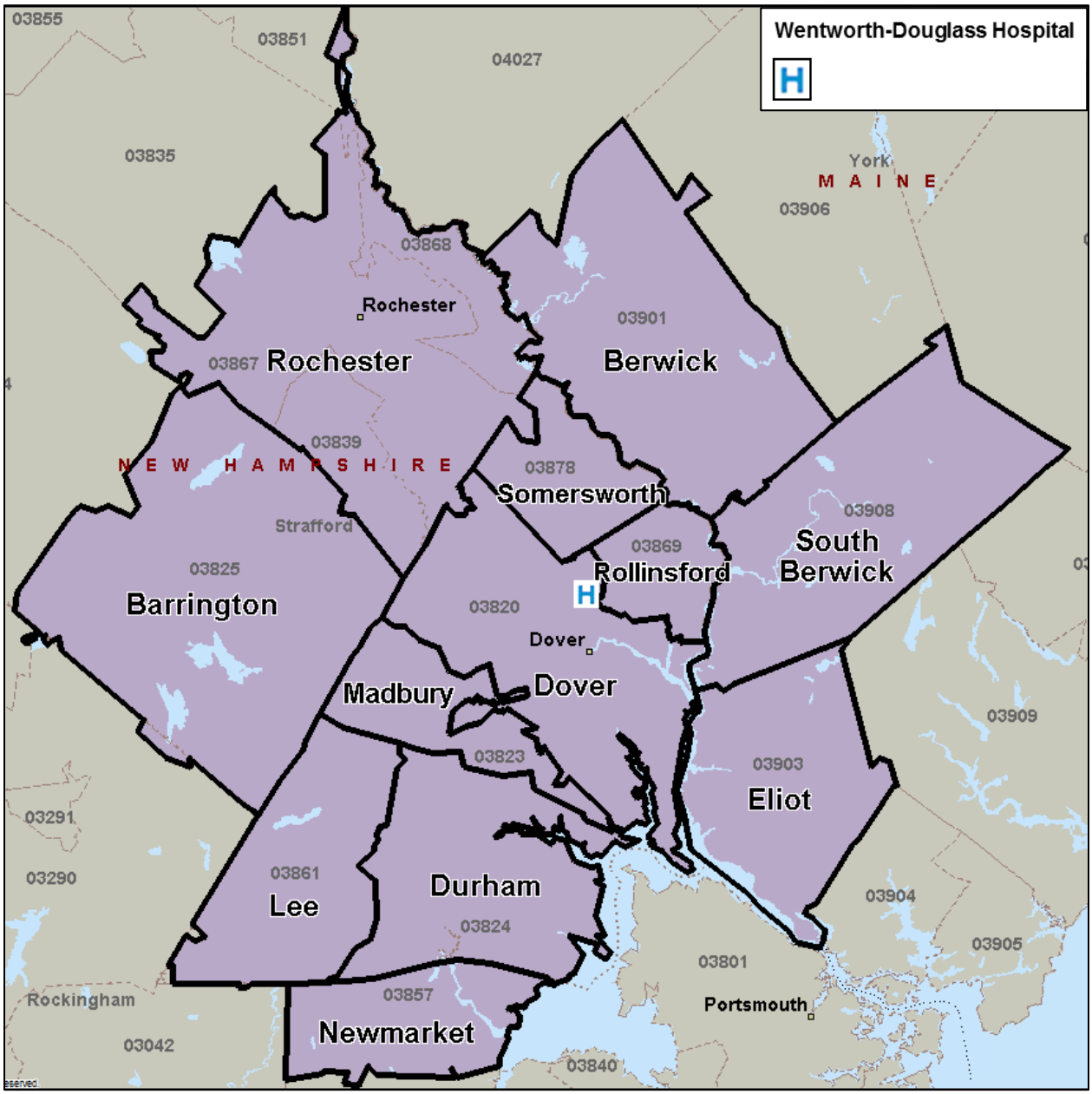
City/Town	ZIP Code	County (State)	Estimated Population 2016	Percent of Total Population 2016
Primary Service Area Subtotal			**90,437**	**66.4%**
Barrington	03825	Strafford (NH)	9,188	6.7%
Berwick	03901	York (ME)	7,566	5.6%
Dover	03820	Strafford (NH)	31,138	22.9%
Durham	03824	Strafford (NH)	15,158	11.1%
Lee	03861	Strafford (NH)	4,112	3.0%
Madbury	03823	Strafford (NH)	1,742	1.3%
Rollinsford	03869	Strafford (NH)	2,275	1.7%
Somersworth	03878	Strafford (NH)	11,837	8.7%
South Berwick	03908	York (ME)	7,421	5.4%
Secondary Service Area Subtotal			**45,767**	**33.6%**
Rochester	03839, 03867, 03868	Strafford (NH)	30,206	22.2%
Newmarket	03857	Rockingham (NH)	9,272	6.8%
Eliot	03903	York (ME)	6,289	4.6%
Community Total			**136,204**	**100.0%**

Source: The Neilsen Company, 2016.

The hospital is located in Dover, New Hampshire (ZIP Code 03820).

The map in **Exhibit 3** portrays the ZIP Codes that comprise the Wentworth-Douglass Hospital community.

Exhibit 3: Wentworth-Douglass Hospital Community



Source: Microsoft MapPoint and The Neilsen Company, 2016.

SECONDARY DATA ASSESSMENT

This section presents an assessment of secondary data regarding health needs in the Wentworth-Douglass community.

Demographics

Population indicators are relevant because population estimates are necessary to quantify the current and projected community. The total population in the Wentworth Douglass community is expected to increase 1.8 percent from 2016 to 2021 (**Exhibit 4**).

Exhibit 4: Percent Change in Community Population by ZIP Code, 2016-2021

City/Town	ZIP Code	County (State)	Estimated Population 2016	Projected Population 2021	Percent Change 2016-2021
Primary Service Area Subtotal			**90,437**	**92,280**	**2.0%**
Barrington	03825	Strafford (NH)	9,188	9,568	4.1%
Berwick	03901	York (ME)	7,566	7,788	2.9%
Dover	03820	Strafford (NH)	31,138	31,966	2.7%
Durham	03824	Strafford (NH)	15,158	15,475	2.1%
Lee	03861	Strafford (NH)	4,112	4,084	-0.7%
Madbury	03823	Strafford (NH)	1,742	1,773	1.8%
Rollinsford	03869	Strafford (NH)	2,275	2,231	-1.9%
Somersworth	03878	Strafford (NH)	11,837	11,875	0.3%
South Berwick	03908	York (ME)	7,421	7,520	1.3%
Secondary Service Area Subtotal			**45,767**	**46,427**	**1.4%**
Rochester	03839, 03867, 03868	Strafford (NH)	30,206	30,551	1.1%
Newmarket	03857	Rockingham (NH)	9,272	9,545	2.9%
Eliot	03903	York (ME)	6,289	6,331	0.7%
Community Total			**136,204**	**138,707**	**1.8%**

Source: The Neilsen Company, 2016.

Between 2016 and 2021, two of the 14 ZIP Codes in the Wentworth-Douglass Hospital community are projected to decrease in population size, 03861 (Lee) and (03869) Rollinsford, both in Strafford County.

Population characteristics and changes directly influence community health needs. Different segments of the population can have different characteristics. Estimating residents aged 65 and older in a specific geographic area is relevant because members of this population have unique health needs which should be considered separately from other age groups. Additionally, consideration of the population by race and ethnicity is relevant because "[h]istorically, people in racial/ethnic minority groups are more likely than non-Hispanic whites to be poor, to lack a high school education, and to experience disparities in health and health care services."[4]

[4] "Program Brief: AHRQ Activities to Reduce Racial and Ethnic Disparities in Health Care," Agency for Healthcare Research and Quality, December 2009. See http://www.ahrq.gov/sites/default/files/publications/files/disparities.pdf. AHRQ is an agency of the U.S. Department of Health and Human Services.

Exhibit 5 shows the population for certain age and sex cohorts in 2016, with projections to 2021 for the community, New Hampshire, Maine, and the United States.

Exhibit 5: Percent Change in Population by Age/Sex Cohort, 2016-2021

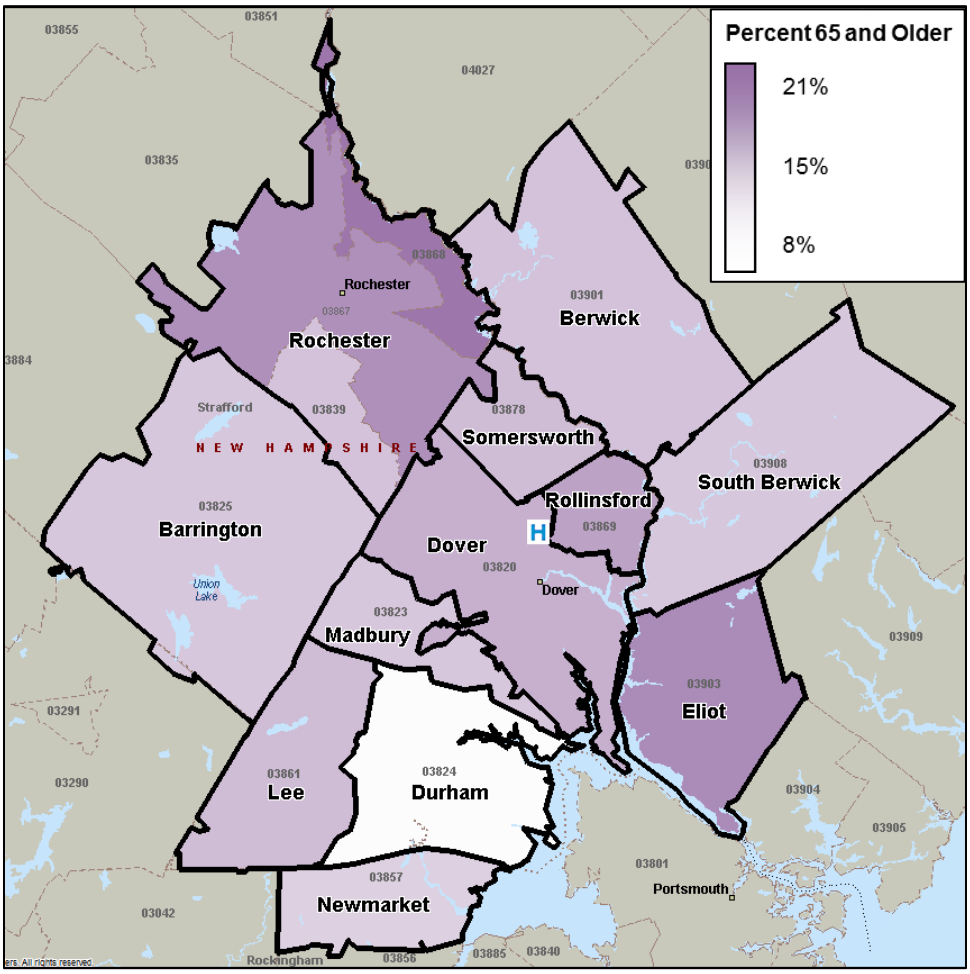
Age/Sex Cohort	Estimated Population 2016	Projected Population 2021	Percent Change 2016-2021
Primary Service Area Subtotal	**90,437**	**92,280**	**2.0%**
0-17	17,465	17,129	-1.9%
Female 18-44	19,189	19,274	0.4%
Male 18-44	18,215	18,384	0.9%
45-64	23,707	23,346	-1.5%
65+	11,861	14,147	19.3%
Secondary Service Area Subtotal	**45,767**	**46,427**	**1.4%**
0-17	9,460	9,293	-1.8%
Female 18-44	7,720	7,654	-0.9%
Male 18-44	7,651	7,595	-0.7%
45-64	13,269	12,985	-2.1%
65+	7,667	8,900	16.1%
Community Total	**136,204**	**138,707**	**1.8%**
0-17	26,925	26,422	-1.9%
Female 18-44	26,909	26,928	0.1%
Male 18-44	25,866	25,979	0.4%
45-64	36,976	36,331	-1.7%
65+	19,528	23,047	18.0%
Maine	**1,331,372**	**1,336,447**	**0.4%**
0-17	255,188	244,703	-4.1%
Female 18-44	208,962	205,810	-1.5%
Male 18-44	210,050	210,018	0.0%
45-64	405,127	389,695	-3.8%
65+	252,045	286,221	13.6%
New Hampshire	**1,331,488**	**1,347,310**	**1.2%**
0-17	262,945	250,062	-4.9%
Female 18-44	217,116	216,341	-0.4%
Male 18-44	221,467	223,396	0.9%
45-64	408,639	397,823	-2.6%
65+	221,321	259,688	17.3%
United States	**322,431,073**	**334,341,965**	**3.7%**
0-17	74,055,197	74,736,500	0.9%
Female 18-44	57,064,539	57,758,949	1.2%
Male 18-44	58,430,247	59,772,171	2.3%
45-64	84,259,046	84,895,737	0.8%
65+	48,622,044	57,178,608	17.6%

Source: The Neilsen Company, 2016.

The number of persons in the community aged 65 years and older is projected to increase by 18.0 percent between 2016 and 2021. The 0-17 and 45-64 age groups are expected to decrease in population size. The growth of older populations is likely to lead to growing need for health services because, on an overall per-capita basis, older individuals typically need and use more services than younger persons.

Exhibit 6 illustrates the percent of the population 65 years of age and older in the community by ZIP Code.

Exhibit 6: Percent of Population Aged 65+ by ZIP Code, 2016



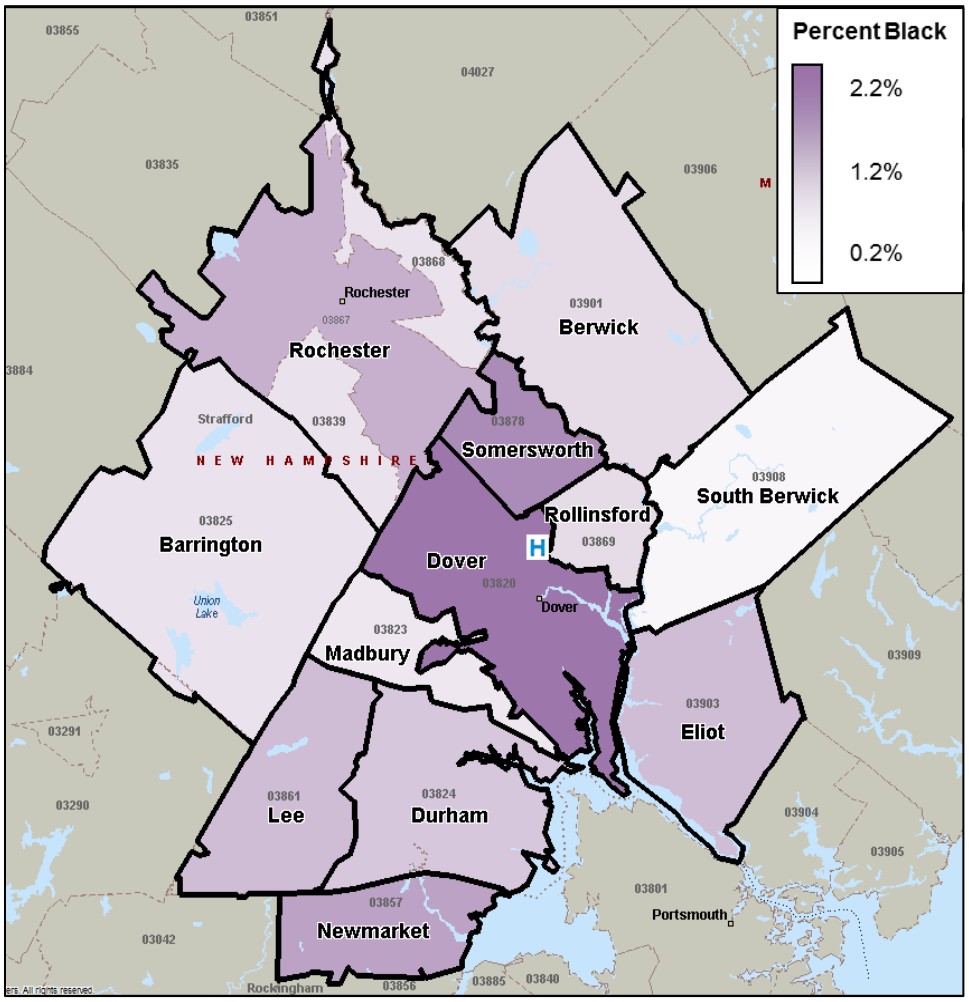
Source: Microsoft MapPoint and The Neilsen Company, 2016.

Note that density of shading on this map is not comparable to the density of shading of other maps. The legend is specific to this map.

Within the Wentworth-Douglass Hospital community, the highest proportions of persons aged 65 and older were located in Rochester and Eliot. The lowest proportion of persons aged 65 and older was located in Durham, an area in which many young adults reside as students at the University of New Hampshire.

Exhibits 7 and 8 show locations in the community where the percentages of the population that are Black and Hispanic (or Latino) were highest in 2016.

Exhibit 7: Percent of Population - Black, 2016



Source: Microsoft MapPoint and The Neilsen Company, 2016.

