

# Connecticut Primary Care Assessment

A Preliminary Needs Assessment Scan of the Primary  
Healthcare Sector



December 2021

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# CONNECTICUT PRIMARY CARE NEEDS ASSESSMENT

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## I. Introduction

Several national studies indicate that a robust primary care infrastructure is the foundation for better health and cost savings. Connecticut has recognized that strengthening the State’s primary care system will positively impact healthcare quality, spending, access, and outcomes. Based on available evidence, the state has adopted a policy of more significant investment in primary care to lower costs and improve health outcomes and patient care experience. The state government directed the increase of primary care spending in Connecticut, building upon ongoing initiatives to strengthen the primary care infrastructure. In recent years, the state convened a practice transformation task force, which developed advanced medical home standards, provided advice on practice processes, and fostered alignment with other care delivery models such as the Clinical and Community Integration Model.<sup>1,2</sup> A workgroup on Primary Care and Community Health Reforms convened in 2021 works toward increasing the use of Alternative Payment Models (APMs) in alignment with other statewide efforts to improve quality and access.<sup>3</sup>

Connecticut, one of the wealthiest states in the nation by income measures and an essentially healthy state, still has a way to go in meeting the healthcare needs of its most vulnerable populations. The state has more inequality in household income than most other states when looking at the average distribution of income wages across the State. In addition, the economic effects of COVID-19 have heightened the strain on residents, and Connecticut ranks last among all states regarding personal income growth during the pandemic.<sup>4</sup>

The historical health care cost growth is unsustainable, placing the state at the top tier of healthcare spending nationally.<sup>5</sup> In 2014, Connecticut’s per capita spending on personal health care was the fifth highest in the nation. Over the last two decades, annual healthcare spending in Connecticut grew at more than twice the rate of growth in median household income. Consequently, healthcare has become unaffordable to many Connecticut residents and employers. The effects of high healthcare costs are felt especially hard by those with low and modest wages.

Connecticut ranks below the national average for three primary care sensitive measures: access and affordability, prevention and treatment, and avoidable hospital use and cost.<sup>6</sup> Therefore, the state faces an urgent need to slow healthcare cost growth and improve methods to evaluate access to healthcare, particularly primary care. In this context, the Department of Public Health (DPH) has developed this report on primary care needs to provide preliminary and foundational information to develop parameters for a comprehensive Statewide Rational Service Area Plan (SRSA). The SRSA plan will document a detailed methodology and rationale to assess access to healthcare across the state. Therefore, this report aims at characterizing the extent to which communities experience primary care needs, primary care infrastructure gaps, healthcare workforce shortages, and critical barriers to access. In addition, the reported findings highlight some of the effects of economic and fiscal policies on state

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<sup>1</sup> Connecticut State Innovation Model, “[Advanced Medical Home Glide Path](#)”, *Office of Health Strategy*, 2015.

<sup>2</sup> Connecticut State Innovation Model, “[Community and Clinical Integration](#)”, *Office of health Strategy*, 2016.

<sup>3</sup> Primary Care Work Group, “[Primary Care and Community Health Reforms](#)”, *Office of health Strategy*, 2021.

<sup>4</sup> Phaneuf, K., “[Connecticut ranks last in personal income growth over past year](#)”, *The Connecticut Mirror*, Nov., 2020.

<sup>5</sup> Lassman, D., et. al., “[Health Spending by State 1991-2014](#)”, *Health Affairs* 36, No.7 (2017) 1318:1327.

<sup>6</sup> The Commonwealth Fund, “[Scorecard on State Health System Performance](#)”, *Dashboard*, 2020

and federal programs and consider other relevant factors, such as access to health insurance, healthcare costs, workforce availability, and health indicators for selected populations.

The first two sections of this report provide contextual information for analyzing primary care needs. They included specific characteristics of the state regarding its demographics, physical features, and the policy environment on health care and the cross-sector workforce. The following sections feature data on the impact of primary care services on health outcomes and metrics of healthcare quality of service delivery. They also include an overview of service affordability and costs and a brief on recent efforts by the state to improve primary care quality and outcomes of reform initiatives. Next, the report describes the healthcare infrastructure, including facilities and clinical sites, service areas, mental health regions, and health systems. Lastly, their report considers specific issues related to the healthcare workforce.

This needs assessment aims to provide an overview of Connecticut's primary healthcare system, identify the target populations and communities served, and feature the myriad of factors impacting their access to primary care services. Furthermore, the report describes the availability of primary care providers and trends in this regard. The above is necessary to identify critical barriers to accessing primary care services and develop methods to assess access gaps.

To compile this assessment required the DPH to consult a substantial amount of secondary data sources and a combination of high-value datasets, state-produced documentation, and multiple academic and consultancy reports on state affairs. Chiefly among them are documents issued by the Office of Health Strategy (OHS) and others developed by the DPH as part of state health planning and primary care reforms.

The OHS implements comprehensive, data-driven strategies to promote access to high-quality health care, control costs, and ensure better health for the residents of Connecticut. This office gathers critical healthcare information, administers key data sets, and directs the state's health information exchange in collaboration with many stakeholders, including state agency partners. The following publications serve as a reference throughout this report: a) the final evaluation report of the State Innovation Model,<sup>7</sup> b) the 2019 Facilities and Services Plan,<sup>8</sup> and c) the 2021 Roadmap for Strengthening and Sustaining Primary Care.<sup>9</sup>

This primary care needs assessment includes multiple DPH reports and publications. The CT Behavioral Risk Factor Surveillance System (BRFSS), a telephone-based survey system that collects health-related risk behaviors, chronic conditions, and preventive services, is one of the main data sources. We used the most recent Connecticut BRFSS data available from 2018 for this report.<sup>10</sup> Also, the DPH State Health Assessment (SHA) provided data on health outcomes and strategic direction for health improvement. The SHA is a regular update on the health status of Connecticut residents with a focus on the social determinants of health having the most significant impact on health outcomes. The assessment provides the basis for the Connecticut State Health Improvement Plan (SHIP) strategies, a framework for the Healthy Connecticut 2025 initiative.<sup>11</sup> Other critical DPH reports include the Maternal and Child Health

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<sup>7</sup> UConn Health, Center for Population Health and Yale School of Public Health, "[Connecticut State Innovation Model, Final Evaluation Report](#)", Farmington and New Haven, 2020.

<sup>8</sup> CT Office of Health Strategy, "[Facilities and Services Plan 2018 Supplement](#)", April 2019.

<sup>9</sup> CT Office of Health Strategy, "[Roadmap for Strengthening and Sustaining Primary Care](#)", November, 2021.

<sup>10</sup> CT Department of Public Health, "[Health Indicators and Risk Behaviors in Connecticut](#)", *Behavioral Health Risk Factors Surveillance*, 2018 .

<sup>11</sup> CT Department of Public Health, "[Healthy CT 2025: State Health Assessment](#)", Hartford, 2019.

2020 Annual Report, the Connecticut Youth Tobacco Survey, and the CT Vital Records Registry maintained by the DPH Health Statistics Surveillance Section.

The statistical report from the CT Department of Mental Health and Addiction Services (DMHAS) and the Block Grant Behavioral Health Needs Assessment were the main source of mental health and addiction information. The DMHAS promotes and administers comprehensive, recovery-oriented services in mental health treatment and substance abuse prevention throughout the state. While DMHAS's mandate is to serve adults over 18 years of age lacking financial means, the department provides services to all state residents. DMHAS also provides collaborative programs for individuals with special needs, such as persons with HIV/AIDS infection, people in the criminal justice system, those with problem gambling disorders, substance abuse, persons with traumatic brain injury or hearing impairment, those with co-occurring substance abuse and mental illness, and special populations transitioning out of the Department of Children and Families.

Multiple other sources developed by stakeholder collaboratives and state partners provided data and contextual information for this report. Among them is the Connecticut Data Collaborative, a nonprofit agency working on state data integration across sectors; the DataHaven is an independent agency conducting a multi-year extensive survey on well-being, equity, and quality of life. In addition, different sections of this report are informed by documents emerging from workgroups such as the Governor's Health Care Cabinet and the Governor's 2020 Workforce Council, or entities like the CT Center for Nursing Workforce and the Community Health Center Association of Connecticut.

Change in business practices due to Covid-19, such as reduction of in-person meetings, changes to remote scheduling, and partners lacking availability, limited direct stakeholder participation. Although in-person events specific to primary care needs assessment could not be held, several avenues of stakeholder participation continued even during the pandemic. To a large extent, most of the state secondary sources consulted are products of extensive engagement of state-directed workgroups and task forces. Also, many of the deliberations and reporting occurred in the past few years in the context of state health planning and primary care reform projects.

Noteworthy are more than one hundred individuals who continuously participate in developing the State Health Improvement Plan. This group met multiple times throughout 2020 and 2021. Similarly, and with the leadership of the Office of Health Strategy, the Department participated in the convening of a Primary Care Sub-Group established by an Executive Order issued by the Governor to strengthen the state's primary care system. Multiple governmental and healthcare providers participated in a monthly sub-group to consider strategies to increase investments in primary care while aligning with the CT healthcare cabinet agenda to seek a reduction in the total cost of care. Stakeholders in these deliberations also develop a discussion track on community health-seeking to establish more robust strategies to link community and clinical care.

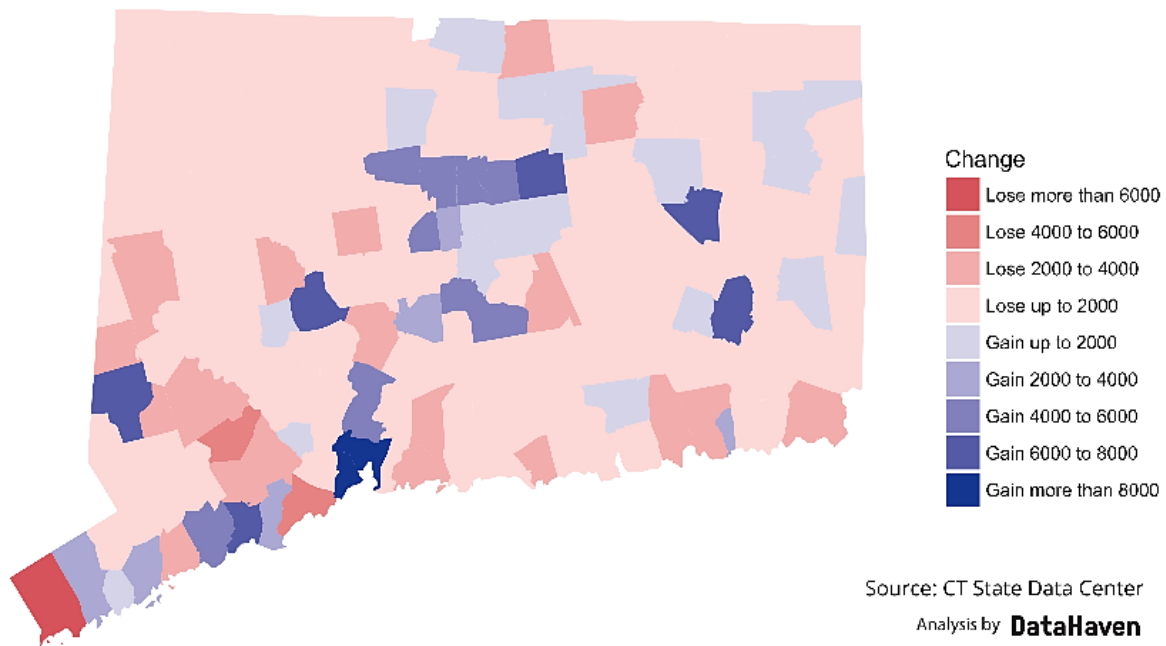
## II. Connecticut: State Characteristics

### A. Demographics

Connecticut had a population of 3,605,944 in 2020, reflecting a slight population gain of 31,847 individuals compared to the 2010 census. The state maintains its rank as the 6<sup>th</sup> most densely populated state in the country, with a population density of about 744.7 individuals per square mile.<sup>12</sup> Five towns had a population greater than 100,000 and included: Bridgeport (148,698), New Haven (134,052), Stamford (135,511), Hartford (121,026), and Waterbury (114,426). 17.78% of the state's residents lived in these five towns. The remaining 164 towns had a population of just under one-tenth of these large towns (median population size =12,096).<sup>13</sup>

The state's population is aging. In 2019, about one in six residents (17.6%) was 65 old or older. The number of adults ages 60–74 has increased by more than 50 percent since 2000. About one in five CT residents (20.4%) are under 18 years of age at the other end of the spectrum. Connecticut's largest towns had a more significant proportion of young persons than the state overall, with more than half of the population younger than 35 in New Haven, Hartford, Waterbury, and Bridgeport, compared to 43.8% statewide. The analysis below, done by DataHaven for the CT State Data Center, indicates the shift of the younger working-age population towards cities and outer-ring suburbs.

Fig. 1 Projected Change in Working Age Population, 2015-2040<sup>14</sup>



<sup>12</sup> America Counts Staff, "Connecticut: 2020 Census", *United States Census Bureau*, 2021.

<sup>13</sup> Backus, K., "Town-level Population Estimates for Connecticut, July 1, 2020." *DPH*, Hartford, CT., 2021

<sup>14</sup> DataHaven, "Working Age Population" *Website*, Last accessed December 2021.

The non-Hispanic Whites are the predominant population at 63%, followed by Hispanics of any race at 17% and non-Hispanic Blacks at 10%. Asians and multi-racial individuals comprise 5% and 4% of the state's total. The estimated population of racial/ethnic minorities in Connecticut is 905,059, or 25.38% of the state's total population. Between the 2010 and 2020 censuses, Connecticut became more diverse. Compared to the 2010 census, two groups, Non-Hispanic Whites and American Indian Alaskan Natives, saw a decline of 10% and 7%, respectively. All the remaining groups saw an increase, with the fastest growth coming from individuals who identify as non-Hispanic and as two or more races. This group increased by 131%. It was followed by Non-Hispanic Other Race at 122%, Hispanics of any race at 30%, non-Hispanic Asians at 27%, non-Hispanic Blacks at 8%, and non-Hispanic Hawaiian or Pacific Islanders at 2%.

High social and economic contrasts characterize the State of CT. The state median household income was \$78,833 in 2019. The state, however, has vast income inequality and ranks third among all 50 states for income inequality. The top 1% of Connecticut's population takes home 27.3% of Connecticut's income.<sup>15</sup> The median household income of the five large towns in CT varied widely from a low of \$36,278 in Hartford to moderate levels in Waterbury (\$42,401), New Haven (\$42,222), and Bridgeport (\$46,662), and to a high of \$93,059 in Stamford<sup>16</sup>.