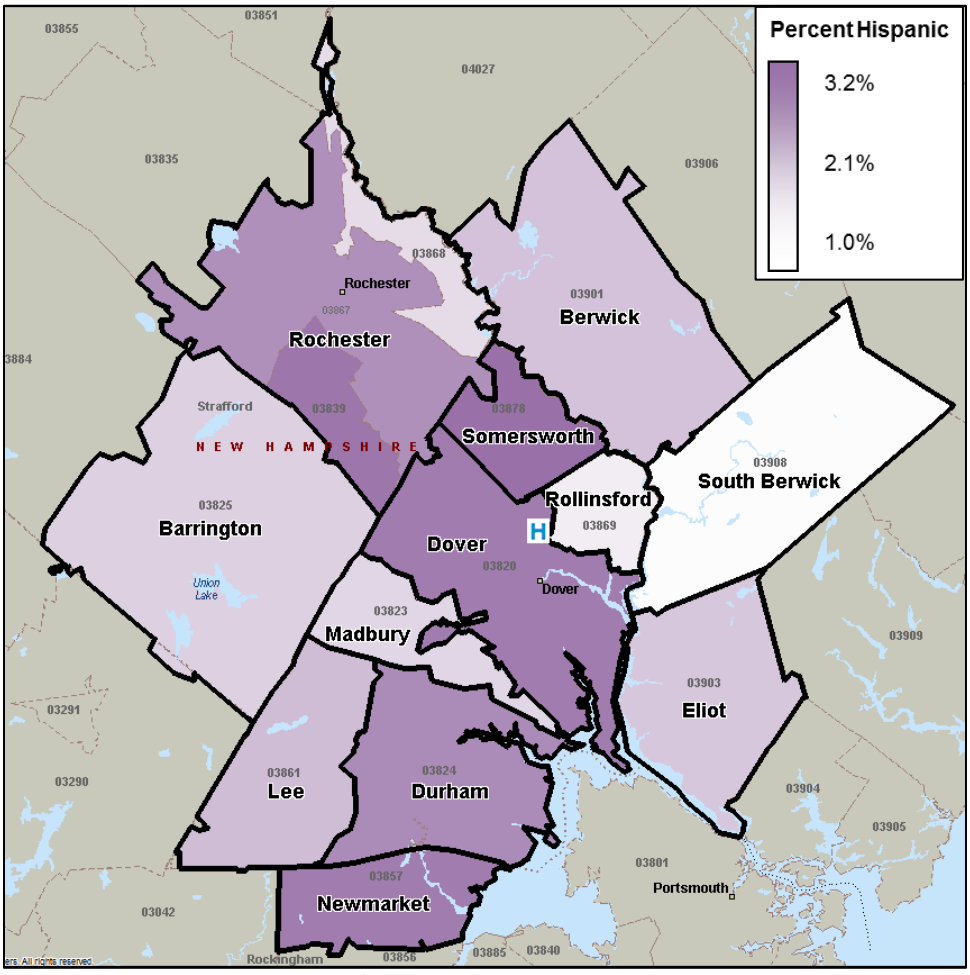
Note that density of shading on this map is not comparable to the density of shading of other maps. The legend is specific to this map.

The highest percentages of Black residents were located in Dover ZIP Code 03820, and Somersworth ZIP Code 03878.

Note that the Black residents comprised 1.3 percent of the community in 2016, compared to 1.5 percent in New Hampshire, 1.4 percent in Maine, and 12.8 percent in the U.S.[5]

[5] The Neilsen Company.

Exhibit 8: Percent of Population - Hispanic (or Latino), 2016



Source: Microsoft MapPoint and The Neilsen Company, 2016.

Note that density of shading on this map is not comparable to the density of shading of other maps. The legend is specific to this map.

The highest percentages of Hispanic (or Latino) residents in the Wentworth-Douglass Hospital community were located in Somersworth ZIP Code 03878, Rochester ZIP Code 03839, Dover ZIP Code 03820, and Newmark ZIP Code 03857.

Note that and Hispanic (or Latino) residents comprised 2.5 percent of the population in 2016, compared to 3.6 percent in New Hampshire, 1.7 percent in Maine, and 17.8 percent in the U.S.[6]

Discussions with hospital staff members and community representatives indicate that Asian residents, especially individuals from Indonesia, are a significant part of the community. Population estimates of Asian residents, however, were not available.

[6] The Neilsen Company.

Data regarding residents without a high school diploma, with a disability, and linguistically isolated are presented in **Exhibit 9** by county and for New Hampshire, Maine and the United States. The indicator of residents without a high school diploma is relevant because low levels of education are often linked to poverty and poor health. The indicator of people with a disability is relevant because disabled individuals comprise a vulnerable population that requires targeted services and outreach by providers. The indicator of linguistic isolation is relevant because an inability to speak English well creates barriers to healthcare access, provider communications, and health literacy/education.

Exhibit 9: Other Socioeconomic Indicators, 2014

Measure	Rockingham County (NH)	Strafford County (NH)	New Hampshire	York County (ME)	Maine	United States
Population 25+ without High School Diploma	5.6%	8.2%	8.0%	8.0%	8.7%	13.6%
Population with a Disability	9.8%	12.7%	11.8%	14.1%	15.7%	12.3%
Population Linguistically Isolated	1.5%	1.7%	2.4%	1.4%	1.7%	8.6%

Source: U.S. Census, ACS 5-Year Estimates, 2010-2014

Exhibit 9 indicates that:

- Strafford County had a higher percentage of residents aged 25 years and older without a high school diploma than the New Hampshire average.
- Strafford County had a slightly higher percentage of the population with a disability compared to New Hampshire and United States averages.
- Compared to their respective state averages, Rockingham, Strafford, and York counties had lower proportions of the population with linguistic isolation. Linguistic isolation is defined as residents who speak a language other than English and speak English less than "very well."

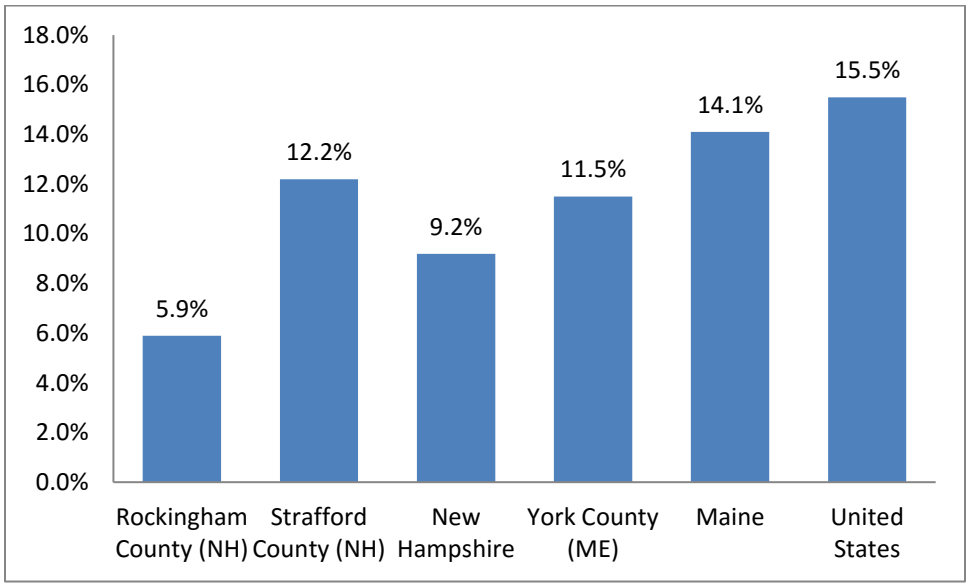
Economic indicators

The following categories of economic indicators with implications for health were assessed: (1) people in poverty; (2) unemployment rate; (3) insurance status; and (4) crime.

People in Poverty

Poverty creates barriers to access including health services, healthy food, and other necessities that contribute to poor health status. According to the U.S. Census, approximately 14.1 percent of people in Maine and 9.2 percent of people in New Hampshire were living in poverty in 2014. Strafford County's poverty rate was higher than New Hampshire's poverty rate during that year (**Exhibit 10**).

Exhibit 10: **Percent of People in Poverty, 2014**

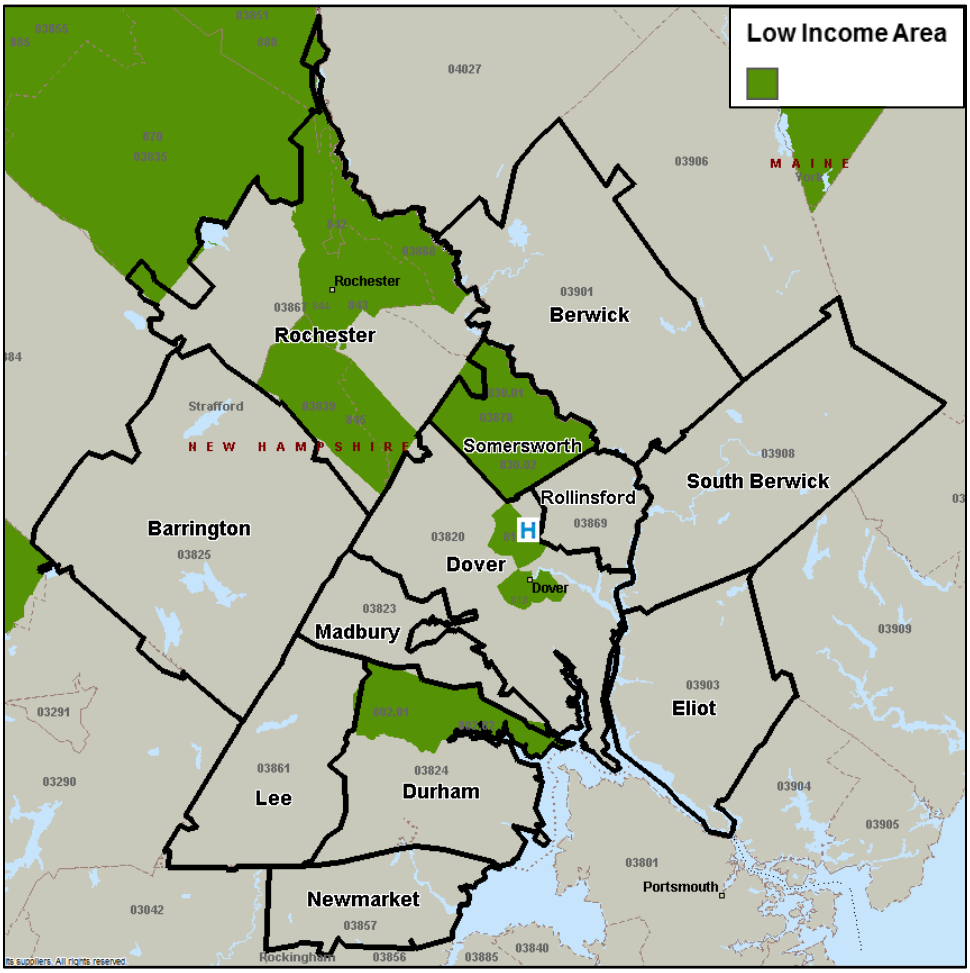


Source: U.S. Census, ACS 5-Year Estimates, 2010-2014

Poverty rates can vary across racial and ethnic categories. Poverty data by race and ethnicity are not available for Rockingham (NH), Strafford (NH), and York (ME) counties.

Exhibit 11 portrays (in green shading) the locations of low income census tracts in the community. The U.S. Department of Agriculture defines "low income census tracts" as tracts with a poverty rate of 20 percent or more, tracts with a median family income 80 percent or less of the median family income for the state or, if applicable, the metropolitan area. This indicator is relevant because it identifies geographic areas with residents who may be in need of assistance.

Exhibit 11: Low Income Census Tracts



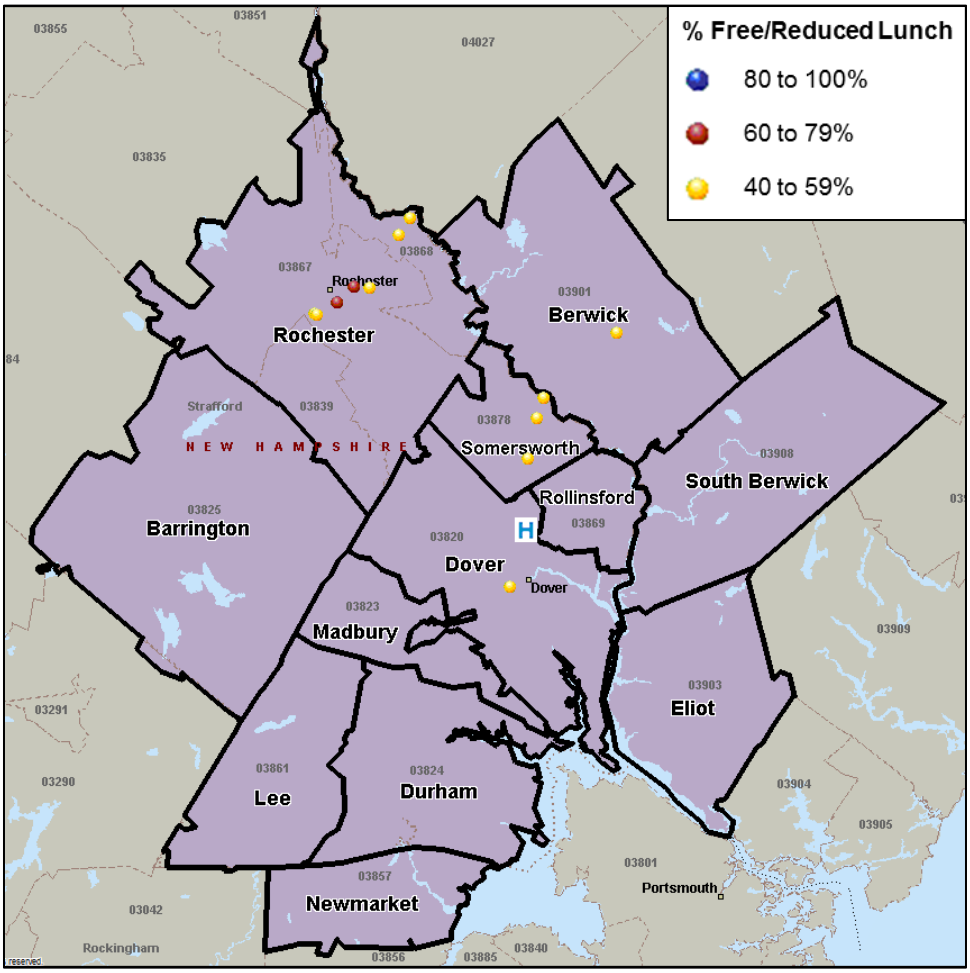
Source: US Department of Agriculture Economic Research Service, ESRI, 2015.

Low income census tracts are present in Somersworth and in parts of Dover, Durham, and Rochester.

Eligibility for the National School Lunch Program

Schools participating in the National School Lunch Program are eligible to receive financial assistance from the United States Department of Agriculture (USDA) to provide free or reduced-price meals to low-income students. Schools with 40 percent or more of their student body receiving this assistance are eligible for school-wide Title I funding, designed to ensure that students meet grade-level proficiency standards. **Exhibit 12** illustrates the locations of the schools with at least 40 percent of the students eligible for free or reduced price lunch. This indicator is relevant because it identifies vulnerable populations which are more likely to have multiple health access, health status, and social support needs.

Exhibit 12: Public Schools with over 40 Percent of Students Eligible for Free or Reduced-Price Lunches, School Year 2015-2016



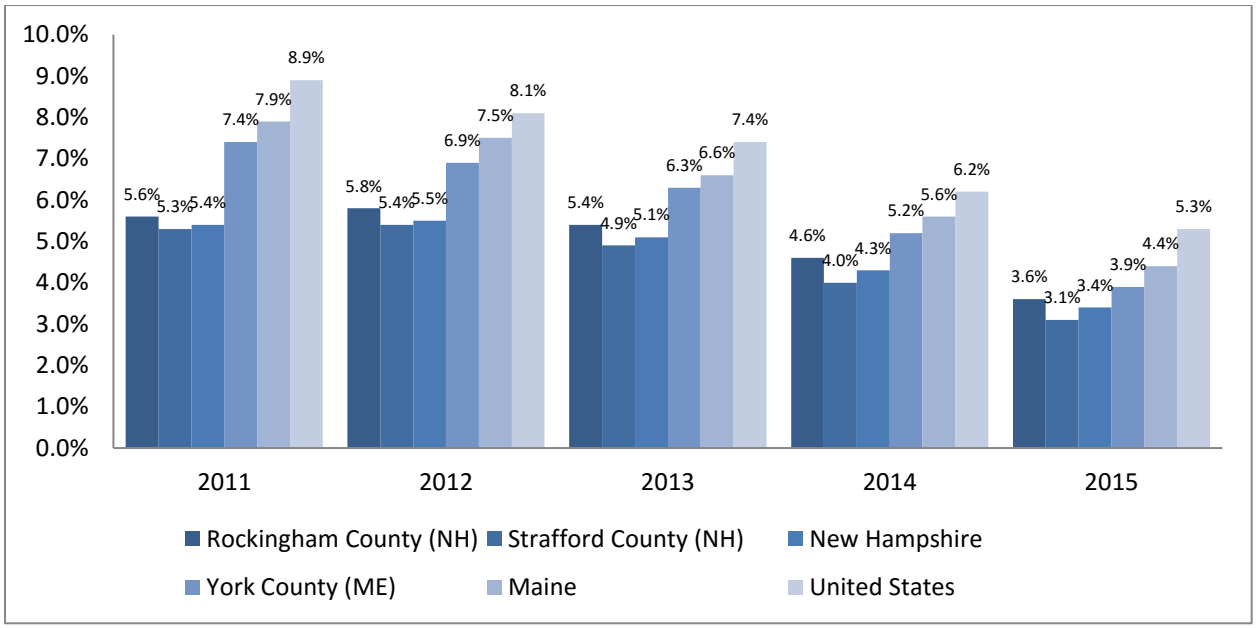
Source: Maine and New Hampshire Departments of Education, 2016.
*Maine data are for the 2014-2015 school year
**No schools had more than 79 percent of students eligible for free or reduced price lunches.

There are 14 schools within the Wentworth-Douglass Hospital community where at least 40 percent of students are eligible for free or reduced price lunches.

Unemployment

Unemployment is problematic because many receive health insurance coverage through their (or a family member's) employer. If unemployment rises, access to employer based health insurance can decrease. **Exhibit 13** shows unemployment rates for 2011 through 2015 for Rockingham, Strafford, and York counties, with Maine, New Hampshire and U.S. rates for comparison. This indicator is relevant because unemployment creates financial instability and barriers to access including insurance coverage, health services, healthy food, and other necessities that contribute to poor health status.

Exhibit 13: Unemployment Rates, 2011-2015



Source: Bureau of Labor Statistics, 2010-2014.

Between 2011 and 2015, unemployment rates at the county, state, and national levels decreased significantly. Unemployment rates in Rockingham County have exceeded the New Hampshire rates.

Insurance Status

Exhibit 14 presents the estimated percent of populations in the Wentworth-Douglass community without health insurance (uninsured), by ZIP Code. This indicator is relevant because lack of insurance is a primary barrier to healthcare access.

Exhibit 14: Percent of the Population without Health Insurance, 2014

City/Town	ZIP Code	County (State)	Percent Uninsured
Primary Service Area Subtotal			**10.2%**
Barrington	03825	Strafford (NH)	13.2%
Berwick	03901	York (ME)	8.9%
Dover	03820	Strafford (NH)	11.8%
Durham	03824	Strafford (NH)	3.6%
Lee	03861	Strafford (NH)	6.0%
Madbury	03823	Strafford (NH)	8.7%
Rollinsford	03869	Strafford (NH)	8.8%
Somersworth	03878	Strafford (NH)	16.9%
South Berwick	03908	York (ME)	7.5%
Secondary Service Area Subtotal			**13.1%**
Rochester	03839, 03867, 03868	Strafford (NH)	13.9%
Eliot	03903	York (ME)	11.3%
Newmarket	03857	Rockingham (NH)	11.6%
Eliot	03903	York (ME)	11.3%
Community Total			**11.2%**
Rockingham County			**8.4%**
Strafford County			**11.9%**
York County			**9.1%**
Maine			**10.4%**
New Hampshire			**10.3%**
United States			**14.2%**

Source: U.S. Census, ACS 5-Year Estimates, 2010-2014.

In 2014, nine out of the 14 ZIP Codes in the Wentworth-Douglass community had higher uninsurance rates than their respective state averages. The community average also was higher than both the Maine and New Hampshire averages, but lower than the national average.

New Hampshire Medicaid Expansion

Subsequent to the ACA's passage, a June 2012 U.S. Supreme Court ruling provided states with discretion regarding whether or not to expand Medicaid eligibility. In 2015, the Centers for Medicare and Medicaid Services (CMS) approved New Hampshire's waiver to convert its implementation of the ACA's Medicaid expansion to a Marketplace premium assistance model. This expansion uses Medicaid funds to extend coverage to an additional 50,000 adults in New Hampshire.[7] Approximately 187,000 New Hampshire residents are currently enrolled in

[7] http://kff.org/medicaid/fact-sheet/medicaid-expansion-in-new-hampshire/

Medicaid or CHIP, a 47 percent increase from pre-ACA enrollment statistics.[8] In 2016, the New Hampshire state legislature approved the continued expansion of Medicaid through 2018.

Maine Medicaid Expansion

Unlike New Hampshire, Maine was one of the states that did not expand Medicaid. Maine's House of Representatives recently voted to expand Medicaid.[9] However, this bill (LD 633) expired when the Senate adjourned on April 29, 2016.[10] Across the United States, uninsurance rates have fallen most in states expanded Medicaid.[11]

Crime

Exhibit 15 provides certain crime statistics for areas served by Wentworth-Douglass and for New Hampshire and Maine. This indicator is relevant because it assesses community safety and quality of life. Cells in the exhibit are shaded if the indicator for the county exceeded the state average. Light grey shading indicates that the county rate was between 10 and 50 percent worse than the state, medium grey shading indicates that the county rate was between 50 and 75 percent worse than the state, and dark grey shading indicates that the county rate was more than 75 percent worse than the state.

Exhibit 15: Crime Rates by Type and City/Town, Per 100,000, 2014

City/Town	State	Violent Crimes	Murder	Rape	Robbery	Aggr. Assault	Property Crime	Burglary	Larceny-Theft	Motor Vehicle Theft
Barrington	New Hampshire	11.4	0.0	11.4	0.0	0.0	1476.6	251.8	1156.1	68.7
Dover	New Hampshire	133.8	3.3	62.0	26.1	42.4	1504.9	173.0	1305.8	26.1
Durham	New Hampshire	77.1	0.0	19.3	6.4	51.4	667.9	115.6	520.2	32.1
Rochester	New Hampshire	386.6	3.4	47.1	100.9	235.3	4185.4	433.7	3674.4	77.3
Somersworth	New Hampshire	562.4	0.0	136.3	144.9	281.2	3962.2	622.0	3306.1	34.1
Berwick	Maine	93.3	0.0	40.0	0.0	53.3	1426.3	466.5	906.4	53.3
Eliot	Maine	32.0	0.0	0.0	0.0	32.0	287.7	79.9	207.8	0.0
South Berwick	Maine	123.2	0.0	54.8	0.0	68.4	876.1	219.0	657.1	0.0
Statewide	**New Hampshire**	**196.1**	**0.9**	**44.8**	**40.5**	**110.0**	**1962.7**	**313.7**	**1584.4**	**64.6**
Statewide	**Maine**	**127.8**	**1.6**	**36.5**	**22.9**	**66.9**	**1986.4**	**378.2**	**1548.2**	**60.1**

Source: FBI, 2014.
Crime data were unavailable for Lee, Madbury, Rollinsford, and Newmarket.

In 2014, Rochester had higher crime rates than New Hampshire for all crimes assessed. Somersworth had higher crime rates than New Hampshire for all crimes except murder and motor vehicle theft. The homicide rate in Dover was also significantly higher than the New Hampshire average.

[8] http://kff.org/health-reform/state-indicator/total-monthly-medicaid-and-chip-enrollment/
[9] http://www.pressherald.com/2016/04/12/maine-senate-passes-medicaid-expansion-by-one-vote-margin/
[10] https://legislature.maine.gov/LawMakerWeb/summary.asp?ID=280055073
[11] See: http://hrms.urban.org/briefs/Increase-in-Medicaid-under-the-ACA-reduces-uninsurance.html

Local Health Status and Access Indicators

This section assesses health status and access indicators for the Wentworth-Douglass community. Data sources include: (1) County Health Rankings, (2) the Centers for Disease Control's (CDC) Community Health Status Indicators, (3) the Maine and New Hampshire Departments of Health, and (4) the CDC's Behavioral Risk Factor Surveillance System, and (5) youth behavior surveys.

Throughout this section, data and cells are highlighted if indicators are unfavorable – because they exceed benchmarks (typically, state averages). Where confidence interval data are available, cells are highlighted only if variances are unfavorable and also statistically significant.

County Health Rankings

County Health Rankings, a University of Wisconsin Population Health Institute initiative funded by the Robert Wood Johnson Foundation, incorporates a variety of health status indicators into a system that ranks each county/city within each state in terms of "health factors" and "health outcomes." These health factors and outcomes are composite measures based on several variables grouped into the following categories: health behaviors, clinical care,[12] social and economic factors, and physical environment.[13] *County Health Rankings* is updated annually. *County Health Rankings 2016* relies on data from 2006 to 2015, with most data from 2010 to 2013.

Exhibit 16 presents 2013 and 2016 rankings for each available indicator category. Rankings indicate how each county ranked in relation to all 16 counties in the Maine or all 10 counties in New Hampshire, with 1 indicating the most favorable rankings and 16 (or 10) the least favorable. The table also indicates if rankings fell between 2013 and 2016.

[12] A composite measure of Access to Care, which examines the percent of the population without health insurance and ratio of population to primary care physicians, and Quality of Care, which examines the hospitalization rate for ambulatory care sensitive conditions, whether diabetic Medicare patients are receiving HbA1C screening, and percent of chronically ill Medicare enrollees in hospice care in the last 8 months of life.

[13] A composite measure that examines Environmental Quality, which measures the number of air pollution-particulate matter days and air pollution-ozone days, and Built Environment, which measures access to healthy foods and recreational facilities and the percent of restaurants that are fast food.

Exhibit 16: County Health Rankings, 2013 and 2016

	Rockingham County (NH)			Strafford County (NH)			York County (ME)		
	2013	2016	Rank Change	2013	2016	Rank Change	2013	2016	Rank Change
Health Outcomes	**1**	**1**		**8**	**8**		**4**	**4**	
Health Factors	**1**	**1**		**8**	**8**		**3**	**4**	↓
Length of Life	**1**	**1**		**5**	**7**	↓	**4**	**3**	
Quality of Life	**4**	**3**		**8**	**8**		**4**	**6**	↓
Frequent Physical Distress	-	1		-	6		-	3	
Frequent Mental Distress	-	1		-	6		-	4	
Drug Overdose Deaths	-	6		-	9		-	13	
Health Behaviors	**3**	**3**		**8**	**9**	↓	**7**	**4**	
Adult Smoking	2	5	↓	8	6		7	4	
Adult Obesity	4	3		9	8		4	6	↓
Excessive Drinking	10	9		4	10	↓	16	13	
STIs	2	2		10	9		8	10	↓
Teen Births	1	1		4	3		3	2	
Physical Inactivity	2	3	↓	8	8		5	5	
Clinical Care	**2**	**3**	↓	**9**	**7**		**3**	**7**	↓
Primary Care Physicians	5	6	↓	6	8	↓	12	11	
Dentists	3	5	↓	6	4		10	11	↓
Mental Health Providers	5	7	↓	6	8	↓	12	8	
Preventable Hospital Stays	6	8	↓	9	9		6	8	↓
Premature Deaths	1	1		5	7	↓	4	3	
Diabetic Screening	4	4		3	1		8	10	↓
Social & Economic Factors	**1**	**1**		**7**	**4**		**2**	**3**	↓
Some College	1	1		4	2		4	2	
Unemployment	9	9		4	4		3	4	↓
Uninsured	1	1		7	4		3	3	
Social Associations	-	8		-	9		-	15	
Injury Deaths	-	3		-	2		-	6	
High School Graduation Rate	3	2		10	6		2	5	↓
Physical Environment	**6**	**4**		**8**	**3**		**9**	**14**	↓
Air Pollution	10	2		7	1		16	11	
Severe Housing Problems	-	3		-	10		-	9	

Source: County Health Rankings, 2016.

In 2016, Rockingham County was among the healthiest counties in New Hampshire, however, it also ranked in the bottom 50th percentile among New Hampshire counties for 7 of the 31 indicators assessed and had 7 indicators ranking worse than they did in 2013. Strafford County ranked in the bottom 50th percentile among New Hampshire counties for 21 of the 31 indicators assessed and had 6 indicators ranking worse than in 2013. York County ranked in the bottom 50th percentile among Maine counties for 10 of the 31 indicators assessed and had 12 indicators ranking worse than in 2013.

Exhibit 17 provides data that underlie the County Health Rankings[14] and includes national averages. Cells are shaded if the indicator for the county exceeded the state average. Light grey shading indicates that the county rate was between 10 and 50 percent worse than the state, medium grey shading indicates that the county rate was between 50 and 75 percent worse, and dark grey shading indicates that the county rate was more than 75 percent worse.

Exhibit 17: County Health Rankings Data Compared to State and U.S. Averages, 2016

Indicator Category	Data	Rockingham County (NH)	Strafford County (NH)	New Hampshire	York County (ME)	Maine	U.S.
Health Outcomes							
Length of Life	Years of potential life lost before age 75 per 100,000 population	4,757.4	5,645.8	5,351.6	5,516.7	6,314.1	**7,700.0**
Quality of Life	Percent of adults reporting fair or poor health	11.5	12.8	13.0	10.7	14.2	**16.0**
	Average number of physically unhealthy days reported in past 30 days	3.1	3.3	3.1	3.2	3.7	**3.7**
	Average number of mentally unhealthy days reported in past 30 days	3.4	3.6	3.6	3.7	4.0	**3.7**
	Percent of live births with low birthweight (<2500 grams)	6.6	6.7	6.8	6.4	6.6	**8.0**
Health Factors							
Health Behaviors							
Adult Smoking	Percent of adults that report smoking >= 100 cigarettes and currently smoking	16.4	17.1	17.5	15.9	19.3	**18.0**
Adult Obesity	Percent of adults that report a BMI >= 30	25.7	29.8	27.3	26.9	27.9	**31.0**
Food Environment Index	Index of factors that contribute to a healthy food environment, 0 (worst) to 10 (best)	8.6	8.1	8.4	7.7	7.4	**7.2**
Physical Inactivity	Percent of adults aged 20 and over reporting no leisure-time physical activity	19.6	22.7	20.8	19.9	21.4	**28.0**
Access to Exercise Opportunities	Percent of population with adequate access to locations for physical activity	85.9	88.2	84.4	77.6	67.7	**62.0**
Excessive Drinking	Binge plus heavy drinking	20.0	21.5	18.9	19.7	19.0	**30.0**
Alcohol Impaired Driving Deaths	Percent of driving deaths with alcohol involvement	37.6	38.0	32.9	40.2	35.4	**17.0**
STDs	Chlamydia rate per 100,000 population	177.0	275.5	236.2	236.7	258.7	**287.7**
Teen Births	Teen birth rate per 1,000 female population, ages 15-19	10.3	14.2	15.9	18.6	22.1	**40.0**
Clinical Care							
Uninsured	Percent of population under age 65 without health insurance	10.7	12.8	12.8	12.1	13.5	**17.0**
Primary Care Physicians	Ratio of population to primary care physicians	1197:1	1400:1	1064:1	1278:1	909:1	**1990:1**
Dentists	Ratio of population to dentists	1459:1	1444:1	1430:1	2573:1	1723:1	**2590:1**
Mental Health Providers	Ratio of population to mental health providers	479:1	481:1	387:1	282:1	240:1	**1060:1**
Preventable Hospital Stays	Hospitalization rate for ambulatory-care sensitive conditions per 1,000 Medicare enrollees	52.5	56.3	46.3	51.7	50.5	**60.0**
Diabetic Screening	Percent of diabetic Medicare enrollees that receive HbA1c monitoring	90.3	92.2	90.4	88.7	88.6	**85.0**
Mammography Screening	Percent of female Medicare enrollees, ages 67-69, that receive mammography screening	72.0	68.0	70.0	70.0	69.0	**61.0**

Source: County Health Rankings, 2016.

[14] County Health Rankings provides details about what each indicator measures, how it is defined, and data sources at http://www.countyhealthrankings.org/sites/default/files/resources/2013Measures_datasources_years.pdf

Exhibit 17: County Health Rankings Data Compared to Compared to State and U.S. Averages, 2016 (continued)

Indicator Category	Data	Rockingham County (NH)	Strafford County (NH)	New Hampshire	York County (ME)	Maine	U.S.
Health Factors							
Social & Economic Factors							
High School Graduation	Percent of ninth-grade cohort that graduates in four years	91.1	86.2	87.7	88.4	86.1	**86.0**
Some College	Percent of adults aged 25-44 years with some post-secondary education	74.6	70.6	68.2	65.9	64.1	**56.0**
Unemployment	Percent of population age 16+ unemployed but seeking work	4.7	4.0	4.3	5.3	5.7	**6.0**
Children in poverty	Percent of children under age 18 in poverty	8.4	14.1	12.6	14.1	19.0	**23.0**
Income Inequality	Ratio of household income at the 80th percentile to income at the 20th percentile	3.9	4.4	4.2	4.1	4.6	**4.4**
Children in single-parent households	Percent of children that live in a household headed by single parent	21.2	28.7	27.9	29.6	32.8	**32.0**
Social Associations	Number of associations per 10,000 population	8.9	8.4	10.3	7.8	11.3	**13.0**
Violent Crime	Number of reported violent crime offenses per 100,000 population	122.9	210.0	181.1	132.6	122.7	**199.0**
Injury Deaths	Injury mortality per 100,000	55.1	54.9	58.9	63.2	63.8	**74.0**
Physical Environment							
Air Pollution	The average daily measure of fine particulate matter in micrograms per cubic meter (PM2.5) in a county	10.4	10.4	10.5	10.3	10.3	**11.9**
Severe Housing Problems	Percentage of households with at least 1 of 4 housing problems: overcrowding, high housing costs, or lack of kitchen or plumbing facilities	15.9	18.0	16.3	15.7	15.8	**14.0**
Drive Alone to Work	Percent of the workforce that drives alone to work	83.9	78.1	81.3	79.2	78.1	**80.0**
Long Commute- Drive Alone	Among workers who commute in their car alone, the percent that commute more than 30 minutes	44.1	36.5	37.6	41.8	30.6	**29.0**

Source: County Health Rankings, 2016.

Exhibit 17 highlights the following comparatively unfavorable indicators:

- For all Rockingham (NH), Strafford (NH), and York (ME) counties
  - Alcohol impaired driving death
  - Ratio of population to primary care physicians
  - Ratio of population to mental health providers
  - Social association rate
- For Strafford (NH) and York (ME) counties
  - Ambulatory care sensitive condition hospitalization rate
- For Rockingham (NH) and York (ME) counties
  - Percent of workers with a long commute
- For Stafford (NH) County
  - Binge drinking
  - Chlamydia rate
  - Percent of children in poverty
  - Percent of households with severe housing problems
  - Violent crime rate in Strafford County
- For York County
  - Ratio of population to dentists

Community Health Status Indicators

The Centers for Disease Control and Prevention's *Community Health Status Indicators* provide health profiles for all 3,143 counties in the United States. Counties are assessed using 44 metrics associated with health outcomes, including health care access and quality, health behaviors, social factors, and the physical environment.

The *Community Health Status Indicators* allow comparing a given county to other "peer counties." Peer counties are assigned based on 19 variables including population size, population growth, population density, household income, unemployment, percent children, percent elderly and poverty rates.

Exhibit 18 compares Rockingham, Strafford, and York counties to their respective peer counties for a number of indicators with the CDC's assessment for each CHSI indicator as Better ("most favorable quartile"), Moderate ("middle two quartiles"), or Worse ("least favorable quartile").