Income disparities exist by race/ethnicity as well. In 2018, the average household headed by a white person had a median income of about \$89,000, while the average Black or Hispanic household had a median income of less than \$50,000. The average household headed by a person of Puerto Rican ancestry had an income of just \$37,000 per year, less than half the state average, and the lowest household income among the largest ancestry groups in Connecticut.<sup>17</sup>

As recently as September 2021, the CT civilian labor force was 1,812,100 people. Connecticut's seasonally adjusted unemployment rate was estimated to be 6.8% in September<sup>18</sup>, while the US jobless rate in the same month was 4.8%. Fairfield County, the youngest region in the state with 77.6% of the population aged 18 years and older, held the highest median household income with \$96,966, or 122.9% of the state median household income.<sup>19</sup>

Education levels in the state vary. About 37% of Connecticut residents ages 18 and above have a high school diploma (27%) or less (10%), and about 40% have a bachelor's degree (22%) or higher (18%). Relative to the state overall, three of the largest towns, Hartford, Bridgeport, and Waterbury, had a greater proportion of adults with the lowest levels of educational attainment.<sup>20</sup>

Achievement gaps can be seen across different population groups by gender, race/ethnicity, and income. A study done by Data Haven points out the persistent gaps that continue to be seen across these groups. The widest gaps are measured for children in the special education designations and English language learner programs. This group is followed by children participating in free or reduced-price meals programs who live in low-income families. The graduation rates for Latino students (78%)

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<sup>15</sup> CT State Department of Public Health, "[Describing Connecticut](#)". *State Health Assessment*, 2019.

<sup>16</sup> CT Data Collaborative, "[Median Household Income by Town 2015-2019](#)". *Website*, last accessed on Dec. 2021.

<sup>17</sup> Davila K., et al., "[Towards Health Equity in Connecticut](#)", *DataHaven*, 2020.

<sup>18</sup> United States Bureau of Labor Statistics, "[Connecticut Economy at a Glance](#)", *Website*, last accessed on Dec. 2021.

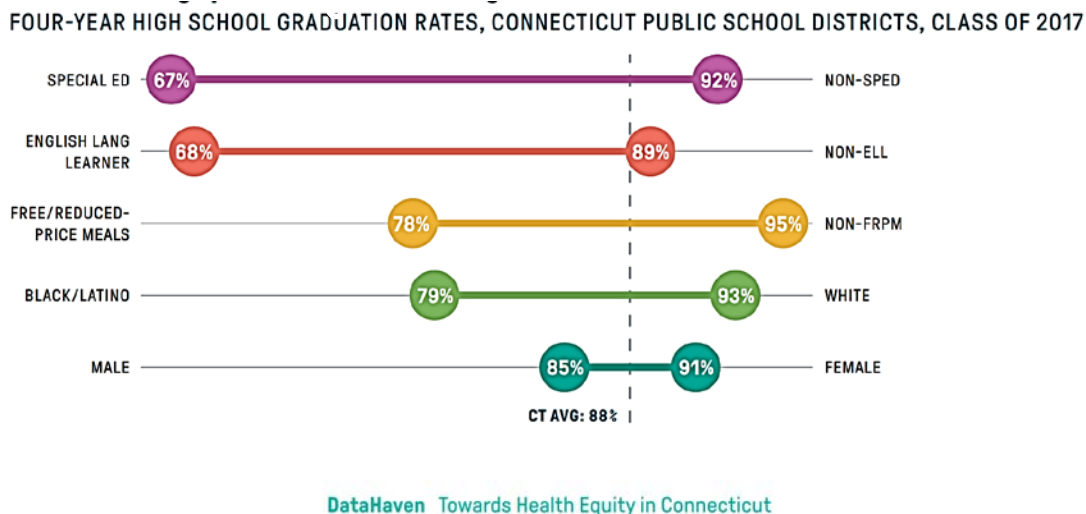
<sup>19</sup> SAIPE Program, "[Local Area Unemployment Statistics \(LAUS\) Data](#)", *United States Department of Agriculture*, 2020.

<sup>20</sup> American Community Survey, "[Table S1501 Educational Attainment](#)". *U.S. Census Bureau*, 2019.



and Black students (80%) continue to lag behind those of White students (93%). The gap is narrowest between female and male students, but the report notes that they have not narrowed since 2011.<sup>21</sup>

Fig. 2 Graduation Gaps for High-needs Students



In 2011, the Connecticut legislature enacted PA 11-85, *An Act Concerning Closing the Academic Achievement Gap*, to establish the State’s Council for Ending the Achievement Gap and develop a master plan to close the gap. The final Master Plan calls upon many state agencies to act strategically in closing the gap.<sup>22</sup> In its response to the state’s Council for Ending the Achievement Gap, the DPH noted the negative impact of teen pregnancy in closing the achievement gap. This effect is manifested by the multigenerational impact that teen pregnancy and high school dropout have in certain communities. For example, children from teen parents without a high school diploma are equally or more likely to drop out of high school—64% of children born to unmarried teenagers and high-school dropouts living in poverty.

In contrast, only 7% of children born to married women over age 20 with a high school diploma live in poverty. The Department supports school-age programs through the Personal Responsibility Education Program (PREP) to implement evidence-based teen pregnancy prevention. Other initiatives that the DPH supports through the education sector include addressing hunger and food insecurity in schools, family engagement through a Fatherhood initiative, developmental screenings, and meeting the social-emotional needs of children in schools through direct funding of school-based health centers.

Housing in Connecticut is characterized by the majority (66%) of households being owner-occupied. However, disparities in home ownership can be seen across racial and ethnic lines and income. A recently published report by the Urban Institute indicates that “While the white homeownership rate in the state is 76 percent, only 57 percent of Asians, 40 percent of American Indians, 39 percent of Blacks, and 34 percent of Latinos own their homes.” The report also highlights the acute shortage of affordable housing in Connecticut, across all counties, and finds that “Of the nearly 2.2 million housing units in

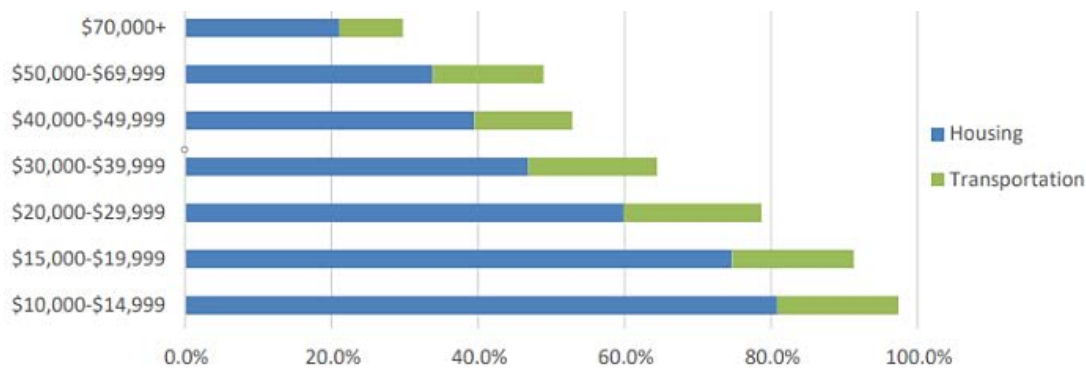
<sup>21</sup> Davila, K., Abraham, M., Seaberry, C., “[Towards Health Equity in Connecticut](#)”. Data Haven, June 2020.

<sup>22</sup> The Achievement Gap Task Force, “[Eliminate the Achievement Gap in Connecticut](#)”. Hartford, CT.2014.

Connecticut, the largest share is units affordable to households in the mid-low-income band, or 51 to 80 percent of county median income. This cost band includes households with people who work in jobs such as janitors, administrative assistants, and carpenters. In contrast, relatively few housing units are affordable to low-income (31 to 50 percent of county median income) and very low-income (30 percent or less of county median income) households. The affordability shortage is particularly acute for very low-income households, who work as childcare workers, cashiers, or are unemployed.”<sup>23</sup>

Those in the low-income, a substantial number of racial and ethnic minorities, end up renting and spending a significantly higher proportion of their income on housing. The Bureau of Labor Statistics (BLS), 2019-2020 Consumer Expenditures survey indicates that for households in the Northeast, housing constitutes the largest share of the budget at 35.45% and is followed by transportation at 14.22%. In addition, a recent study by the Connecticut Housing Finance Authority examines transportation’s impact on housing. Using the BLS data, the study finds that “The average low to moderate-income household pays more as a percentage of their income than higher-income households. For example, the typical household making \$70,000 or more in the Northeast spends 21.1 percent of their income on housing and only 8.69 percent on transportation. On the other hand, households making \$30,000 to \$39,999 on average spent 46.9 percent on housing and 17.85 percent on transportation, and for households earning under \$15,000 housing and transportations costs can consume nearly their entire income.”