Exhibit 18: Community Health Status Indicators, 2015

Category	Indicator	Rockingham County (NH)	Strafford County (NH)	York County (ME)
Mortality	Alzheimer's Disease Deaths	Moderate	Moderate	Worse
	Cancer Deaths	Moderate	Worse	Worse
	Chronic Kidney Disease Deaths	Moderate	Moderate	Moderate
	Chronic Lower Respiratory Disease (CLRD) Deaths	Moderate	Worse	Worse
	Coronary Heart Disease Deaths	Moderate	Moderate	Moderate
	Diabetes Deaths	Moderate	Worse	Moderate
	Female Life Expectancy	Moderate	Worse	Moderate
	Male Life Expectancy	Moderate	Worse	Moderate
	Motor Vehicle Deaths	Better	Moderate	Worse
	Stroke Deaths	Better	Moderate	Moderate
	Unintentional Injury (including motor vehicle)	Moderate	Moderate	Worse
Morbidity	Adult Diabetes	Moderate	Worse	Moderate
	Adult Obesity	Moderate	Worse	Moderate
	Adult Overall Health Status	Moderate	Worse	Moderate
	Alzheimer's Disease/Dementia	Better	Moderate	Better
	Cancer	Worse	Worse	Moderate
	Gonorrhea	Better	Moderate	Better
	HIV	Moderate	Moderate	Better
	Older Adult Asthma	Better	Moderate	Moderate
	Older Adult Depression	Worse	Worse	Worse
	Preterm Births	Better	Moderate	Moderate
	Syphilis	Worse	Better	Better
Health Care Access and Quality	Cost Barrier to Care	Worse	Moderate	Moderate
	Older Adult Preventable Hospitalizations/1,000 population	Moderate	Worse	Moderate
	Primary Care Provider Access	Moderate	Moderate	Worse
	Uninsured	Moderate	Moderate	Moderate
Health Behaviors	Adult Binge Drinking	Moderate	Better	Worse
	Adult Female Routine Pap Tests	Moderate	Moderate	Moderate
	Adult Physical Inactivity	Moderate	Moderate	Moderate
	Adult Smoking	Moderate	Moderate	Worse
	Teen Births/1,000 population	Moderate	Moderate	Moderate
Social Factors	Children in Single-Parent Households	Moderate	Moderate	Moderate
	High Housing Costs	Worse	Moderate	Moderate
	Inadequate Social Support	Moderate	Worse	Moderate
	On Time High School Graduation	Moderate	Worse	Moderate
	Poverty	Moderate	Worse	Better
	Unemployment	Moderate	Better	Moderate
	Violent Crime	Moderate	Moderate	Better
Physical Environment	Access to Parks	Worse	Worse	Worse
	Annual Average Particulate Matter Concentration	Better	Moderate	Moderate
	Drinking Water Violations	n/a	n/a	n/a
	Housing Stress	Worse	Worse	Moderate
	Limited Access to Healthy Food	Worse	Moderate	Better
	Living Near Highways	Moderate	Worse	Better

Source: Community Health Status Indicators, 2015.

The CHSI data indicate that cancer and chronic lower respiratory disease mortality rates, cancer and depression-related morbidity, and issues related to the physical environment including access to parks and housing stress benchmarked unfavorably.

Mortality, Cancer Incidence, and Communicable Disease Rates

The Centers for Disease Control and Prevention (CDC) maintains a data warehouse that includes county-level indicators regarding mortality.[15] **Exhibit 19** provides age-adjusted mortality rates for selected causes of death in 2014 in Rockingham, Strafford, and York counties, as well as New Hampshire and Maine. Light grey shading indicates that the county rate was between 10 and 50 percent worse than the state average. No county rate was more than 50 percent above average and most were below. This indicator is relevant to identify leading causes of death which may inform intervention efforts.

Exhibit 19: Selected Causes of Death, Age-Adjusted Rates per 100,000 Population, 2014

Cause of Death	Rockingham County (NH)	Strafford County (NH)	New Hampshire	York County (ME)	Maine	United States
Major cardiovascular diseases	187.2	193.2	236.8	174.6	273.1	**218.6**
Malignant neoplasms	163.5	171.4	203.3	173.5	241.3	**161.2**
Diseases of heart	145.3	137.4	185.7	137.8	208.7	**167.0**
All other diseases (residual)	98.2	140.8	130.5	91.2	163.4	**88.2**
Ischemic heart diseases	86.3	74.8	107.4	76.3	118.7	**98.8**
Other forms of chronic ischemic heart disease	61.3	52.8	78.2	51.0	76.5	**66.8**
Other heart diseases	51.1	54.1	67.1	56.0	81.0	**55.5**
All other forms of chronic ischemic heart disease	44.1	43.7	59.2	42.4	66.4	**50.7**
Malignant neoplasms of trachea, bronchus and lung	43.2	57.2	56.1	45.1	69.0	**42.1**
Accidents (unintentional injuries)	46.9	66.0	54.0	49.9	51.9	**40.5**
Chronic lower respiratory diseases	37.6	55.7	51.3	32.9	67.4	**40.5**
Other chronic lower respiratory diseases	34.8	48.5	46.3	30.9	64.1	**37.2**
Nontransport accidents	40.3	56.4	45.6	41.2	40.7	**28.9**
All other forms of heart disease	29.2	42.3	43.7	35.8	54.3	**36.3**
Cerebrovascular diseases	29.7	36.3	35.7	26.1	47.2	**36.5**
Alzheimer's disease	22.2	27.5	29.8	37.7	32.6	**25.4**
Acute myocardial infarction	24.1	20.7	28.5	24.0	39.7	**31.0**
All other and unspecified malignant neoplasms	23.2	19.8	27.6	25.1	32.1	**18.8**
Accidental poisoning and exposure to noxious substances	24.4	30.3	22.7	20.6	15.3	**13.1**
Diabetes mellitus	13.9	18.7	22.6	22.6	31.1	**20.9**
Heart failure	21.2	-	22.6	19.5	25.7	**18.6**
Atherosclerotic cardiovascular disease, so described	17.2	-	19.1	8.6	10.1	**16.1**
Intentional self-harm (suicide)	13.2	21.5	18.6	17.9	16.5	**13.0**
Malignant neoplasms of lymphoid, hematopoietic and related tissue	15.2	-	17.5	11.4	23.5	**16.0**
Falls	10.7	19.3	16.6	11.3	12.4	**8.8**
Malignant neoplasms of colon, rectum and anus	14.3	16.8	16.1	15.8	16.6	**14.3**
Malignant neoplasm of breast	10.5	-	14.8	11.5	13.3	**11.4**
Influenza and pneumonia	8.8	17.0	14.6	10.0	19.4	**15.1**
Malignant neoplasm of pancreas	13.7	-	14.5	11.2	14.0	**10.9**
Pneumonia	8.6	17.0	14.1	9.5	17.7	**13.8**
Chronic liver disease and cirrhosis	9.9	-	13.6	10.5	12.1	**10.4**
Nephritis, nephrotic syndrome and nephrosis	8.2	-	12.6	12.0	16.8	**13.2**
Other diseases of respiratory system	9.7	-	12.5	8.1	15.3	**10.0**
Renal failure	8.0	-	12.2	11.4	16.5	**13.0**
Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	13.6	-	11.4	9.0	9.6	**9.1**

-Table Continued -

[15] Although New Hampshire and Maine maintain databases on mortality, CDC data were chosen for comparability across the two states.

Exhibit 19: Selected Causes of Death, Age-Adjusted Rates per 100,000 Population, 2014 (continued)

Cause of Death	Rockingham County (NH)	Strafford County (NH)	New Hampshire	York County (ME)	Maine	United States
Intentional self-harm (suicide) by other and unspecified means and their sequelae	7.8	-	10.3	10.4	7.8	**6.6**
Malignant neoplasm of prostate	7.7	-	10.2	-	10.1	**7.8**
Parkinson's disease	6.3	-	9.6	7.0	11.4	**7.4**
Septicemia	6.1	-	9.2	7.9	12.3	**10.7**
Hypertensive heart disease	5.9	-	9.2	-	7.1	**10.5**
Transport accidents	-	-	8.4	-	11.1	**11.6**
Intentional self-harm (suicide) by discharging of firearms	-	-	8.3	-	8.7	**6.4**
Motor vehicle accidents	-	-	8.1	-	10.8	**10.8**
Alcoholic liver disease	5.3	-	7.5	-	6.2	**5.4**
Essential hypertension and hypertensive renal disease	-	-	7.2	-	6.9	**8.2**
Leukemia	6.1	-	7.0	-	10.3	**6.6**
Malignant neoplasms of meninges, brain and other parts of central nervous system	-	-	6.7	-	8.0	**4.4**
Other diseases of circulatory system	-	-	6.7	-	8.7	**5.3**
Malignant neoplasm of esophagus	-	-	6.5	-	9.3	**4.0**
In situ neoplasms, benign neoplasms and neoplasms of uncertain or unknown behavior	-	-	6.4	-	6.0	**4.4**
Pneumonitis due to solids and liquids	-	-	6.3	7.8	7.7	**5.1**
Non-Hodgkin's lymphoma	6.1	-	6.3	-	8.0	**5.6**
Other chronic liver disease and cirrhosis	-	-	6.1	-	5.9	**5.1**
Malignant neoplasms of liver and intrahepatic bile ducts	-	-	5.1	-	7.4	**6.5**
Other and unspecified nontransport accidents and their sequelae	-	-	4.9	7.3	10.1	**5.0**
Malignant neoplasm of ovary	-	-	4.8	-	4.8	**3.9**
Malignant neoplasm of bladder	5.3	-	4.7	-	8.6	**4.3**
Malignant neoplasms of kidney and renal pelvis	-	-	4.7	-	6.3	**3.7**
Emphysema	-	-	3.9	-	1.9	**2.1**
Other diseases of arteries, arterioles and capillaries	-	-	3.8	-	3.8	**2.5**
Malignant neoplasms of lip, oral cavity and pharynx	-	-	3.8	-	3.8	**2.5**
Multiple myeloma and immunoproliferative neoplasms	-	-	3.8	-	4.7	**3.4**
Malignant neoplasms of corpus uteri and uterus, part unspecified	-	-	3.5	-	4.3	**2.6**
Malignant melanoma of skin	-	-	3.5	-	4.4	**2.6**
Certain other intestinal infections	-	-	3.2	-	3.2	**2.7**
Enterocolitis due to Clostridium difficile	-	-	2.8	-	2.2	**1.9**
Nutritional deficiencies	-	-	1.5	-	1.9	**1.1**

Source: Centers for Disease Control and Prevention, 2014.

In Rockingham County, age-adjusted mortality rates for unclassified disease, and malignant neoplasm of the bladder (bladder cancer) were higher than the New Hampshire averages. In Strafford County, mortality rates for accidents, accidental poisonings, atherosclerotic cardiovascular disease, suicide, falls, influenza, and pneumonia were higher than the New Hampshire averages. In York County, mortality rates for Alzheimer's disease, accidental poisonings, and suicide were higher than the Maine averages.

In addition to CDC data, New Hampshire and Maine Departments of Health maintain data warehouses that include county-level indicators regarding cancer mortality (**Exhibits 20A and**

20B) and cancer incidence (**Exhibits 21A and 21B**). Light grey shading indicates that the county rate was between 10 and 50 percent worse than state averages, medium grey shading indicates that the county rate was between 50 and 75 percent worse, and dark grey shading indicates that the county rate was more than 75 percent worse. These indicators are relevant because cancer is a leading cause of death in the U.S.

Exhibit 20A: Maine Age-Adjusted Cancer Mortality Rates per 100,000 Population, 2011

Cancer Type	York County (ME)	Maine
All Cancers	178.9	**185.5**
Lung Cancer	49.4	**54.3**
Tobacco-related Cancers (Excl. Lung)	37.0	**37.4**
Prostate Cancer (Male)	19.8	**22.1**
Breast Cancer (Female)	19.0	**20.0**
Colorectal Cancer	15.8	**16.1**

Source: Maine Department of Health, 2014.

In 2011, cancer mortality rates in York County were lower than the Maine averages.

Exhibit 20B: New Hampshire Age-Adjusted Cancer Mortality Rates per 100,000 Population, 2010-2014

Cancer Type	Rockingham County (NH)	Strafford County (NH)	New Hampshire
All Cancers	168.6	175.0	**165.1**
Lung and Bronchus	47.5	55.0	**46.2**
Prostate (Male)	19.3	17.7	**20.3**
Breast (Female)	18.8	19.7	**20.2**
Colorectal	13.5	12.9	**13.5**
Pancreas	12.0	12.4	**11.1**
Ovary (Female)	8.0	8.0	**7.2**
Leukemia	6.8	6.5	**6.4**
Non-Hodgkin Lymphoma	5.3	5.0	**5.3**
Esophagus	4.8	5.2	**5.2**
Liver and Intrahepatic Bile Duct	5.2	5.5	**5.0**
Bladder	4.8	7.0	**5.0**
Brain and Other CNS	4.4	4.4	**4.8**
Uterus (Female)	3.3	4.2	**4.7**
Kidney and Renal Pelvis	4.4	4.2	**3.7**
Multiple Myeloma	3.4	2.4	**3.0**
Melanoma of Skin	2.9	2.7	**2.7**
Oral Cavity and Pharynx	2.8	2.7	**2.3**
Stomach	2.3	2.1	**2.1**
Cervical (Female)	2.2	-	**1.4**
Mesothelioma	1.0	1.6	**0.9**
Larynx	1.2	-	**0.8**
Hodgkin Lymphoma	0.4	-	**0.4**
Thyroid	0.4	-	**0.3**
Testis (Male)	-	-	**0.2**
Kaposi Sarcoma	0.0	0.0	**0.0**

Source: New Hampshire Department of Health, 2014.

Between 2010 and 2014, the average age-adjusted cancer mortality rates in Rockingham County were higher than the New Hampshire averages for ovarian, kidney and renal pelvis, multiple myeloma, oral cavity and pharynx, cervical, larynx, and thyroid cancer. Mortality rates for lung and bronchus, pancreatic, ovarian, liver and intrahepatic bile duct, bladder, oral cavity and pharynx, and mesothelioma cancer were higher in Strafford County than the state averages.

Exhibit 21 presents age-adjusted cancer incidence rates in the community.

Exhibit 21A: Maine Age-Adjusted Cancer Incidence Rates per 100,000 Population, 2011

Cancer Type	York County (ME)	Maine
All Cancers	507.3	488.7
Breast Cancer (Female)	136.5	125.0
Prostate Cancer (Male)	122.9	118.4
Tobacco-related Cancers (Excl. Lung)	94.8	91.9
Lung Cancer	70.9	74.0
Colorectal Cancer	41.5	41.1
Brain and Nervous System Tumors	16.5	15.6

Source: Maine Department of Health, 2014.

In 2011, age-adjusted cancer incidence rates were slightly higher than the Maine averages.

Exhibit 21B: New Hampshire Age-Adjusted Cancer Incidence Rates per 100,000 Population, 2009-2013

Cancer Type	Rockingham County (NH)	Strafford County (NH)	New Hampshire
All Cancers	532.7	511.6	504.0
Breast (Female)	141.9	138.2	139.2
Prostate (Male)	151.0	131.2	138.9
Lung and Bronchus	74.0	76.5	69.0
Colorectal	40.1	39.4	38.5
Uterus (Female)	34.2	28.5	33.4
Bladder	32.4	35.9	29.8
Melanoma of Skin	28.0	20.6	26.9
Non-Hodgkin Lymphoma	22.9	22.7	21.9
Kidney and Renal Pelvis	16.3	16.1	15.3
Thyroid	16.7	13.4	14.8
Leukemia	13.3	14.1	14.3
Pancreas	13.4	15.3	12.5
Oral Cavity and Pharynx	12.8	12.2	11.7
Ovary (Female)	12.8	12.6	11.2
Brain and Other CNS	9.1	6.0	7.9
Testis (Male)	10.2	5.0	7.8
Esophagus	6.9	7.9	6.9
Multiple Myeloma	6.8	6.1	6.0
Stomach	6.0	7.1	5.7
Liver and Intrahepatic Bile Duct	5.6	6.5	5.5
Cervical (Female)	4.1	5.5	4.6
Larynx	3.7	3.5	3.5
Hodgkin Lymphoma	3.2	3.1	3.1
Mesothelioma	1.3	-	1.1
Kaposi Sarcoma	-	-	0.1

Source: New Hampshire Department of Health, 2013.

In Rockingham County, cancer incidence rates for thyroid, ovarian, brain and other CNS, testis, multiple myeloma, and mesothelioma were higher than the New Hampshire averages. In Strafford County, cancer incidence rates for lung and bronchus, bladder, pancreas, ovarian, esophageal, stomach, liver and intrahepatic bile duct, and cervical cancer were higher than the New Hampshire averages.

The CDC data warehouse includes county-level indicators regarding communicable diseases (**Exhibit 22**). Light grey shading indicates that the county rate was between 10 and 50 percent worse than state averages, medium grey shading indicates that the county rate was between 50 and 75 percent worse, and dark grey shading indicates that the county rate was more than 75 percent worse.

Exhibit 22: Communicable Disease Incidence Rates per 100,000 Population, 2013

Disease	Rockingham County (NH)	Strafford County (NH)	New Hampshire	York County (ME)	Maine	United States
HIV diagnoses	2.7	-	3.0	2.9	2.8	16.1
Persons living with diagnosed HIV	76.8	86.7	103.6	106.6	104.0	353.2
Tuberculosis	-	-	1.3	-	1.1	3.0
Chlamydia	176.2	274.5	274.3	236.2	298.8	443.5
Gonorrhea	7.0	11.2	10.6	11.5	21.3	105.3
Primary and Secondary Syphilis	3.0	2.4	2.5	0.5	0.9	5.5
Early Latent Syphilis	2.3	1.6	1.8	0.5	0.5	5.4

Source: Centers for Disease Control and Prevention, 2013.

Rockingham County had comparatively high incidence rates of primary and secondary syphilis and early latent syphilis in 2013.

Maternal and Infant Health

The CDC maintains a data warehouse with maternal and infant health indicators, including county-level indicators. **Exhibit 23** highlights county and state-level maternal and infant health indicators. Light grey shading indicates that the county rate was between 10 and 50 percent worse than the state average. No county rate was more than 50 percent worse than average. These indicators are relevant to narrow issues pertaining to the health and outcomes of pregnant women and infants.

Exhibit 23: Maternal and Infant Health Indicators, 2012-2014

Measure	Rockingham County (NH)	Strafford County (NH)	New Hampshire	York County (ME)	Maine	United States
Teen births (15-19 years) (per 1,000)	7.3	10.4	12.5	14.8	17.8	26.7
Births to unmarried women (18-54 years)	25.2%	37.3%	33.4%	36.8%	40.5%	39.4%
Births to women 40-54 years	3.9%	2.5%	2.9%	2.9%	2.7%	3.0%
Births to women under 18 years	0.5%	1.4%	1.1%	1.1%	1.3%	2.0%
Infant deaths per 1,000 live births	3.4	6.4	4.8	5.2	6.9	2.0
Low birth weight deliveries	6.7%	6.3%	7.0%	6.4%	7.1%	8.0%
Very low birth weight deliveries	1.2%	0.8%	1.1%	0.8%	1.1%	1.4%
Preterm births	8.0%	7.7%	8.4%	8.1%	8.1%	9.7%
< 32 weeks gestation	1.3%	1.0%	1.3%	1.1%	1.3%	1.6%
32-33 weeks gestation	1.0%	0.9%	1.1%	0.9%	1.0%	1.2%
34-36 weeks gestation	5.8%	5.7%	6.0%	6.1%	5.8%	6.9%

Source: Health and Human Services, *Health Information Warehouse*, 2014.
*Infant deaths data are from 2011-2013

Rockingham County had comparatively high rates of births to women between the ages of 40 and 54 in 2012-2014. During the same period, Strafford County had comparatively high rates of births to unmarried women and teens, as well as a comparatively high rate of infant mortality.

Behavioral Risk Factor Surveillance System

The CDC's Behavioral Risk Factor Surveillance System (BRFSS) gathers data via a telephone survey regarding health risk behaviors, healthcare access, and preventive health measures. Data are collected for the entire United States. Analysis of BRFSS data can identify localized health issues, trends, and health disparities, and enable county, state, or nation-wide comparisons.

BRFSS data were assessed for each county in the hospital community and compared to the averages for their respective states (**Exhibit 24**). BRFSS data indicate that binge drinking and the rate of kidney disease in Rockingham County benchmarked unfavorably compared to New Hampshire. In Strafford County, chronic health indicators, including the percent of adults who have ever been told they had a heart attack, stroke, COPD, angina or coronary heart disease, as well as rates of disability, poor health, adults not wearing a seat belt, prostate screenings, and dental visits were unfavorable compared to the state. In York County, rates of alcohol consumption, kidney disease, and skin cancer were higher than the Maine averages.

Exhibit 24: Behavioral Risk Factor Surveillance System, 2012

Class	Topic	Question	Rockingham County NH)	Strafford County (NH)	New Hampshire	York County (ME)	Maine	United States
Alcohol Consumption	Binge Drinking	Binge drinkers (males having five or more drinks on one occasion, females having four or more drinks on one occasion)	19.9	17.4	**17.0**	19.9	**17.7**	16.9
	Heavy Drinking	Heavy drinkers (adult men having more than two drinks per day and adult women having more than one drink per day)	7.6	5.6	**7.3**	9.1	**6.7**	6.1
Chronic Health Indicators	Arthritis	Percent of adults who have been told they have arthritis	25.3	25.8	**27.3**	30.1	**29.6**	25.7
	Asthma	Percent of adults who have been told they currently have asthma	9.4	9.3	**10.2**	10.7	**11.1**	8.9
	Asthma	Percent of adults who have ever been told they have asthma	12.9	13.4	**14.1**	13.3	**14.9**	13.3
	Cardiovascular Disease	Percent of adults who have ever been told they had a heart attack (myocardial infarction)	3.5	4.8	**4.3**	4.2	**5.1**	4.5
	Cardiovascular Disease	Percent of adults who have ever been told they had a stroke	2.0	2.7	**2.4**	2.7	**2.9**	2.9
	Cardiovascular Disease	Percent of adults who have ever been told they had angina or coronary heart disease	3.7	5.6	**4.2**	4.0	**5.1**	4.3
	COPD	Percent of adults who have ever been told they have COPD	6.1	7.6	**5.9**	7.0	**7.8**	6.2
	Depression	Percent of adults who have ever been told they have a form of depression	19.9	19.6	**19.7**	20.8	**22.7**	18.0
	Diabetes	Percent of adults who have ever been told by a doctor that they have diabetes	9.4	9.7	**9.1**	10.5	**9.7**	9.7
	Kidney	Percent of adults who have ever been told they have kidney disease	3.2	2.5	**2.8**	2.8	**2.4**	2.5
	Other Cancer	Percent of adults who have ever been told they had any other types of cancer	6.5	6.2	**6.7**	7.5	**7.2**	6.5
	Skin Cancer	Percent of adults who have ever been told they had skin cancer	6.0	5.4	**6.0**	7.2	**5.6**	5.7
	Vision	Percent of adults who have ever been told they have vision impairment	11.1	13.5	**13.4**	12.4	**14.1**	15.3
Colorectal Cancer Screening	Blood Stool Test	Adults aged 50+ who have not had a blood stool test within the past two years	86.8	85.9	**86.6**	88.7	**85.7**	85.8
	Sigmoidoscopy	Adults aged 50+ who have never had a sigmoidoscopy or colonoscopy	18.6	23.4	**22.4**	25.6	**24.7**	32.7
Demographics	Disability status	Adults who are limited in any activities because of physical, mental, or emotional problems	18.8	24.2	**21.3**	21.7	**23.0**	20.1
	Disability status	Adults with health problem(s) that requires the use of special equipment	5.6	8.1	**7.1**	8.0	**8.4**	8.0
Health Care Access/Coverage	Health Care Coverage	Percent of adults without any kind of health care coverage	11.4	11.5	**13.0**	11.7	**12.9**	17.1
	Under 65 Coverage	Percent of adults aged 18-64 without any kind of healthcare coverage	13.8	13.8	**15.8**	14.2	**15.7**	20.4
Health Status	Fair or Poor Health	Percent of adults reporting fair or poor health	11.7	16.1	**13.5**	13.4	**16.1**	16.9
Immunization	Flu Shot	Adults aged 65+ who have not had a flu shot within the past year	37.2	33.5	**41.1**	38.8	**38.7**	39.9
	Pneumonia Vaccination	Adults aged 65+ who have never had a pneumonia vaccination	22.5	18.9	**25.0**	30.7	**29.3**	31.2
Injury	Seatbelt Use	Percent of adults who do not always wear a seatbelt	25.5	39.1	**32.6**	14.2	**17.7**	15.5
Oral Health	All Teeth Removed	Adults aged 65+ who have had all their natural teeth extracted	10.8	12.2	**13.1**	17.2	**22.1**	16.1
	Dental Visit	Percent of adults who did not visit a dentist or dental clinic within the past year for any reason	22.4	29.8	**26.9**	31.4	**34.7**	32.8
	Teeth Removed	Adults that have had any permanent teeth extracted	40.6	47.2	**44.5**	48.8	**51.1**	44.5
Overweight and Obesity (BMI)	BMI Categories	Percent of adults who are overweight or obese (BMI 25.0 - 99.8)	60.5	58.0	**62.1**	64.8	**64.2**	63.4
Physical Activity	Exercise	Percent of adults who did not participate in any physical activity during the past month	18.3	21.4	**20.0**	16.3	**20.9**	22.9
Prostate Cancer	PSA Test	Men aged 40+ who have not had a PSA test within the past two years	50.6	66.8	**56.8**	59.2	**60.2**	54.8
Tobacco Use	Current Smoker Status	Adults who are current smokers	15.6	18.7	**17.2**	18.1	**20.3**	19.6
Women's Health	Mammogram	Women aged 40+ who have not had a mammogram within the past two years	16.0	15.7	**20.2**	17.6	**20.4**	26.0
	Mammogram	Women aged 50+ who have not had a mammogram within the past two years	13.3	15.8	**17.2**	17.9	**17.9**	23.0
	Pap Test	Women aged 18+ who have not had a pap test within the past three years	18.5	16.1	**21.8**	20.1	**20.1**	22.0

Source: Behavioral Risk Factor Surveillance System, 2012.

Youth Behavior Surveys

The YRBS was developed in 1990 to monitor priority health risk behaviors that contribute markedly to the leading causes of death, disability, and social problems among youth and adults in the United States. These behaviors, often established during childhood and early adolescence, include the following:

- Behaviors that contribute to unintentional injuries and violence;
- Sexual behaviors related to unintended pregnancy and sexually transmitted infections, including HIV infection;
- Alcohol and other drug use;
- Tobacco use;
- Unhealthy dietary behaviors; and
- Inadequate physical activity.

In addition, the YRBS monitors the prevalence of obesity and asthma and other priority health-related behavior.

The YRBS includes national, state, territorial, tribal government, and local school-based surveys of representative samples of 9th through 12th grade students. These surveys are conducted every two years, usually during the spring semester. The national survey, conducted by CDC, provides data representative of 9th through 12th grade students in public and private schools in the United States. The state, territorial, tribal government, and local surveys, conducted by departments of health and education, provide data representative of mostly public high school students in each jurisdiction.

The Maine Integrated Youth Health Survey (MIYHS) is conducted in Maine. This survey follows YRBS methodology, but analytic procedures are not identical. MIYHS also incorporates additional questions into its survey instrument.

YRBS data and similar MIYHS data were assessed for Strafford and York counties and compared to the averages for their respective states (**Exhibits 25A and 25B**). Analysis of youth survey data can identify localized health issues, trends, and health disparities. Data for Rockingham County were not available for analysis.

Exhibit 25A: Strafford County Youth Risk Behavior Survey, 2015

Measure	Time Period	Strafford County				New Hampshire			
		Percent Total	< 15	Male	Female	Percent Total	< 15	Male	Female
Has ridden in a car driven by someone who had been drinking	Month	14.1	12.3	14.0	14.3	15.8	15.7	15.6	15.9
Has driven a vehicle when had been drinking alcohol	Month	4.2	1.1	6.1	2.6	6.3	5.4	7.6	4.8
Text or email while driving a vehicle	Month	24.8	1.7	23.0	26.2	43.7	11.4	41.3	46.0
Did not go to school because felt unsafe at school or on way to school	Month	6.7	6.4	4.6	8.6	5.4	6.0	4.5	6.2
Were in a physical fight on school property	Year	7.6	8.5	9.9	4.7	6.4	7.4	8.9	3.5
Forced to have sexual intercourse when did not want to	Ever	6.5	4.7	3.0	10.3	6.3	4.9	3.0	9.8
Have been bullied on school property	Year	23.9	30.3	18.4	29.4	22.1	25.4	16.8	27.3
Have been electronically bullied	Year	20.8	25.0	13.5	28.4	18.6	20.4	11.3	26.0
Feel sad or hopeless almost every day for two weeks or more in a row	Year	28.0	28.0	20.8	36.0	27.2	26.1	17.9	36.9
Seriously consider attempting suicide	Year	19.6	21.3	16.0	23.4	15.3	15.0	10.7	20.1
Attempted suicide	Year	7.9	9.3	5.3	10.4	6.8	7.1	4.6	8.9
Smoked cigarettes in the past 30 days	Month	12.2	8.6	13.7	10.4	9.3	5.9	10.2	8.0
Drank alcohol in the past 30 days	Month	30.0	17.7	30.9	29.0	29.9	18.5	28.6	31.1
Smoked marijuana in the past 30 days	Month	23.8	14.7	26.6	20.4	22.2	13.2	23.9	20.0
Ever used cocaine	Ever	6.2	4.0	8.3	3.7	4.9	3.2	6.5	3.1
Ever used heroin	Ever	3.0	2.6	4.1	1.5	2.4	2.1	3.2	1.3
Ever used methamphetamines	Ever	3.2	2.7	4.7	1.4	2.5	2.3	3.3	1.4
Ever used prescription drugs without a prescription	Ever	17.2	13.7	17.5	16.9	13.4	9.2	14.0	12.5
Ever used synthetic marijuana	Ever	10.1	7.5	11.3	8.5	9.2	6.0	10.5	7.6
Ever had sexual intercourse	Ever	43.9	22.0	45.0	42.7	39.4	19.1	39.8	38.7
Had sex in the past 3 months	3 months	36.7	17.8	37.0	33.8	31.3	14.2	30.4	32.0
Were physically active for at least 60 minutes every day	Week	21.1	21.2	26.9	14.8	22.3	24.0	29.0	15.1
Went to the dentist	Year	80.1	81.7	79.9	80.6	82.7	84.3	81.6	84.1
Had asthma	Ever	21.7	22.3	19.4	23.9	22.3	21.5	21.5	23.1
Do something to purposely hurt yourself without wanting to die	Year	20.8	23.1	12.3	29.8	18.5	20.3	10.2	27.0

Source: New Hampshire Department of Health, 2015.
Data for Rockingham County were not available.

Compared to New Hampshire, Strafford County benchmarked unfavorably on more than half of the risk behaviors assessed. Youth risk behaviors in Strafford County also benchmarked unfavorably to the state when broken down by age and sex. Note that as the YRBS varies from the MIYHS, results are not directly comparable to the York County MIYHS.

Exhibit 25B: York County Maine Integrated Youth Health Survey (MIYHS), 2015

Measure	York County				Maine			
	Percent Total	< 15	Male	Female	Percent Total	< 15	Male	Female
Overweight	16.3	18.7	15	17.6	16.5	18.4	17.2	15.7
Obese	13.1	14.0	9.1	16.8	14.1	14.2	17.7	10.2
Language other than English is primarily spoken at home	4.3	5.6	4.7	3.4	4.8	4.8	5.1	4.1
Never or rarely wear a seatbelt when riding in a car	4.9	4.5	5.8	3.7	6.4	5.7	7.8	4.7
Has ridden in a car driven by someone who had been drinking	14.4	14.3	15.3	13.1	13.7	13.5	14.3	12.8
Have been bullied on school property in past year	23.2	26.3	20.4	25.8	23.9	27.6	20.0	27.8
Feel sad or hopeless almost every day for two weeks or more in a row	25.3	23.8	17	33.6	25.9	24.5	17.1	35.0
Seriously consider attempting suicide	15.2	16.2	11.0	19.0	14.8	15.3	10.3	19.4
Smoked cigarettes in the past 30 days	10.4	5.7	11.7	8.7	10.7	6.5	9.5	11.7
Ever drank alcohol	50.9	29.1	49.1	50.9	50.9	30.0	48.9	52.9
Drank alcohol in the past 30 days	24.5	11.8	24.0	25.0	23.8	11.9	22.8	24.8
Ever smoked marijuana	36.0	16.2	37.2	34.7	34.6	16.6	34.7	34.3
Smoked marijuana in the past 30 days	21.4	10.4	23.5	19.2	19.6	9.6	20.6	18.5
Ever used prescription drugs without a prescription	12.8	8.5	13.9	11.3	11.0	7.2	11.9	9.8
Used prescription drugs without a prescription in the past 30 days	6.0	4.1	6.8	4.8	4.8	3.4	5.5	4.0
Ever used cocaine	4.8	3.7	5.8	3.3	4.8	3.5	6.0	3.3
Ever used heroin	3.2	2.3	4.4	1.8	3.2	2.6	4.4	1.7
Ever used methamphetamines	3.6	2.9	4.3	2.3	3.3	2.9	4.3	2.0
Ever had sexual intercourse	38.8	14.5	38.8	38.7	38.7	14.4	38.8	38.5
Did not use a condom last time had sex	41.2	32.5	37.5	44.7	37.9	33.8	33.4	42.1
Ate vegetables three or more times a day the past 7 days	10.2	8.5	9.5	10.8	10.4	10.2	9.7	11.2
Ate fruit two or more times a day the past 7 days	31.7	32.1	31.0	32.3	31.3	31.7	30.7	32.0
Were physically active for at least 60 minutes every day the past 7 days	19.5	21.5	25.0	14.1	20.5	22.6	26.0	14.9

Source: Maine Department of Health, 2015.

Compared to Maine, York County benchmarked unfavorably across all cohorts for the percent of youth who have ever used prescription drugs without a prescription. York County also had a higher percent of females who were overweight or obese and a higher percent of males who smoked cigarettes or marijuana and did not use a condom the last time they had sexual intercourse. Note that as the MIYHS varies from the YRBS, results are not directly comparable to the Stafford County YRBS.

Ambulatory Care Sensitive Conditions

This section examines the frequency of discharges for Ambulatory Care Sensitive Conditions (ACSCs, frequently referred to as Prevention Quality Indicators or PQIs) throughout the community.

ACSCs are health "conditions for which good outpatient care can potentially prevent the need for hospitalization or for which early intervention can prevent complications or more severe disease."[16] As such, rates of hospitalization for these conditions can "provide insight into the quality of the health care system outside of the hospital," including the accessibility and utilization of primary care, preventive care and health education. Among these conditions are: diabetes complications, perforated appendixes, chronic obstructive pulmonary disease (COPD), hypertension, congestive heart failure, dehydration, bacterial pneumonia, urinary tract infection, and asthma. ACSCs are influenced by the quality of care provided, access to care, patient compliance with treatment plans, patient education, and the environment.

Disproportionately high rates of discharges for ACSC indicate potential problems with the availability or accessibility of ambulatory care and preventive services and can suggest areas for improvement in the health care system and ways to improve outcomes.

Exhibits 26A and 26B provides 2015 PQI counts for ZIP Codes in the Wentworth-Douglass community.

[16]Agency for Healthcare Research and Quality (AHRQ) Prevention Quality Indicators.