Fig. 3 Housing and Transportation Costs by Income levels in the Northeast



Source: Bureau of Labor Statistics - Consumer Expenditure Survey (Table Number 3103)

The economy in Connecticut experienced a very long recovery from the recession of 2008. It was not until 2018 that the state began a steady recovery. While the Covid-19 pandemic interrupted progress once more, the state’s Gross Domestic Product is on a steady path to improvement.<sup>24</sup> In recent years, the state has embarked on several initiatives to improve economic well-being and infrastructure in the state. Key initiatives include: i) an increase in the minimum wage over a four (4) year period to \$15/hour by 2023; ii) investment in rail service connecting a region known as the Knowledge Corridor (Springfield to New Haven) and increasing affordable housing stock along the rail lines; and iii) investments in Connecticut’s workforce, including a Family Paid Medical Leave program.<sup>25</sup>

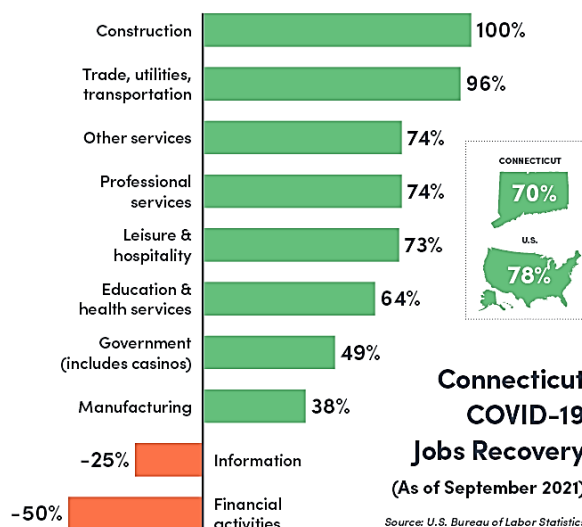
<sup>23</sup> Stewart, C., et.al., “[Connecticut Housing Assessment](#)”, *Urban Institute*, December 2020.

<sup>24</sup> News Release, “[Gross Domestic Product by State](#)”, *United States Bureau of Economic Analysis*, Dec. 2021.

<sup>25</sup> CT Office of Policy and Management, “[Biennium Economic Report of the Governor](#).” Hartford, 2019.

Several challenges remain. In the 2008 recession, Connecticut lost over 100,000 jobs and, as of 2018, had recovered only about 80,000 jobs. The covid-19 pandemic resulted in yet another major setback concerning unemployment. As of September 2021, about 7 of the ten jobs lost have been recovered in the state.<sup>26</sup> Seven of the state's ten main industry sectors added jobs in September. However, the state still is lagging compared to the U.S. recovery rate of 78%.<sup>27</sup>

Fig. 4 Percent of Connecticut Jobs Recovered during the Covid-19 Pandemic



The unemployment rate has steadily dropped from 8.1% in May 2021 to 6.4% in October 2021. But, once again, compared to other New England states and the U.S., CT’s job growth rate is lagging. According to Connecticut Business Industry Association, “The state's year-to-date jobs growth rate—now 2.5%—is the second slowest of the New England states and a full percentage point behind the U.S. average of 3.5%.”

With the advent of the new administration in 2018, the state government received multiple recommendations on jobs and the economy from the transition policy committee.<sup>28</sup> They have focused on three strategic areas around accountability in economic development, development of talent and workforce development, and encouraging an urban renaissance. The economic recommendations included lifting people out of poverty, focusing on equity, investing in infrastructure, and obtaining fiscal stability for the largest cities.

Governor Lamont issued Executive Order No. 4 to establish the Governor’s Workforce Council (GWC) and the Office of Workforce Strategy (OWS). This office serves as the principal advisor to the Governor on workforce development issues and coordinates the efforts of all state agencies and other entities in promoting workforce development throughout the state. In addition, as a CT Department of Economic and Community Development division, the OWS provides administrative staff to the GWC.

<sup>26</sup> Green R., "[Connecticut has recovered 7 in 10 jobs lost](#)", Hartford Courant, 2021

<sup>27</sup> Connecticut Business & Industry Association, "[Where are the Workers?](#)", Website last accessed on Dec. 2021.

<sup>28</sup> Pastore, F., Gianni, J., "[Lamont-Bysiewicz Jobs/Economy Transition Policy](#)", Transition Policy Committee, Hartford, Dec. 2018.

The workforce development recommendations suggested expanding regional sector partnerships such as the Eastern CT Manufacturing Pipeline Initiative to other sectors, including the healthcare sector. Workforce intermediaries bridge communication gaps and align employers, technical high schools, comprehensive high schools, and training programs.

## B. Geography and Transportation:

Connecticut (CT) is a small state of about 5,000 square miles. Population size is the qualifier for the rurality of a town, and it is designated as a “population census of 10,000 or less and a population density of 500 or fewer people per square mile.” As of 2014, all 8 CT counties include towns that fell into the ‘rural’ classification, though two counties stand out considerably. All the towns that make up Litchfield County are considered rural *except* for the following: New Milford, Torrington, Watertown, Thomaston, Plymouth, & Winchester. Similarly, all the towns of Windham County are rural, except for three (Killingly, Plainfield & Windham).<sup>29</sup>

When considering the state's geography, it becomes clear why the distribution of residents has developed into what we are familiar with now. The counties previously noted are in the North. This area has the highest elevation and most significant changes, occurring in hills and mountain terrain, including the Appalachian range<sup>30</sup>. Conversely, the cities and densely populated areas of the state are settled in the lowlands. They span the Southern coast and travel North-to-South through the center of the state, along the Connecticut River. The population band effectively divides the state in two, leaving the Northeast and Northwest with fewer residents and fewer healthcare resources for those who reside in these regions<sup>31</sup>.

Three major intersecting highways traversing the state, South to North (I-91), Southwest to Northeast (I-84), and West to East (I-95), characterize the main thoroughfares in Connecticut. Most residential and high-density populated urban areas are located along these major highways as their periphery develops quickly. Additional roads and parkways span outward from the interstates allowing direct access to the suburban and rural areas; however, smaller state routes become scarcer, especially in the Northeast of the state where back road development is subject to terrain variations.

Train lines run the latitude of the state’s Western-most, central, and Eastern-most sections. Still, there may be no direct paths to travel to sporadically located healthcare sites for community members in the rural West and East areas. These limitations make it for long travel times, posing as a barrier to opportunities for health interventions.<sup>32</sup>

Transportation is a crucial factor in access to healthcare facilities and medical care. Reliable and affordable transportation is paramount to getting to medical appointments, obtaining medicines, and attending ongoing therapy and counseling. Unfortunately, 3.6 million individuals do not access medical care in the U.S., and 4% of all children miss a medical appointment because they experience transportation barriers. In addition, transportation barriers are the third leading cause of missing medical appointments for seniors across the country.<sup>33</sup>

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<sup>29</sup> Connecticut State Office of Rural Health, "[CT Rural Towns](#)." 2014.

<sup>30</sup> WorldAtlas, "[Maps of Connecticut](#)." 2021.

<sup>31</sup> Rural Health Information Hub, "[Connecticut](#)." 2021.

<sup>32</sup> Connecticut Department of Transportation, "[Connecticut State Rail Plan](#)." 2012.