Exhibit 26A: PQI (ACSC) Counts, by ZIP Code, 2015

City/Town	ZIP Code	PQI # 1	PQI # 2	PQI # 3	PQI # 5	PQI # 7	PQI # 8	PQI # 9	PQI # 10	PQI # 11	PQI # 12	PQI # 13	PQI # 14	PQI # 15	PQI # 16
Primary Service Area Subtotal		24	12	33	165	9	168	27	37	81	49	1	1	4	0
Barrington	03825	3	0	1	10	0	10	1	3	6	2	0	0	0	0
Berwick	03901	2	2	3	13	0	15	5	3	9	4	0	0	1	0
Dover	03820	9	1	14	55	5	89	12	18	41	28	1	0	2	0
Durham	03824	0	2	0	9	0	9	0	2	5	1	0	0	0	0
Lee	03861	1	0	0	11	0	4	2	0	2	0	0	0	0	0
Madbury	03823	0	1	2	2	0	3	1	1	1	0	0	0	0	0
Rollinsford	03869	0	0	1	6	0	3	0	1	3	3	0	0	0	0
Somersworth	03878	8	6	11	44	3	26	6	7	11	8	0	1	1	0
South Berwick	03908	1	0	1	15	1	9	0	2	3	3	0	0	0	0
Secondary Service Area Subtotal		2	1	13	38	4	28	8	7	16	10	0	0	0	0
Eliot	03903	0	0	0	4	0	3	1	0	1	1	0	0	0	0
Newmarket	03857	0	0	1	2	1	6	0	0	2	1	0	0	0	0
Rochester	03839	0	0	0	3	0	2	5	1	0	0	0	0	0	0
Rochester	03867	2	1	12	29	2	15	2	6	10	8	0	0	0	0
Rochester	03868	0	0	0	0	1	2	0	0	3	0	0	0	0	0
Community Total		26	13	46	203	13	196	35	44	97	59	1	1	4	0

Source: Wentworth-Douglass, 2015.

PQI Descriptions

PQI #	Descriptions
PQI # 1	Diabetes Short-Term Complications Admissions
PQI # 2	Perforated Appendix Admissions
PQI # 3	Diabetes Long-Term Complications Admissions
PQI # 5	COPD or Asthma in Older Adults Admissions
PQI # 7	Hypertension Admissions
PQI # 8	Heart Failure Admissions
PQI # 9	Low Birth Weight
PQI # 10	Dehydration Admissions
PQI # 11	Bacterial Pneumonia Admissions
PQI # 12	Urinary Tract Infection Admissions
PQI # 13	Angina Without Procedure Admissions
PQI # 14	Uncontrolled Diabetes Admissions
PQI # 15	Asthma in Younger Adults Admissions
PQI # 16	Lower-Extremity Amputation among Patients with Diabetes

Exhibit 26B: ACSC Discharges, 2015

City/Town	ZIP Code	Total ACSC Discharges	Total Discharges	Percent ACSC Discharges
Primary Service Area Subtotal		611	4,128	**14.8%**
Barrington	03825	36	340	**10.6%**
Berwick	03901	57	365	**15.6%**
Dover	03820	275	1,885	**14.6%**
Durham	03824	28	187	**15.0%**
Lee	03861	20	114	**17.5%**
Madbury	03823	11	63	**17.5%**
Rollinsford	03869	17	140	**12.1%**
Somersworth	03878	132	801	**16.5%**
South Berwick	03908	35	233	**15.0%**
Secondary Service Area Subtotal		127	1,143	**11.1%**
Eliot	03903	10	71	**14.1%**
Newmarket	03857	13	111	**11.7%**
Rochester	03839	11	103	**10.7%**
Rochester	03867	87	716	**12.2%**
Rochester	03868	6	142	**4.2%**
Community Total		738	5,271	**14.0%**

Source: Wentworth-Douglass, 2015.

In the Wentworth-Douglass community, 14 percent of the total discharges were for ambulatory care sensitive conditions. The towns of Lee (ZIP Code 03861) and Madbury (ZIP Code 03823) had the highest percent of ACSC discharges at 17.5 percent each.

Community Need Index™ and Food Deserts

Dignity Health Community Need Index

Dignity Health, a California-based hospital system, developed and has made widely available for public use a *Community Need Index*™ that measures barriers to health care access by county/city and ZIP Code. The index is based on five social and economic indicators:

- The percentage of elders, children, and single parents living in poverty;
- The percentage of adults over the age of 25 with limited English proficiency, and the percentage of the population that is non-White;
- The percentage of the population without a high school diploma;
- The percentage of uninsured and unemployed residents; and
- The percentage of the population renting houses.

The *Community Need Index*™ calculates a score for each ZIP Code based on these indicators. Scores range from "Lowest Need" (1.0-1.7) to "Highest Need" (4.2-5.0). "High Needs" scores range from 3.4 to 4.1." This indicator is relevant because it may identify geographic areas with residents in need of assistance.

Exhibit 27 presents the *Community Need Index*™ (CNI) score of each ZIP Code in the Wentworth-Douglass Hospital community.

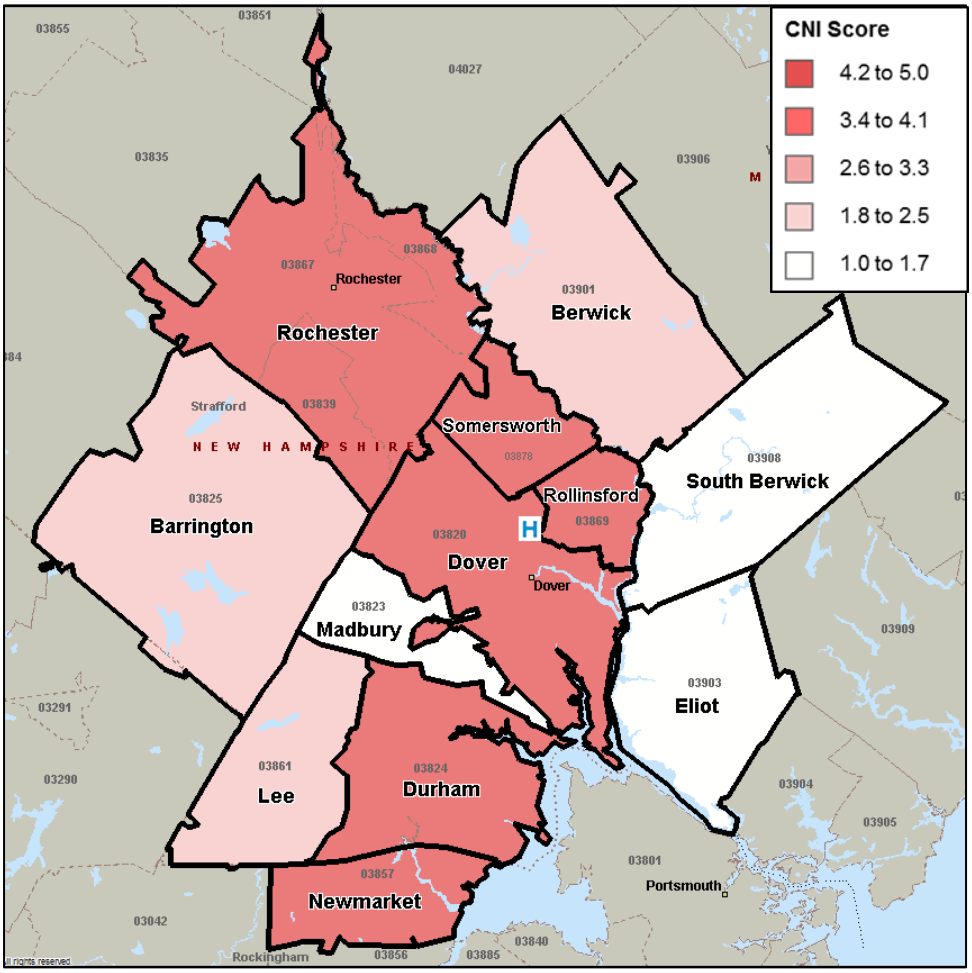
Exhibit 27: Community Need Index™ Score by ZIP Code, 2015

City/Town	ZIP Code	County (State)	CNI Score
Primary Service Area Subtotal			**2.6**
Barrington	03825	Strafford (NH)	1.8
Berwick	03901	York (ME)	1.8
Dover	03820	Strafford (NH)	3.0
Durham	03824	Strafford (NH)	2.6
Lee	03861	Strafford (NH)	1.8
Madbury	03823	Strafford (NH)	1.6
Rollinsford	03869	Strafford (NH)	2.8
Somersworth	03878	Strafford (NH)	3.4
South Berwick	03908	York (ME)	1.6
Secondary Service Area Subtotal			**2.6**
Eliot	03903	York (ME)	1.4
Newmarket	03857	Rockingham (NH)	2.6
Rochester	03839	Strafford (NH)	3.4
Rochester	03867	Strafford (NH)	2.8
Rochester	03868	Strafford (NH)	2.6
Community Total			**2.6**
Rockingham County			**1.7**
Strafford County			**2.6**
York County			**2.3**

Source: Dignity Health, 2015.

Exhibit 28 presents these data in a community map format.

Exhibit 28: Community Need Index, 2015



Source: Microsoft MapPoint and Dignity Health, 2015.

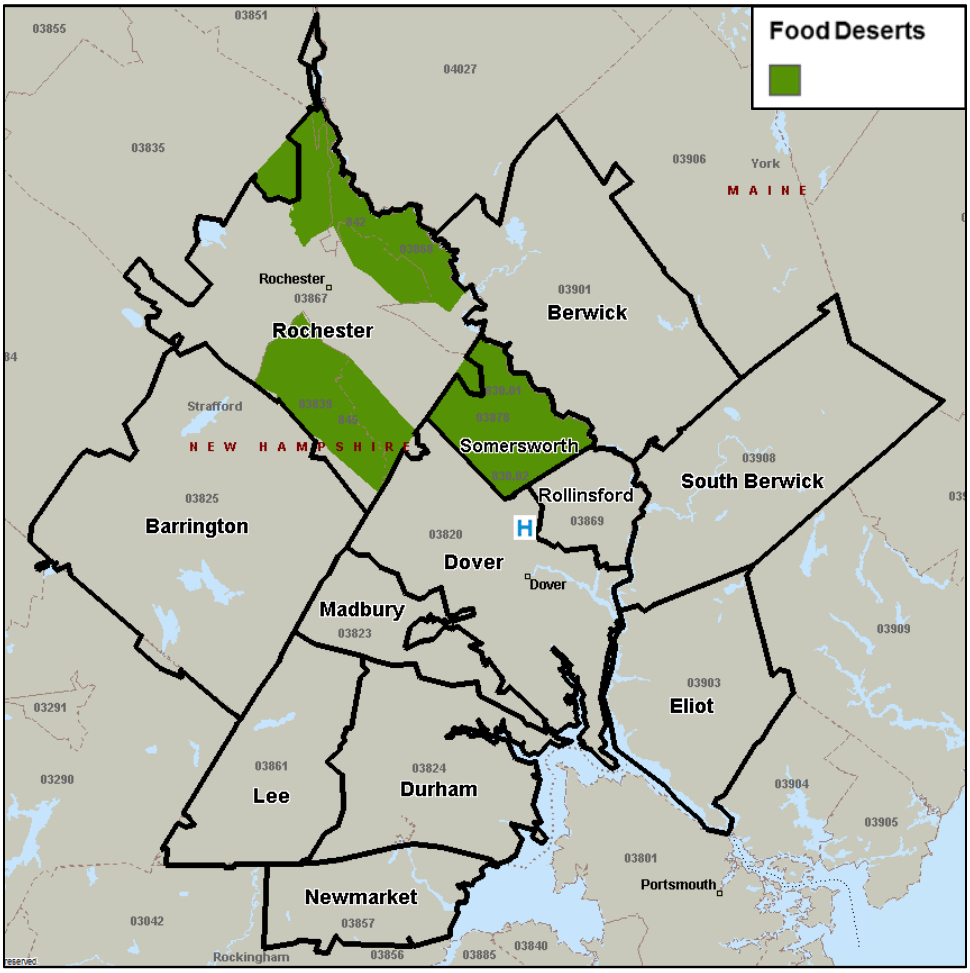
The CNI indicates that two of the 14 ZIP Codes in the Wentworth-Douglass Hospital community scored in the "high need category." Somersworth ZIP Code 03878 and Rochester ZIP Code 03839 each received a score of 3.4.

Food Deserts

The U.S. Department of Agriculture's Economic Research Service estimates the number of people in each census tract that live in a "food desert." Many government-led initiatives aim to increase the availability of nutritious and affordable foods to people living in these food deserts. This indicator is relevant because it may identify geographic populations facing food insecurity.

Exhibit 29 illustrates the location of food deserts in the community.

Exhibit 29: Food Deserts



Source: Microsoft MapPoint and U.S. Department of Agriculture, 2015.

The entirety of Somersworth and parts of Rochester have been designated as food deserts.[17]

[17] The USDA considers distances of greater than one mile in an urban area and ten miles in a rural area to a grocery store as measures in its assessment. There are no measures of suburban areas in the USDA's assessment. Somersworth and Rochester are considered to be urban in this USDA food desert analysis. Hospital staff members indicate that Somersworth and Rochester are largely suburban and a rural classification for this USDA assessment might better describe these areas. Accordingly, hospital representatives indicate identification of Somersworth and Rochester as "food desert" may overstate food access issues of residents overall and mask the needs of vulnerable residents.

Medically Underserved Areas and Populations

Medically Underserved Areas and Populations (MUA/Ps) are designated by the Health Resources and Services Administration (HRSA) based on an "Index of Medical Underservice." The index includes the following variables: ratio of primary medical care physicians per 1,000 population, infant mortality rate, percentage of the population with incomes below the poverty level, and percentage of the population age 65 or over.[18] Areas with a score of 62 or less are considered "medically underserved."

Populations receiving MUP designation include groups within a geographic area with economic barriers or cultural and/or linguistic access barriers to receiving primary care. If a population group does not qualify for MUP status based on the IMU score, Public Law 99-280 allows MUP designation if "unusual local conditions which are a barrier to access to or the availability of personal health services exist and are documented, and if such a designation is recommended by the chief executive officer and local officials of the state where the requested population resides."[19]

There are no census tracts within the hospital's community that have been designated as areas where Medically Underserved Populations are present.

Health Professional Shortage Areas

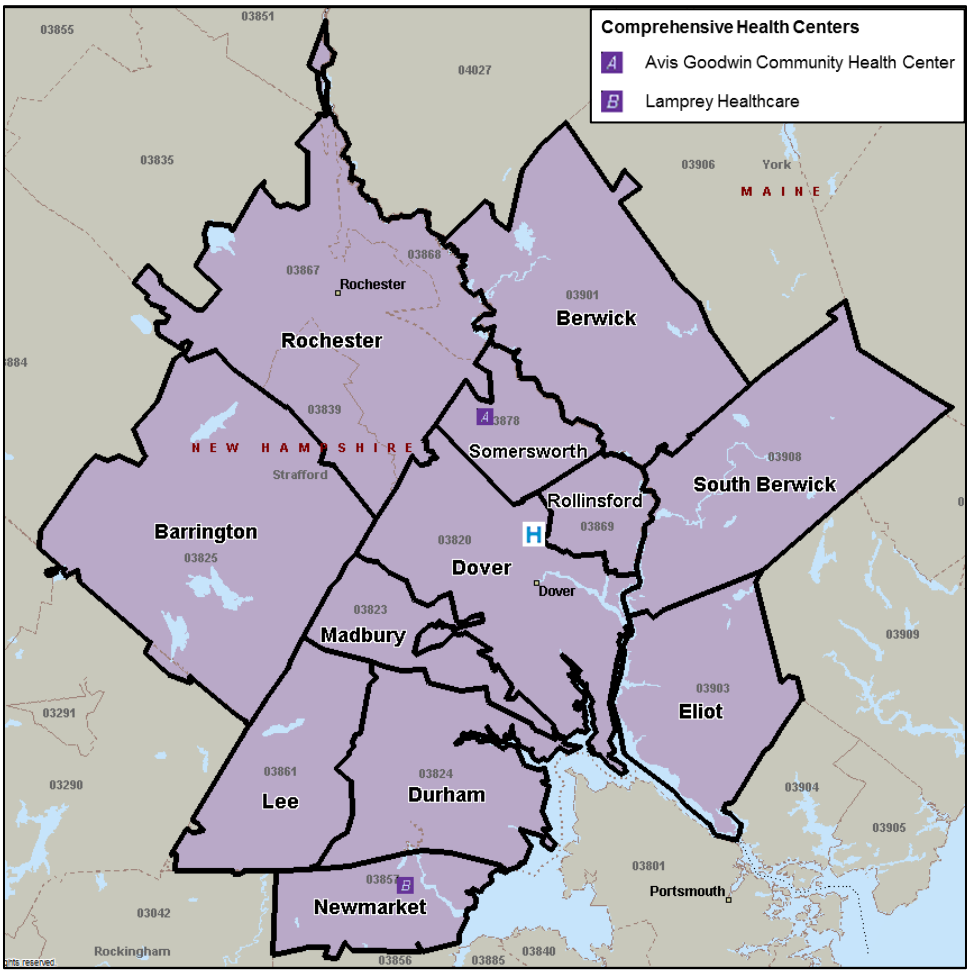
A geographic area can receive a federal Health Professional Shortage Area (HPSA) designation if a shortage of primary medical care, dental care, or mental health care professionals is found to be present. In addition to areas and populations that can be designated as HPSAs, a health care facility can receive federal HPSA designation and an additional Medicare payment if it provides primary medical care services to an area or population group identified as having inadequate access to primary care, dental, or mental health services.

HPSAs can be: "(1) An urban or rural area (which need not conform to the geographic boundaries of a political subdivision and which is a rational area for the delivery of health services); (2) a population group; or (3) a public or nonprofit private medical facility."[20]

[18] Heath Resources and Services Administration. See http://www.hrsa.gov/shortage/mua/index.html
[19] *Ibid.*
[20] U.S. Health Resources and Services Administration, Bureau of Health Professionals. (n.d.). *Health Professional Shortage Area Designation Criteria*. Retrieved 2012, from http://bhpr.hrsa.gov/shortage/hpsas/designationcriteria/index.html

Exhibit 30 illustrates the locations of the federally-designated HPSA comprehensive health centers.