<sup>33</sup> Health Research & Educational Trust, "[Transportation and the role of hospitals](#)". *American Hospital Association*. Chicago, 2017

In many of the state's large cities, workers cannot find local jobs; therefore, they must travel considerable distances from home to work and medical care. This mismatch is especially concerning for lower-income workers who are more likely to travel to surrounding towns for work. Most Connecticut residents rely on a car to reach work, shopping, and health care. However, in the Greater New Haven of Connecticut, 14% of adults do not have access to a car when they need it, up to 46% if they earn less than \$15,000 per year, and 26% if they earn between \$15,000 \$30,000.

Half of the adults facing transportation insecurity report missing a doctor's appointment due to a lack of reliable transportation in the past year. Lack of car access is far more common for Black residents (21%) and Latino residents (26%) than among White residents (only 10%). In addition, adults who seek lower-cost housing farther from work or services may shoulder a much more significant burden of transportation expenses and must cope with the many other potentially negative impacts of longer daily travel times, including those related to employment and health.<sup>34</sup>

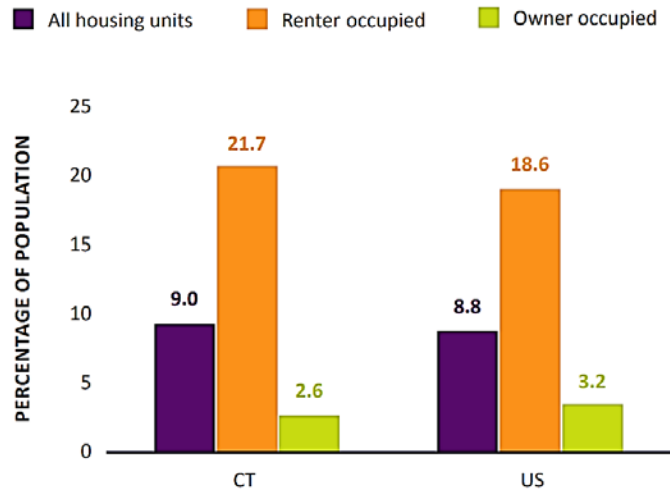
In 2017, about 9% of CT households were without access to a personal vehicle. Six of the top ten most populous cities in the state had the highest percentage of households without access to a car. More than one-third of those lacking reliable transportation was also unable to hold medical appointments. There is a stark difference in having vehicle access by whether the head of the household rents or owns the home. Throughout our state, fewer than 3% of owner-occupied households have no car access as opposed to the nearly 22% of renter-occupied households; compared to national data, CT fares slightly better for owner-occupied households and markedly worse for renter-occupied households. Depending on the county of residence, between 12% to over 25% of renter-occupied households are without access to a car. These limitations in mobility reduced access to healthcare, and analyses indicate that females, young adults (aged 18–34 years), persons of color, low-income residents, or residents with low educational attainment were more likely to be impacted by lack of transportation.<sup>35</sup>

*Fig. 5 Percentage of Housing Units Without Vehicles by Tenure. CT, 2013-2017*

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<sup>34</sup> Abraham, M., "[How Transportation Problems Keep People Out of the Workforce in Greater New Haven](#)", *Job Access and Transportation Working Group and DataHaven*. New Haven, CT, 2014

<sup>35</sup> Healthy CT 2025, "[State Health Assessment: Social Factors](#)", *DPH*, 2019.



*Source: US Census Bureau. American Community Survey 5-Year Estimates, Table B25044.*

### C. Healthcare Policy Environment

Both the Governor’s office and the legislature have taken a keen interest in improving the primary care infrastructure in Connecticut. After taking office, Governor Lamont issued Executive Order No.5 to establish the Office of Health Strategy.<sup>36</sup> The Office of Health Strategy (OHS) has issued a draft report identifying various structural reforms to strengthen primary care. Reforms include strengthening primary care practices aligned with the Person-Centered Medical Homes model and other primary care model innovations. In addition, developing methods to recognize primary care performance, and making available Alternative Payment Models (APMs) that go beyond fee-for-service. Recommendations include obtaining a commitment from payers to achieve primary care spend targets, developing primary care value-based contracts for use by insurers, and several OHS-recognized practice implementation activities that would be available for provider practices. Implementation is planned for 2022.<sup>37</sup>

The Department of Public Health enforces all regulatory statutes related to health care practitioners and facilities in the state. Recent legislation required the DPH to study the development and implementation of a recruitment and retention program for health care workers in the state who are people of color. The Department is actively looking for partners to conduct the study. As it relates to strengthening the primary care infrastructure, the PCO office will monitor the findings of such a study. Another policy-oriented initiative requires the DPH to establish and maintain a maternal mortality review program to review medical records and data related to each maternal death case. The DPH staffs the maternal mortality review committee, which conducts a comprehensive, multidisciplinary review of cases to identify factors associated with pregnancy-related or pregnancy-associated maternal deaths and makes recommendations to reduce the incidence of maternal mortality.<sup>38</sup> The DPH, through the HRSA-PCO, also maintains the data for the professional shortage designation areas in the state and coordinates with the federal government the placement of primary care providers in underserved areas through waiver and repayment programs.

<sup>36</sup> Connecticut State Governor Ned Lamont, "[Executive Order No. 5](#)," 2020.

<sup>37</sup> Connecticut Office of Health Strategy, "[Roadmap for Strengthening and Sustaining Primary Care](#)", 2021.

<sup>38</sup> P. A. No. 18-150, "[Establishing a Maternal Mortality Review Program and Committee](#)", Substitute Senate Bill No. 304, 2018.

The State Department of Social Services directly administers all aspects of the Medicaid program. Connecticut has undertaken several improvements to its Medicaid and health insurance exchange programs since implementing the Affordable Care Act. Notable initiatives include the following: Connecticut was the first state to adopt Medicaid expansion in 2010. The state further expanded its eligibility criteria in 2014 to include childless adults. As of December 2020, close to 308,000 individuals are enrolled in Medicaid, meeting expansion criteria requirements.<sup>39</sup> Additionally in 2020, in response to the covid-19 pandemic, the state created two limited benefit programs to allow covid-19 testing and related provider visits for uninsured residents and non-citizens.<sup>40</sup> Medicaid serves almost one million individuals in Connecticut or about 25% of the state's population.<sup>41</sup>

In response to the covid-19 Public Health Emergency (PHE), states are required to have continuous Medicaid enrollment. Connecticut is currently allowing for continuous enrollment. The provision is slated to end on December 31, 2021. It remains to be seen how Medicaid redetermination is rolled out once the PHE ends. In a recent report, the Commonwealth Fund highlights the risk of coverage loss, particularly for the vulnerable and racial/ethnic minorities, when the PHE ends.<sup>42</sup> Covid-19 prompted Medicaid and private insurers to recognize telehealth services and provide adequate reimbursement. Continued adoption of telehealth could allow a specific segment of our priority populations, including those in rural areas, to maintain better health outcomes.

The health insurance marketplace in Connecticut has been quite successful. A state health insurance exchange seeks to uphold its mission to make health insurance widespread for the people of CT while maintaining lower costs to their customers and reducing inequalities in health that impact the varying populations. Through the platform introduced by Access Health CT (AHCT), uninsured residents have decreased by 50% since 2013.<sup>43</sup> With an increase in health insurance holders, there will be an increase in the demand for primary care. Most of the plans offered to CT residents through the marketplace cover an annual visit to a primary care physician as a provision of preventative care.

Currently, over 100,000 individuals purchase coverage through the platform introduced by Access Health. It is a commonly used resource, as 30% of those purchasing in the exchange are under 35. The largest income group of AHCT consumers are those with income between 151% to 200% of FPL, right above the Medicaid cutoff. Individuals with income over 400% of FPL make up 30% of the total buying coverage through the exchange. Retention remains high among those who purchase health insurance coverage from the plans offered by AHCT, as demonstrated by 87% of those who had coverage in 2020 who continued with their enrollment in 2021. ConnectiCare Benefits, Inc. is a carrier of 81,697 plans, while Anthem BCBS is a carrier of 23,249. As many as 165,900 individuals in 2019 relied on self-insurance to obtain healthcare coverage, making up 4.8% of the market.<sup>44</sup>

Besides health insurance obtained through the state exchange, employer-based coverage is how most residents access insurance; 52.9% enroll through an employer.<sup>45</sup> This share comprises both purchases of

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<sup>39</sup> Henry J. Kaiser Family Foundation, "[Medicaid Expansion Enrollment](#)", 2020.

<sup>40</sup> Fitzpatrick M., "[Medicaid Eligibility](#)." *Office of Legislative Research Report*, October 2020

<sup>41</sup> Centers for Medicare & Medicaid Services, "[Medicaid & CHIP in Connecticut](#)", 2021

<sup>42</sup> Serafi K., et al., "[The Risk of Coverage Loss for Medicaid Beneficiaries as the COVID-19 Public Health Emergency Ends](#)." *The Commonwealth Fund*, 2021.

<sup>43</sup> Access Health CT, "[About Us](#)", 2021.

<sup>44</sup> Access Health CT, "[2021 Open Enrollment Summary](#)", 2021.

<sup>45</sup> Henry J. Kaiser Family Foundation, "[Health Insurance Coverage of the Total Population](#)", 2019.



commercial insurance plans and benefits offered to employees through self-insured organizations such as the state government. For private insurance, the companies that covered the largest quantities of CT residents in 2021 were Aetna, Anthem, Cigna, EmblemHealth, and UnitedHealthcare. The remaining types of coverage are Medicare beneficiaries and those with health insurance supplied through the military. As of 2019, 14% of people in CT were enrolled in Medicare. For the 23,900 CT inhabitants covered through the military's TRICARE, access to primary care is paramount to their healthcare services. The program functions much like a health maintenance organization (HMO), where services must start with a designated primary care provider who makes referrals as needed.<sup>46</sup>

Most recently, the state bolstered community engagement with the development of Navigator Programs granting a particular focus on New Haven and the Hartford area. The linkages between the clinical and community settings are possible due to Community Action Agencies and Family Resource Centers around the state, which provide human services to families and individuals in cities and towns to support higher self-sufficiency.

In recent years, Connecticut has advanced a Community Health Worker (CHW) certification program based on assessments conducted by an Advisory Committee and reported to the legislature in 2018.<sup>47</sup> The recommendations put forward include a) requirements for certification and renewal of certification, including any training, experience, or continuing education requirements, b) methods for administering a certification program, including a certification application, a standardized assessment of experience, knowledge, and skills, and an electronic registry, and c) requirements for recognizing training program curricula that are sufficient to satisfy the requirements of certification:

In 2021, the state statutes re-established the Community Health Worker Advisory Board (CHWAB) to unify viewpoints and strengthen the capacity of the CHW's profession to promote healthy communities. More specifically, the CHWAB seeks to promote uniform standards and requirements for the training, certification, and continuing education of CHWs and CHW instructors. The Board is set to educate workers in the health and social service sectors about the role, scope of services, evidence of success, and best practices related to CHWs.

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<sup>46</sup> America's Health Insurance Plans, "[Connecticut Health Insurance by the Numbers](#)", 2021.

<sup>47</sup> CHW Advisory Committee, "[Report to the Legislature on CHW Certification](#)", SIM, Connecticut, 2018.



### III. Primary Care Priority Populations

The priority populations discussed below are those whose health metrics indicate wide disparities and could be improved with primary care infrastructure and workforce improvements. This report section constructs their demographic profile - age, sex, race/ethnicity, location, and insurance status. It is important to note overlaps in the profiles presented below. For example, an elderly person can be uninsured, live in an urban or rural location, and have mental health needs. For this reason, the primary care priority populations are not ranked or listed in any order of priority.

#### A. Individuals and households in poverty

The estimated number of individuals living in poverty in Connecticut is 347,149, or about 10% of the state’s total population. Children under 18 constitute the largest age group in poverty, with 101,233 or 14.1% in poverty. Among the elderly, 65 years of age and over, the poverty rate is 7.3%. Amongst American Indians/Alaskan Natives, the rate is 30% under poverty, followed by Hispanics of any race at 21.1% and Blacks or African Americans at 18.8%. Individuals of “some other race alone” also has a high poverty rate of 22.2%.<sup>48</sup>

People in poverty concentrate in the urban centers, particularly in Hartford, New Haven, Waterbury, Bridgeport, and New Britain. There is a minimum of 1 in 5 households in these cities under poverty. Percent of Hispanic households in poverty ranges from 25% to 35%. For non-Hispanic black households, the range in these cities is from 14% to 31%. Children under 18 again show a disproportionate share from 31% to 37%. While poverty is dispersed in rural areas, some towns have over 10% of households under poverty. Once more, the disparity is seen by race and ethnicity for Hispanics of any race and non-Hispanic blacks.

Table 1. Urban and Rural Households Living in Poverty<sup>49</sup>

	Name	% Households	% Hispanic	% N-H Black	% < 18 y/o
<b>Cities with &gt;20% poverty</b>	Hartford	28.12	35.29	24.24	37.41
	New Haven	26.54	28.21	30.56	36.20
	Waterbury	23.38	32.93	24.27	34.92
	Bridgeport	21.82	28.91	16.87	31.35
	New Britain	21.67	32.59	13.92	33.41
<b>Rural Towns &gt;10% poverty</b>	Sharon	15.39	0	100	42.09
	Willington	14.59	7.63	48.42	2.02
	North Canaan	12.22	38.89	12.86	22.42
	Sprague	11.25	23.68	30	17.97

<sup>48</sup> American Community Survey, “[Table S1701 Poverty in the Past 12 Months](#)”, 2019.

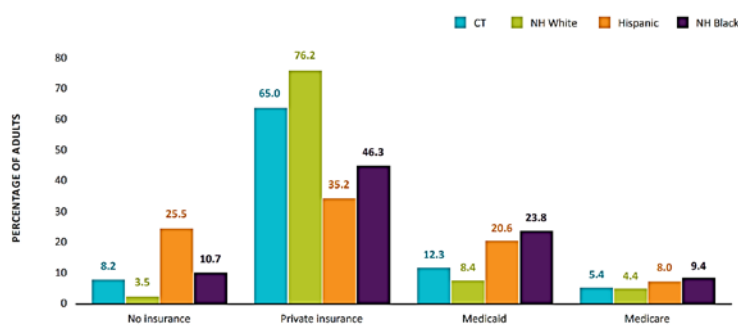
<sup>49</sup> Connecticut Data Collaborative, “[Poverty Status By Town](#)”, 2019.