Exhibit 30: HPSA Designated Comprehensive Health Centers



Source: Health Resources and Services Administration, 2016.

Two HPSA-designated comprehensive health centers exist within the Wentworth-Douglass Hospital community. The Goodwin Community Health Center (Somersworth) and Lamprey Healthcare (Newmarket) are both designated as primary care, dental health, and mental health comprehensive health centers.

Description of Other Facilities and Resources within the Community

Federally Qualified Health Centers

Federally Qualified Health Centers (FQHCs) are established to promote access to ambulatory care in areas designated as "medically underserved." These clinics receive enhanced reimbursement for Medicaid and Medicare services and most also receive federal grant funds under Section 330 of the Public Health Service Act. There currently are two FQHC organizations operating in the Wentworth-Douglass Hospital community (**Exhibit 31**).

Exhibit 31: Federally Qualified Health Centers

Name	Address	City	ZIP Code	County
Lamprey Healthcare	207 S. Main St	Newmarket	03857	Strafford
Goodwin Community Health Center	311 NH-108	Somersworth	03878	Strafford

Source: Health Resources and Services Administration, 2016.

Hospitals

Exhibit 32 presents information on hospital facilities that operate in the community.

Exhibit 32: Hospitals

Name	City	ZIP Code	County
Frisbie Memorial Hospital	Rochester	03867	Strafford
Wentworth-Douglass Hospital	Dover	03820	Strafford

Source: New Hampshire Hospital Association, 2016.

Other Community Resources

There is a wide range of agencies, coalitions, and organizations available in the region served by the hospital. 2-1-1 New Hampshire maintains a database to refer individuals to health and human services in the state. Categories of resources maintained in the database are as follows:

- Basic Needs (including food, homeless services, housing and utilities, material goods, temporary financial aid, and transportation);
- Consumer Services (including consumer assistance and protection, and consumer regulation);
- Criminal Justice and Legal (including courts, criminal correctional system, judicial services, law enforcement agencies and services, legal assistance, legal education and information, legal services, and tax organizations and services);
- Education (including educational institutions and schools, educational programs, and educational support services);
- Environmental Quality (including animal services, environmental protection and improvement, municipal services/public works, public health, and public safety);
- Health Care, Mental Health, & Substance Abuse Services (including health care and mental health care facilities, health care services, mental health care services, substance abuse services, and support groups, wellness programs, and health education);
- Income Security (including employment, public assistance programs, and social insurance programs);
- Individual and Family Life (including death certification/burial arrangements, family surrogate/alternative living services, individual and family support services, social development and enrichment, and volunteer opportunities); and
- Target Populations (including veterans and military personnel, homeless people, and volunteers).

2-1-1 New Hampshire is an initiative of the United Ways of New Hampshire in partnership with Public Service Company of New Hampshire. Additional information about resources available to New Hampshire residents is available at: http://www.211nh.org.

In Maine, 2-1-1 Maine, Inc. maintains a database of health, social economic, and human services available to residents of the state. Categories of resources maintained in the database are as follows:

- Aging and Disability;
- Clothing/Personal/Household Goods;
- Community and Information Services;
- Consumer and Public Safety;
- Education;
- Emergency Response & Preparedness;
- Food/Meals;
- Health Care and Dental;

- Housing/Shelter/Utilities;
- Income Support/Employment;
- Individual and Family Life;
- Legal Services;
- Mental Health;
- Multicultural;
- Substance Abuse;
- Transportation;
- Tribal; and
- Veterans & Military.

2-1-1 Maine, Inc. is a strategic partnership with the State of Maine, United Ways of Maine, and the Opportunity Alliance. Additional information about resources available to New Hampshire residents is available at: http://211maine.org/.

Findings of Other Community Health Needs Assessments

Several other needs assessments and health reports relevant to the Wentworth-Douglass Hospital community also were reviewed. The significant needs identified by each report are presented below.

City of Rochester Consolidated Action Plan

The Five Year Consolidated Action Plan for the City of Rochester provides the plan for community development in the city for fiscal years 2015 through 2020. The report developed several program goals and outcome performance measures, which are summarized below.

1. Provide Decent Housing
    a. Assist homeless persons to obtain affordable housing and assist persons at risk of homelessness
    b. Retention of affordable housing stock
    c. Increase the supply of supportive housing
2. Provide a Suitable Living Environment
    a. Reducing the incidence of increasing substance abuse (especially heroin and other opioids) and addressing root causation
    b. Improving the safety and livability of neighborhoods
    c. Increase access to quality public and private facilities and services
    d. Increase access to affordable and quality housing for all residents
3. Expand Economic Opportunities
    a. Establishment, stabilization, and expansion of small businesses
    b. Provision of public services concerned with employment

Maine Collaborative

For 2016, four health-care systems in Maine (Central Maine HealthCare, Eastern Maine Healthcare Systems, MaineGeneral Health, and MaineHealth) and the Maine Center for Disease Control and Prevention collaborated to produce a comprehensive review of health data and community stakeholder input for counties throughout the state. Issues that are relatively high in York County, compared to Maine, are as follows:

1. Melanoma incidence;
2. Lyme disease incidence;
3. Violent crime rate and domestic assaults reported to police;

The top issues to stakeholders who work in York County are as follows:

1. Mental health;
2. Drug and alcohol abuse;
3. Obesity;
4. Physical activity and nutrition; and
5. Tobacco use.

Frisbie Memorial Hospital

The 2015 CHNA by Frisbie Memorial Hospital assessed a community that included Strafford County and Carroll County in New Hampshire, and two towns in southwestern Maine. Towns in the CHNA include Barrington (NH); Alton (NH); East Rochester (NH); Berwick (ME); Farmington (NH); Brookfield (NH); Gonic (NH); Middleton (NH); Lebanon (ME); Milton (NH); Rochester (NH); New Durham (NH); Somersworth (NH); Sanbornville (NH); Strafford (NH); Union (NH); and Wakefield (NH). Community needs were prioritized as follows:

1. Affordable insurance coverage options;
2. Affordable medical care;
3. Affordable prescription drugs;
4. Health services for the homeless;
5. Mental health – services that provide early detection of potential problem;
6. Affordable dental services for adults;
7. Inpatient hospital care for people with mental health issues;
8. Drug and alcohol abuse treatment including heroin intervention and treatment;
9. Mental health care or counseling;
10. Counseling or intervention services to deal with home violence; and
11. Drug and alcohol education and early intervention.

Maine Head Start and Early Head Start Needs Assessment

The Maine Head Start State Collaboration Office (HSSCO) conducted this needs assessment in 2015 in compliance with Head Start Act requirements. The assessment includes areas of coordination, collaboration, alignment of services, alignment of curriculum, and others in developing annually-revised strategic plans.

Five priority areas were established, as follows:

1. Partner with state child care systems;
2. Work with state efforts to collect data regarding early childhood programs and child outcomes;
3. Support expansion and access to high quality workforce and career development for staff;
4. Collaboration with Maine's Quality Rating and Improvement System (QRIS); and
5. Work with state school systems to ensure continuity.

Additionally, five regional priorities were identified, which includes additional goals that may be implemented to address evolving needs in targeted regions. These were:

1. Health/mental health/nutrition;
2. Services for children with disabilities;
3. Services for children experiencing homelessness;
4. Home visiting services; and
5. Welfare/child welfare.

Strafford County Public Health Network

The Strafford County Public Health Network in 2015 published *Community Health Improvement Plan* for Stafford County for 2015-2017. Specific geographies identified in the plan are Dover, Lee, Madbury, Durham, Rollinsford, Somersworth, Strafford, Milton, Middleton, Farmington, New Durham, Barrington, Rochester, and the County of Strafford. This document detailed a "strategic plan and framework to be used to leverage resources and to engage and mobilize community stakeholder organizations to address barriers and opportunities to improve community health." The five priorities identified were as follows:

1. Substance misuse, prevention, treatment, and recovery;
2. Mental health;
3. Obesity and nutrition;
4. Emergency preparedness; and
5. Heart disease and stroke.

Seacoast Public Health Network Community Health Improvement Plan

The Seacoast Public Health Network (SPHN), one of the 13 regional public health networks in New Hampshire, produced this Community Health Improvement Plan for the years 2015 through 2017. SPHN encapsulates 23 towns in eastern Rockingham County. The priority areas established were:

1. Obesity;
2. Heart disease and stroke;
3. Injury prevention (reducing falls in older adults);
4. Mental health;
5. Alcohol and substance misuse; and
6. Public health emergency preparedness.

Strafford Regional Planning Commission

The Regional Housing Needs Assessment was produced by the Strafford Regional Planning Commission in January 2015. This report was in response to New Hampshire law that requires regional planning commissions to compile assessments every five years of regional housing needs for people of all levels of income. The report's findings are summarized below.

1. Distribution of Growth
    a. Since 2010, more total housing activity has been in urban and suburban areas than rural areas
2. Aging of the Population
    a. Between 2010 and 2013, there will be a significant increase in the proportion of housing units occupied by those aged 65 and older, with relatively little if any growth in households under age 65
    b. If housing development continues moving outward to the rural areas, more seniors will live further from support services and amenities

3. Home Prices and Rents
    a. Home prices are more affordable than five years ago, but gross rent has become less affordable relative to renter household incomes
    b. Between 2000 and 2010, ownership rates declined among all age groups (except those aged 65 and older)
4. Housing Cost Burden
    a. About 33 percent of all homeowners and 48 percent of all renters have a housing problem related to high cost or substandard conditions
5. New Housing Paradigm Needed
    a. The traditional model of housing demand assumes all household aspire to homeownership, but this model does not work anymore
    b. Need a larger array of housing options that allows for flexibility, including retrofit of single family homes, creation of accessory housing units, and inclusion of smaller efficient units

York County Community Action Corporation

The Community Action Agency published a community needs assessment for York County in 2014. The report covered issues related to economics and poverty, health and wellness, and population demographics. The "Most Pressing Issues" identified by partners of the Community Action Corporation are as follows:

1. Mental health/substance abuse;
2. Transportation;
3. Impacts of Adverse Childhood Experiences (ACEs);
4. Poverty and economic inequality; and
5. Veterans/former service members.

Exeter Area Community Needs Assessment

The 2013 Exeter Area Community Needs Assessment Report was conducted by Exeter Hospital in conjunction with its affiliates, Core Physicians and Rockingham VNA & Hospice. The report included 41 towns that were primarily located within Rockingham County, New Hampshire. The prioritized health needs identified in the report were as follows:

1. Mental health care access;
2. Access to primary care;
3. Transportation;
4. Youth suicide and substance and prescription drug abuse;
5. Dental care;
6. Health and wellness services;
7. Nutrition and obesity; and
8. Elder care and support services.

York Hospital

The 2013 needs assessment by York Hospital examined York County, Maine. Three "recommendations for action" were identified in the document, which are as follows:

1. Reduce the percentage of overweight and obese community members;
2. Implement an alcohol and drug use screening tool; and
3. Promote tobacco cessation services.

PRIMARY DATA ASSESSMENT

Community input (primary data) was gathered through a survey of community residents and the administration of key informant interviews. This section summarizes findings from this process.

Community Survey

In 2015, Wentworth-Douglass, working with a coalition of hospitals, engaged RKM Research and Communications, Inc., to survey residents "to understand the community health needs of residents who live in Wentworth-Douglass Hospital's Primary Service Area." The study was completed by a telephone survey and, in the Wentworth-Douglass Primary Service Area, 407 respondents were interviewed. Selected findings from the survey are as follows:

- A chronic health issue for a household member was reported by 48 percent (nearly half) of respondents;
- Over a year had passed from the last doctor's visit for 18 percent of respondents, and over two years had passed for 8 percent;
- Over a year had passed from the last dentist's visit for 24 percent of respondents, and over two years had passed for 9 percent;
- Missed or reduced meals for financial reasons by anyone in the household were reported by 7 percent of respondents;
- The ability to get healthcare had become more difficult over the past few years for 22 percent of respondents;
- The unmet health needs most cited by respondents were prescription drugs (13 percent), routine dental (10 percent), and tooth problem (7 percent);
- Unmet routine sick care in adults was most attributed to affordability (40 percent), high co-pays (9 percent), and transportation issues (9 percent);
- Mental health counseling for adults (9 percent) and mental health counseling for youth (3 percent) were the two highest perceived health care services needed in the community;
- Public schools (38 percent), affordable housing (36 percent), good public transportation (35 percent), and access to good jobs (32 percent) were the most often cited social determinant areas needed to improve;
- Drug use in the community was believed to be an extremely or very serious issue by 50 percent of respondents; and
- Issues selected as funding priorities by more than 80 percent of respondents were home healthcare services for the elderly; drug treatment and recovery services; mental health care; hospice services, or palliative care; dental care; alcohol treatment and recovery services; and health education services.

Key Stakeholder Interviews

Community input was gathered through key informant interviews in June 2016. Input was gathered through a total of 21 key informant interviews with 55 individuals –23 external stakeholders and 32 staff members of Wentworth-Douglass.

Issues below were identified by external informants as those of greatest concern to community health in the Wentworth-Douglass Hospital community.

- Substance misuse is impacting the community significantly and negatively;
- Insufficient capacity, including the workforce (particularly related to behavioral health), exists along the entire continuum of care;
- Insurance restrictions, funding, and administrative requirements impact care;
- Cancer treatment needs will increase and cancer drugs will become more costly;
- Palliative care and hospice needs will increase;
- Dental care remains an issue for some members of the community;
- Lack of health care education and the local culture negatively impact the community;
- Nutrition, physical inactivity, and obesity are community problems;
- Children and adolescents have nutritional, obesity, and mental health issues;
- The community is rapidly aging which will increase demand for services;
- Lower-income, working residents are a vulnerable population;
- Transportation assistance is needed by many community members; and
- Affordable housing is a regional need that is changing the community.

These issues are discussed below. Note that details may be repeated across issues to provide clarity.

Key Stakeholder Interviews

Substance misuse is impacting the community significantly and negatively
Misuse of opioids, particularly heroin, was cited frequently as contributing to problems in the community. Opioid users were identified as coming from a broad range of age groups, towns, and socioeconomic backgrounds; however the most frequently identified group was young adults between 18 and 35 years old. Somersworth was cited as the geographic area most impacted by opioid misuse.

Opioid misuse problems cited include deaths from overdoses related to inconsistent quality of illegal drugs, increased use of emergency services for treatment, diversion of legitimate prescription drugs from other people, babies born with addiction due to mothers' use, and property theft to fund drug acquisition.

Recovery programs are long and treatment options are limited as evidenced by waiting lists. As a result, individuals who are treated for overdose are frequently stabilized and released.

Medical interventions with methadone or other pharmaceuticals are favored, but such an intervention may be ineffective for individuals misusing substances to cope with mental health issues including stress, anxiety, depression, and trauma. Additionally, criminal prosecution historically has been likely for individuals who misuse of substances, which can exacerbate the misuse and fails to recognize that relapse is frequent during recovery. Several participants noted the justice system is evolving on its handling of substance misuse.

Although opioid misuse was cited most frequently, some respondents cited alcohol misuse as a larger community health issue. Cultural acceptance of alcohol use, evidenced by the age of onset of alcohol use and the high per capita consumption, and the typically longer period of use required to damage health, were identified as reasons the problems associated with alcohol are masked. Residents with alcohol related health complications were identified as between 40 and 60 years old. The University of New Hampshire area was cited as a geographic area with significant misuse, especially during homecomings and other large events.

Food was also recognized as a substance misused to help manage stress, anxiety, and other issues. Other substances cited as misused at UNH were mushrooms and some cocaine.

Interviewees projected that the opioid issue may become more pronounced. However, it was also suggested that while substance abuse will remain as an issue, the substance may change from heroin to something else, as heroin use supplanted the use of bath salts in the previous three years.

Interviewees projected future increased rates of HIV and hepatitis infection due to IV drug use.

Insufficient capacity, including the workforce (particularly related to behavioral health), exists along the entire continuum of care

Insufficient capacity was identified along the entire continuum of care. Infrastructure needs identified include mental health inpatient beds and transportation. Support needs include job training and assistance with home care. Provider workforce needs include social workers and physicians. Needs associated with end of life care include increased palliative care and hospice services as the community ages. Insufficient capacity was cited for medical, mental health, behavioral health, and substance abuse services and was evidenced by long waits for beds, referrals, and services, as well as the need by discharge planners to constantly search for available services. It was noted that some capacity has increased recently, notably in behavioral health and transportation, but service demands have outpaced the state's ability to provide increased resources.

In addition to overall capacity constraints, a comprehensive approach with integration of services was lacking. Lack of integration was evidenced by misunderstandings between providers, such as flawed assumptions between the medical and school communities. Improved coordination and integration of services could improve outcomes and reduce overall usage, especially for frequent users of the EMS and the emergency room.

Capacity issues in the continuum of care may most impact vulnerable populations, such as seniors, low-income residents, and individuals with mental/behavioral health needs. Examples

included the lack of comprehensive community-based support services which reduce the ability of seniors to age in place, as well as a lack of public transportation options, which reduces the ability of low-income residents to access services. A lack of community-based case managers was also identified; this reduces the likelihood that individuals with mental/behavioral health will follow-up with interventions and referrals due to limited understanding and need for prompts.

Within the continuum of care, insufficient capacity was most cited for behavioral/mental health and substance abuse treatment. Residents, including children, are facing more stress, anxiety, and depression. While individuals may receive diagnoses, treatment is more challenging –and without treatment, these residents may engage in more disruptive behavior, self-harm, and substance abuse.