## B. Uninsured Individuals

Connecticut was the first state to expand Medicaid and further expand eligibility to include nearly all residents with household incomes up to 133% of the Federal Poverty Level after the Patient Protection and Affordable Care Act in 2010. By 2018, Medicaid covered over 800,000 Connecticut residents, or 22% of the State’s population.<sup>50</sup>

The estimate of uninsured individuals in Connecticut is 207,184. The number of uninsured declined after the implementation of the Affordable Care Act. However, recent data shows that the number of uninsured is inching up. The census ACS estimate for 2019 was 5.9% uninsured compared to 5.3% in 2018, increasing 0.6% or 23,352 individuals.<sup>51</sup> In 2019, low-income adults between 19 and 64 y/o under 200% of the Federal Poverty Level constituted the largest uninsured group, with 16.2% having no insurance.<sup>52</sup> The Hispanic non-elderly population comprises 33.6% of the uninsured in Connecticut.<sup>53</sup>

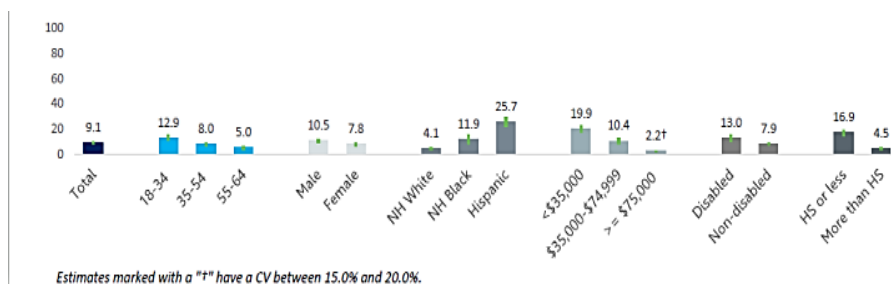
Fig. 6. Percentage of health insurance coverage among adults by race/ethnicity and primary payer, CT, 2018



Source: CT DPH Health Statistics & Surveillance Section, Behavioral Risk Factor Surveillance System. Data analyzed February 26, 2019.

Connecticut’s most recent BRFSS survey indicates that compared to their counterparts in the state, the prevalence of having no health insurance coverage was significantly higher for adults 18–34 years old, males, and Hispanic adults. Similarly, adults from households earning less than \$35,000, with a disability or no more than a high school education were more likely to be uninsured.<sup>54</sup>

Fig.7 Connecticut Adults 18-64 years old without Insurance Coverage, 2018



<sup>50</sup> Park, E., “[Medicaid’s Role in CT’ Economy, Health Systems and Budget](#)”, Community Health Foundation, 2018.

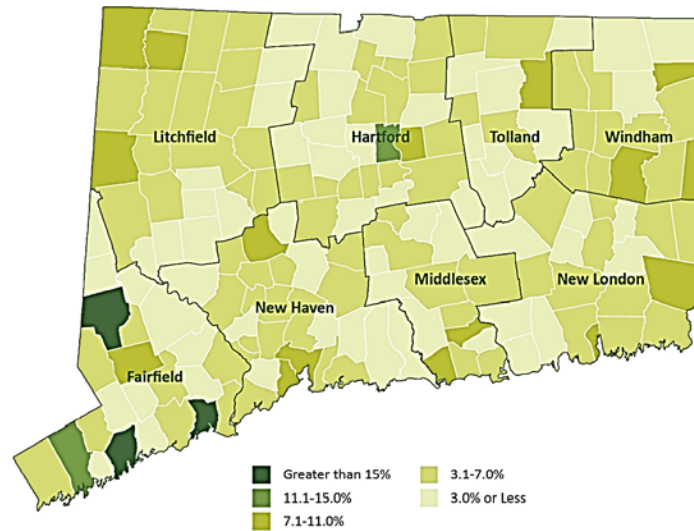
<sup>51</sup> U.S. Census Bureau, “[American Community Survey Tables for Health Insurance Coverage](#)”, American Community Survey, 2019.

<sup>52</sup> Henry J. Kaiser Family Foundation, “[Health Insurance Coverage of Low Income Adults 19-64](#)”, 2019.

<sup>53</sup> Henry J. Kaiser Family Foundation, “[Distribution of the Nonelderly Uninsured by Race/Ethnicity](#)”, 2019.

<sup>54</sup> Zheng X., Jorge C., “[Health Indicators and Risk Behaviors in Connecticut: 2018](#)”, 2021.

Fig. 8. Percentage of adults without health insurance coverage by town, CT, 2017



Source: US Census Bureau/American FactFinder. "S2701: Selected Characteristics of Health Insurance Coverage in the United States." 2013–2017 American Community Survey. US Census Bureau's American Community Survey Office, 2019.

Other population groups with insurance concerns are the elderly and those with Mental Illness. National estimates indicate that nearly half of all people on Medicare do not have dental coverage.<sup>55</sup> In Connecticut, 5.4% of adults with Any Mental Illness (AMI) are uninsured.<sup>56</sup> People with mental illness particularly need assistance with enrollment and re-enrollment. An issue brief presented in the Aspen Institute Roundtable highlights the need for targeted enrollment for men of color, including those who suffer from mental health or substance abuse problems as their illnesses “can impede their ability to complete the enrollment process and/or maintain their eligibility.”<sup>57</sup> The Connecticut Health Foundation’s report on Health Disparities in Connecticut notes that uninsured individuals fall into four categories: a) 25% are eligible for Medicaid or public coverage but not enrolled, b) 26% qualify for federal financial aid to buy insurance through the state’s health insurance exchange, c) 26% are not eligible for any financial assistance to buy insurance, either because their incomes are too high, or an employer offers them coverage, and d) 23% are not eligible for other forms of coverage because they are not in the country legally.<sup>58</sup>

Disruptions to insurance occur for those on Medicaid and those purchasing from health insurance exchange, especially during eligibility re-determination. While data on such disruptions is hard to come by, Connecticut Voices for Children in its reports states the following: “...a 2016 study by Connecticut Voices found 23.4 percent of children in HUSKY A and B lost coverage at least once within one calendar year. These children were likely still eligible when they lost coverage. Further, comments made at the Council on Medical Assistance Program Oversight (MAPOC) indicated as many as 20 percent of a

<sup>55</sup> Freed M., et al., "[Medicare and Dental Coverage: A Closer Look](#)", 2021.

<sup>56</sup> Mental Health America, "[Adults with AMI who are Uninsured](#)", 2021.

<sup>57</sup> Round Table on Community Change, "[Increase Insurance Coverage Among Men Of Color In Connecticut](#)". *The Aspen Institute*, 2013.

<sup>58</sup> Levin Becker A., "[Health Disparities in Connecticut](#)", *Community Health Foundation*, 2020.

representative subset of the Medicaid population—both adults and children—were disenrolled and then re-enrolled within 60 days. Additional research has shown that non-disabled adults under the age of 65 have even lower levels of continuous coverage. Roughly 40-80% of children disenrolled from HUSKY A (Medicaid) each month are disenrolled due to “failure to comply” with renewal procedures, suggesting administrative barriers.”<sup>59</sup>

### C. School-Aged Children

There is considerable variability in the location, race/ethnicity, poverty status, insurance type, and health outcomes of school-aged children in Connecticut. The 2020 census shows an overall decline of about 10% in children under 18. Nevertheless, the 546,834 school-aged children still constitute a sizeable population group forming about 18% of the state’s total population. The state’s school-aged children show an increasing diversity. Fully 40% are racial/ethnic minorities, with Hispanics of all races at 25% of total school-aged children and non-Hispanic blacks at 13% of total school-aged children.

In 2019, 14.1% of children under 18 years were living below the poverty level, and 19.9% of children under 18 years were living in households with Supplemental Security Income (SSI), cash public assistance income, or Food Stamp/SNAP benefits. One in three children is eligible for free or reduced-price lunch. The highest percentage of childhood poverty exists in four of the five large towns of CT. It is estimated that the percent of children living below the poverty level in 2019 was 11.5% in Stamford, 31.4% in Bridgeport, 34.9% in Waterbury, 36.2% in New Haven, and 37.4% in Hartford. Other towns in rural and suburban areas of the state also exhibited a high percentage of childhood poverty, including Cornwall (16%), Brooklyn (9.0%), New London (40.0%), Ansonia (20.8%), and Derby (19.8%).<sup>60</sup>

Almost 20% (109,366) of children live in families with a single head of household,<sup>61</sup> and about 1 in 3 children in Connecticut are enrolled in Medicaid. Medicaid covers 45% of children with special health care needs.<sup>62</sup> A 2016 study conducted by Connecticut Voices for Children found that 23.4 percent of children in HUSKY A and B lost coverage at least once within one calendar year. However, they were likely still eligible when they lost coverage. Roughly 40-80 percent of children disenrolled from HUSKY A (Medicaid) each month are disenrolled due to “failure to comply” with renewal procedures, suggesting administrative barriers.