Exacerbating the issue is workforce challenges. Licensure requirements and relatively low wages restrict the pool of applicants. Recruiting takes considerable time and effort and may not be successful due, in part, to limited employment opportunities for family members. Competition for providers increases the turnover rate for professional staff members, which further hinders efficiency across the continuum of care. Provider shortages mentioned by interviewees include primary care physicians (particularly internal medicine physicians), mental health providers, substance abuse providers, therapists, pediatric therapists, pediatric psychiatrists, psychiatric NPs, and geropsych providers. The shortage is evidenced by long wait times, providers who skip breaks/meals, increases in workloads, lags in referrals, and compassion fatigue.

Interviewees projected that the gap for substance abuse and mental health inpatient treatment will become more acute over the next one to three years. Interviewees also suggested that gaps in services could be reduced by providing training in behavioral health to primary care providers.

Insurance restrictions, funding, and administrative requirements impact care

While overall coverage has increased with New Hampshire's expansion of Medicaid, insurance restrictions, inadequate funding levels, and administrative requirements were identified as issues that affect clinical care. The impact of insurance restrictions includes the delay of care during an approval process, the care that can be provided due to limits in the number of visits covered, prescription drugs that can be prescribed, and the referrals that can be made due to provider participation. Restrictions also increase costs, such as EMS required transports to emergency rooms rather than lower cost providers. The impact is continual as restrictions are constantly changing and as patients transition in and out of coverage.

Inadequate funding levels include low third-party payor rates, some of which have been stagnant. Medicaid reimbursement rates are especially inadequate, which reduces provider participation and, accordingly, Medicaid enrollee access to services. Inadequate funding levels also include funding for services that enhance access to health care, such as public transportation.

Compounding the funding issue is the increase in copays and deductibles, as well as patients' lack of understanding of coverage. Increased patient responsibility of costs may reduce provider ability to collect these fees. Lack of understanding of coverage, especially for long-term care, restricts the options that are available to some residents.

Administrative requirements add further complexity. Data collection in EMRs and preauthorization requirements by payors increase time devoted to administrative tasks and reduce time spent on patient care.

Cancer treatment needs will increase and prescription drugs will become more costly
Interviewees indicated that the aging of the population and local environmental factors, such as radon in the air and arsenic in the water, will likely increase cancer incidence and complexity over time, along with the corresponding need for cancer treatment. Cancer treatment needs will also be impacted by behaviors including tanning, outdoor activities, smoking, and alcohol misuse. Obesity may also increase cancer treatment needs as obesity is associated with increased cancer risk. Further, smoking in teens and young adults will –and vaping may—have long-term cancer implications.

In addition to medical services, cancer treatment needs may include assistance with transportation, food, and other basic needs. Co-pays, deductibles, and other costs can be high and patients without sufficient resources or unable to continue to work may need help with basic needs. Additionally, prescription drugs can be more costly for oncology patients. Co-pays and deductibles can be costly and insurance coverage may limit which drugs are covered.

Other cancer treatment issues identified by interviewees include changing insurance regulations, coordination of care across providers and electronic systems, and substance misuse making pain management challenging. Interviewees also indicated there is limited respite support for caregivers and acknowledgement of stress for providers.

Interviewees projected there will be shortages of prescription drugs and increased regulations for cancer treatment by third-party payors.

Palliative care and hospice needs will increase
The aging of the community will increase the need for palliative care and hospice. Although family members may wish to care for a dying loved one at home, the level of services required at end of life is too great for most families.

Exacerbating issues surrounding end-of-life care is the taboo in discussing the topic, as well as reactions of family members, such as denial of the illness, unrealistic expectation of recovery, and unresolved issues with the patient. Knowledge gaps also contribute, including lack of awareness of disease processes, home health service limitations, personal funding requirements for nursing home stays, and an incorrect assumption that end-of-life planning requires legal services. As a result, many decisions are made during times of crisis. Interviewees also noted a lack of pro-active planning for end of life care, such as involving palliative and supportive care services and completing advanced directives.

Dental care remains an issue for some members of the community
Interviewees recognized the impact the Wentworth-Douglass Community Dental Center had with a decrease in dental needs in its catchment area, although there is an unmet need for oral surgeons. Dental needs remain an issue for residents of the community without insurance and

with incomes in excess of Dental Center guidelines. Dental needs also remain an issue for low-income residents outside of the catchment area.

Residents without coverage for dental needs will forego services until they seek treatment for the pain. Gaps in coverage may preclude a resident from receiving both removal of teeth and dentures. Unmet dental needs, including dentures, negatively impact some residents' employment opportunities.

Lack of health care education and the local culture negatively impact the community
Many residents are unaware of the range of services that are available within the community and do not know the most appropriate ways to access different health care services. For these residents, the emergency room may be their main entry point due to a health crisis or because going to the ER is considered to be appropriate. Contributing to access issues is insufficient navigation –although navigation services have improved recently.

Lack of health care education can be evidenced by low uptake of preventive behaviors/services, expectation of care-on-demand, and misunderstanding of forensic evidence collection for instances of sexual assault. Although resident responsibility in health education was recognized, interviewees noted that effective health education requires multiple messages across time and continuous reinforcement.

The local culture was also mentioned as negatively impacting the health of the community. A belief in self-reliance both limits support offered to residents in need and support accepted. Stigma associated with mental health, substance abuse, and domestic violence limits the uptake of supporting services. Residents may also incorrectly assume that the community has robust safety net systems that will support all individuals in need.

Further, the notion of the "stoic Yankee" and the "Live Free or Die" state motto may limit the effectiveness of prevention efforts and treatment options. Conversely, it was suggested that effective substance abuse efforts will require courage, leadership, and boldness –which may be evident in the local culture.

Additionally, providers may be unware of how to best provide care to some members of the community, including individuals with hearing disabilities, recent immigrants, and members of the lesbian, gay, bisexual, transgender and queer (LGBTQ) community. Further, interviewees suggested that community health could be improved if primary care providers had added training in treating diverse populations.

Nutrition, physical inactivity, and obesity are community problems
Interviewees cited nutrition, physical inactivity, and obesity as continuing issues in the community and noted a connection to diabetes prevalence. Nutritional issues cited include excess food consumption from prepacked meals, abundance of fast food outlets, advertising of unhealthy food, and a subset of the population that microwaves prepared food but does not actually cook. Physical inactivity was attributed to sedentary jobs and electronic entertainment options of televisions, games, and computers. Obesity was noted as the result of the interplay between excess food consumption and insufficient physical activity.

These issues were also cited for children and young adults. It was also noted that children have more limits on food choices as they are largely dependent on adults for meals.

Interviewees also noted there is no longer a local treatment facility available for residents with eating disorders. Residents, including children, travel to Boston for these services, which may place additional burdens on families, particularly those with transportation limitations or insurance barriers.

Children and adolescents have nutritional, obesity, and mental health issues
Issues faced by children and adolescents include nutritional, obesity, and mental health needs. While lunch programs may provide for low-income students during school, hunger may remain an issue while at home (although local weekend food programs ease this issue). Obesity, too, is an issue, due to poor diets, physical inactivity, and parental denial.

Behavioral/mental health issues in children and adolescents are exacerbated by the lack of resources in the community targeted towards this population. Interviewees indicated that children and adolescents are increasingly experiencing depression and anxiety, but there is a lack of mental health providers in the region who specialize in pediatric or youth therapy or psychiatry. Children and adolescents may also not comply with treatments because they do not want to stand-out to their peers.

Additionally, it was noted that issues related to children and adolescents cannot be isolated from parents, and some of the children's needs may be influenced by unmet or unaddressed needs in the parents or extended family, particularly those caused by substance misuse. Several interviewees also indicated that many parents do not have successful parenting skills and "do not know how to parent". Others suggested that permissiveness of parents, such as with alcohol use, creates or exacerbates these issues. It was noted that chronic illness in children and adolescents can negatively impact the relationship between parents and family members.

Interviewees also indicated that asthma is an issue and that children do not see dangers associated with smoking marijuana.

Affordable housing is a regional need that is changing the community
Affordable workforce housing is a regional need that is affecting migration within the community. The need for affordable housing is evidenced by waiting lists for housing assistance and homelessness throughout the community.

Middle-income residents of Portsmouth have moved and are anticipated to continue to move into the Dover-area seeking lower housing costs. Lower-income residents of Dover, in turn, have migrated and are anticipated to migrate northward for lower housing costs as rents in the Dover-area have increased. It was noted that while housing costs may be reduced by moving northward, transportation costs and transportation assistance needs will likely increase.

Affordable housing was also mentioned as a particular need for seniors. Seniors may need to continue to live in relatively unsafe homes as no other affordable housing options are available.

The impact of homelessness on health care was cited as significant. In addition to the general health risks associated with homelessness, lack of a stable address impacts Medicaid recertification procedures and may preclude access to pharmaceuticals sent by mail.

The community is rapidly aging which will increase demand for services
The community is rapidly aging which will lead to an increase in demand for many services. Transportation was cited as a need by many interviewees, including transportation to medical services and shopping. Additional support with basic needs is needed for both elderly residents living alone and elderly residents living with aging caregivers. Such support services enable seniors to age in place, but financing of these services in adequate.

As aging in place is the preference of many seniors, some seniors may avoid contact with providers for fear of being forced into a nursing home. Interaction may further be limited by lack of family members nearby, frustration with automated phone trees of providers and businesses, and literacy constraints. Need may be discovered only at crisis, usually during a visit to the emergency room.

Seniors with multiple chronic illnesses need, but may not receive, care coordination. Lack of care coordination may be evidenced by multiple pharmaceuticals of both current and past prescriptions. Multiple prescription drug issues are complicated by poor vision that reduces the ability to read the prescription label and arthritis that increases the difficulty in opening the bottle. As a result some seniors guess at the dosage or hoard medications due to financial constraints.

Finally, end-of-life treatment may be greater than what individuals actually desire because preferences have not been shared. Such discussion may be taboo for some residents in the community. As a result, quality of life diminishes while costs increase.

Interviewees project that these issues will worsen and that funding will not keep pace with the need.

Transportation assistance is needed by many community members
Interviewees indicated many community members need assistance with transportation for access not only to medical services, but to other basic needs, including food and prescription drugs. Seniors, children and adolescents, individuals with disabilities, low-income residents, and people living in rural areas were mentioned as community members most in need of transportation.

The Wentworth-Douglass Care Van was recognized for improving transportation access to the community, but need remains due to its service constraints, including hours of operation, reservation requirements, and coverage limitations. While local public transportation was mentioned as available, limited coverage and costs, including fares for transfers, reduced its effectiveness. Taxis were considered to be too expensive for residents to use frequently.

The impact of unmet transportation needs includes inadequate access to medical services and healthy food. Access to medical services may be further reduced as residents lose the ability to

see a provider if appointments are missed. Additional impacts identified were use of EMS services as shuttle services, reducing capacity for true emergencies, and seniors continuing to drive with diminished capacity.

Lower-income, working residents are a vulnerable population
It can be especially challenging for residents who earn more than 200 percent but less than 400 percent of the Federal Poverty Level (FPL) as these may residents income may be too high to quality for assistance programs but too low to afford ready access to to healthy food, transportation, health care, and prescription drugs. These residents frequently work in the hospitality, construction, and retail industries.

Health care access barriers include costs for co-pays and deductibles, as well as intermittent periods of being uninsured. Barriers may also include lack of knowledge of how to access services and stigma associated with receiving support services.

The relatively low rates of unemployment may mask the issue, but many jobs available are low wage and may be part-time without benefits. The need of low-income residents who live in rural areas may also be masked as these residents are less visible.

APPENDIX – ACTIONS TAKEN SINCE THE PREVIOUS CHNA

This appendix discusses community health improvement actions taken by the Wentworth-Douglass Health System since the last CHNA report was published, and based on the subsequently developed Implementation Strategies. The information is included in the 2016 CHNA reports to respond to final IRC 501(r) regulations, published by the IRS in December 2014.

Priority Strategic Initiatives

1. Mental Health and Behavioral Health

1.1. Mental and behavioral health was identified as the top community health need in the 2013 CHNA. The recommendation was to expand access to mental and behavioral health services to meet the "urgent need" for these services by increasing the integration of mental health services and primary care services.

1.2. In 2014, two new behavioral health services were funded. The first expanded access to behavioral health counselors in the Wentworth-Douglass Health System's primary care practices within Wentworth Health Partners (WHP). These services were expanded, in collaboration with Great Bay Mental Health Services and Goodwin Community Health (the local Federally Qualified Health Center), and made access to behavioral health counselors available to patients at all WHP primary care practices. With this program, WHP averaged 20 new referrals to behavioral health counselors per week, and provided over 1,000 visits in 2014. In 2015, this program expanded to include an additional psychiatric nurse practitioner. WHP's integrated behavioral health counselors had 3,631 visits in 2015.

1.3. The second service included the addition of a full-time psychiatric case worker to provide case management of behavioral health patients waiting for long periods in the Emergency Department for evaluation and placement/treatment. This position, through collaboration with community partners, helped patients being held longer than 24 hours in the Emergency Department to receive appropriate services and avoid involuntary placement, if possible, by connecting the patients to community resources including the behavioral health counselors in WHP's practices. This unique role has helped to reduce the number of days spent in the emergency room, prevent readmissions, and improve patient care. In 2015, WDH was able to discharge 14 percent of qualified patients at least one day early. There were over 500 visits with patients both in the Emergency Department and hour inpatient units. Each of these programs is a move forward in reducing the lack of services and stigma of mental health/behavior health while improving overall patient care in the community.

2. Transportation

Second to mental and behavioral health services, the need for transportation to physician practices was recommended by each focus group and identified as one of the top five community health needs. The recommendation was to continue with the Hospital's current Care Van program, and to explore options to provide service for visits to

physician practices. The number of miles traveled and the number of individual patient visits served by the Care Van program continue to increase each year, hitting a high of 126,175 miles (15,014 trips) in 2015. Additionally, Wentworth-Douglass Hospital has continued to sponsor the Dover Hand to Hand van in collaboration with the Dover Housing Authority.

Legal restrictions prohibit advertisement of the Care Van service, and restrict usage to hospital-based services. Due to these legal restrictions, and to high demand, Care Van trips have remained limited to hospital-based services offered at the hospital only. This continues to be a topic of conversation with legal counsel and leadership.

3. Drug & Alcohol Abuse

3.1. The increase in drug and alcohol abuse was listed as one of the top five community health needs in WDH's 2013 CHNA. In response, WDH applied for and in 2014 was selected to participate in the New Hampshire Youth SBIRT (Screening, Brief Intervention, and Referral to Treatment) Program which was partly funded with grant support from the New Hampshire Charitable Foundation and the Conrad N. Hilton Foundation. This program incorporates an evidence-based SBIRT approach to screening patients ages 12 to 22 to identify alcohol and drug use problems early when brief interventions are most effective and to foster appropriate referrals to early and effective treatment for substance abuse disorders. The SBIRT Program launched in 2015 as a pilot program.

3.2. Additionally, WDH has continued to support the efforts of the Strafford County One Voice coalition. This group of community agencies and individuals has developed collaborative efforts to address the challenges of substance misuse in Strafford County. This group developed the Strafford County Drug Task Force which meets monthly at Goodwin Community Health and focuses on aligning the many efforts going on in this community. Since 2013, WDH has also hosted and supported the annual spring Strafford County Drug Summit with over 200 attendees from the county, the surrounding region and across the state. WDH has also provided support, including meeting space and materials, to help expand a new service provided by SOS and the Dover Police with collaboration with the Dover Fire Department. This new service allows individuals seeking services for substance misuse treatment to be transported from the Dover Police Station to the Hospital, where they then meet with one of the certified recovery coaches through the SOS Recovery Program.

4. Access to Primary Care

4.1. Various initiatives were implemented to help address the community need for greater access to primary care services. In addition to the completion of a Physician Capacity study, Wentworth-Douglass Hospital and its affiliated physician corporation, Wentworth Health Partners, conducted an initiative focused on improving access to primary care by reducing wait times for appointments and promoting practices to accept new patients.

Another initiative was developed to focus on extending same day access for primary care services. WDH opened its second walk-in, urgent care facility, Wentworth-Douglass

Express Care in Dover, New Hampshire on June 30, 2014. This location expanded access to acute, non-emergent care and had 17,150 encounters in 2015. Wentworth-Douglass Hospital's associated physician corporation also opened a new walk-in primary care service, Prompt Care, to improve access for existing Wentworth Health Partners patients. Hours of operation are Monday-Friday 7:00 a.m. - 8:00 p.m. and Saturday and Sunday 8:00 a.m. – 4:00 p.m. Prompt Care had 6,000 visits from WHP patients in 2015. Finally, the patient portal was streamlined and revised to extend patient access to primary care by providing patients the ability to view and share their medical record, request prescription refills, schedule appointments, and ask a provider a question on their computer.

5. Educational Programs

Expanded education and prevention programs were identified as one of the top five community needs. In response, WDH offered a variety of education/prevention programs for the community. A sampling of these education/prevention programs include: health screenings (e.g., skin cancer screening, hand pain, vascular, nutrition and more), nutrition, health, and wellness lectures (e.g., heart health, sexual health, anti-cancer), health fairs (e.g., diabetes, women's health, communication access), support groups (e.g., cancer survivors, grief support, caregivers support), children's camps and programs (e.g., Camp Hot Shot, Camp Lance-A-Lot, Children's Hospital at Dartmouth story time), and insurance marketplace education and support. The Community Relations Educational Program has also been aligned with the strategic plan, and new marketing initiatives and use of technology for registration have resulted in continued growth in this area. Additional education programming was also developed to provide information on the Affordable Care Act to patients and community members. Enrollment assistance was made available through the Financial Clearance Department and certified application counselors (CACs). CACs were available during business hours Monday through Friday during the entire enrollment period, and on select weekends. Educational information was also provided to staff on the Beacon and to the public via the hospital website and publications.

Patients who meet with Financial Assistance staff but who are not eligible for Medicaid are immediately scheduled for an appointment with an Application Counselor and given materials on how to apply. Public laptops are also available if patients want to register independently.