Diet plays an important role in weight status. The state’s prevalence of drinking sugar-sweetened beverages (SSBs) among children is significantly greater for Hispanic children (38.1%) and non-Hispanic Black children (40.7%); children living in a household with annual earnings of less than \$35,000 (44.4%), and children living with an adult proxy who had no more than a high school education (38.5%). Similarly, the prevalence of eating fast food more than twice a week among children is significantly greater for Non-Hispanic Black children (54.3%) than non-Hispanic White children (37.2%).

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<sup>59</sup> Sheehan E., et al., "[Pathways to Continuous Coverage of Medicaid in Connecticut](#)", 2020.

<sup>60</sup> Connecticut State Department of Public Health, "Maternal and Child Health Services Title V Block Grant", 2021.

<sup>61</sup> American Community Survey, "[Table S1101 Households and Families](#)", 2019.

<sup>62</sup> Henry J. Kaiser Family Foundation, "[Medicaid in Connecticut](#)", 2019.

In Connecticut, Black children and teens are nearly 5½ times more likely to go to the emergency department because of asthma than their white counterparts. Hispanic children and teens are 4½ times as likely to go due to greater exposure to environmental toxins.<sup>63</sup>

The Use of Concurrent Antipsychotics in Children and Adolescents trended up from 2014 to 2015 (2.4% to 3.1%, lower scores are better) and is above the National and Regional averages.<sup>64</sup>

#### D. Children and Youth with Special Health Care Needs

The population of children and youth with special health care needs is estimated at 149,716. It includes children and youth (0 to 17 years of age) who have or are at increased risk for a chronic physical, developmental, behavioral, or emotional condition and require health and related services beyond that required for children in general. The 2018-2019 National Survey of Children’s Health indicates the following age breakdown in Connecticut:<sup>65</sup>

*Table 2. Age Distribution of Children and Youth with Special Health Care Needs in CT, 2018*

	<b>0-5 years old</b>	<b>6-11 years old</b>	<b>12-17 years old</b>
<b>Pop. Est.</b>	28,387	62,774	58,555

The survey also found that one-third (50,825) had a household income at or less than 200% of the Federal Poverty Level and about 34% of them were Hispanics and 10% non-Hispanic black children. In addition, while about 32% had public insurance only and 55% had private insurance only, about 39% (59,093) indicated that their current insurance is inadequate and/or had a gap in insurance coverage in the past year.

The 2019 data of the National Survey on Children’s Health indicates that among CYSHCN, Connecticut (40.4%) was slightly below the U.S. average (42.3%) in the proportion of children who received coordinated, ongoing, and comprehensive care within a medical home in 2018-2019. In contrast, only 52.4% of CYSHCN in Connecticut were reported as receiving needed and effective care coordination, compared to 57.2% of children in the U.S. on average, in the same period. Connecticut (20.8%) was slightly ahead of the U.S. (18.4%) in the proportion of 12-17-year-old CYSHCN who received the services needed to transition to adult health care. Families of CYSHCN receiving care in a well-functioning system varied greatly by age. In 2018-2019, the proportion was 19.6% for 0-11-year-olds, and 7.3% for 12-17-year-olds. Overall, 8.7% of parents of CYSHCN reported they were usually or always frustrated getting services for their child, compared to only 0.4% of parents of children without special health care needs.<sup>66</sup>

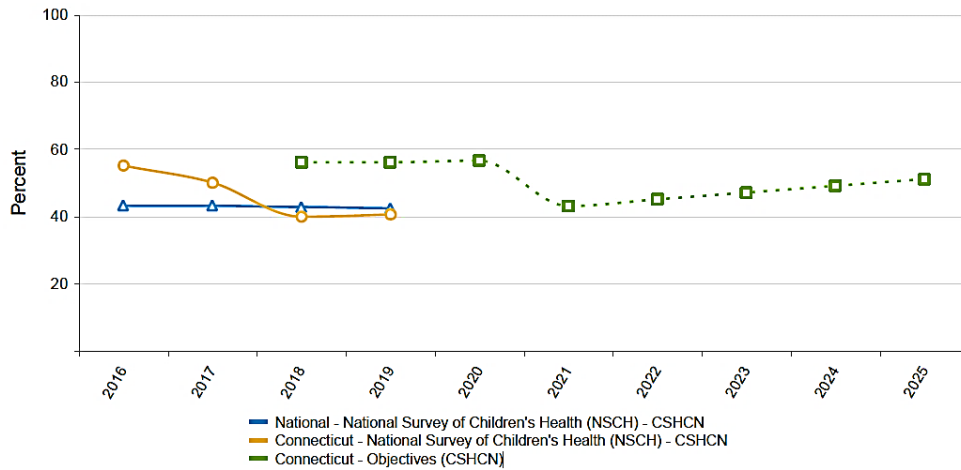
<sup>63</sup> Connecticut Voices for Children, "[Issue Briefing Book 2020-2022](#)", 2020.

<sup>64</sup> Connecticut Department of Social Services, "[Health Quality Measures and Performance Results](#)", 2017.

<sup>65</sup> Data Resource Center for Child & Adolescent Health, "[Percent of children with special health care needs, ages 0 through 17](#)", 2019.

<sup>66</sup> Connecticut State Department of Public Health, "Maternal and Child Health Services Title V Block Grant", 2021.

Fig.9 Percent of Children with and Without Special Health Care Needs, who have a Medical Home



### E. Populations with mental illness and substance use disorders

Mental and behavioral disorders were the leading causes of hospitalization among state residents ages 15-45 from both sexes and all race-ethnicity groups. Mental and behavioral disorders led among non-Hispanic Black and Hispanic residents as the leading diagnosis for hospitalization.<sup>67</sup>

Any Mental Illness (AMI) and Serious Mental Illness (SMI): The Connecticut prevalence of illness and the frequency of services utilization among state residents is similar to the Northeast and the entire country.<sup>68</sup> According to the Connecticut Behavioral Health Barometer,<sup>69</sup> there was no significant difference in the annual average percent of persons with AMI who received services in the past year from 2008-2010 (46.1%) to 2017-2019 (46.3%). The annual average prevalence for 2017-2019 of 46.3% was similar to the regional (51.0%) and national (43.6%) averages.

Data from the Annual Statistical Report SFY 2020 revealed that nearly two-thirds of the clients served (62%) in the DMHAS system met the criteria for an SMI diagnosis, which involved having one or more of the following: schizophrenia (including related disorders), bipolar, major depression, and PTSD.

Depression: Connecticut's percentages for depression were similar to the national and northeastern estimates for all age categories. 17% of clients treated by the DMHAS system had depressive disorders, and 11% had bipolar and related disorders, accounting for nearly a third of all diagnoses treated. The Behavioral Health Barometer reported past-year depression care for Major Depressive Episode (MDE) in adolescents as 44.2%, similar to regional (48.5%) and national (41.4%) averages for 2015 – 2019.

Alcohol consumption and binge-use of alcohol among Connecticut residents of all ages are at higher percentages than national and regional estimates. Rates of underage drinking are notably above regional and national estimates.

<sup>67</sup> Connecticut State Department of Public Health, "[Calendar Year 2019 Connecticut Hospitalization Tables](#)", 2019.

<sup>68</sup> Connecticut State Department of Mental Health and Addiction Services, "[Behavioral Health Assessment and Plan](#)", 2021.

<sup>69</sup> Substance Abuse and Mental Health Services Administration, "[Behavioral Health Barometer](#)", SAMSHA, Vol. 6, 2020.

Table 3. Percent of Adults with Any Mental Illness by Age and Location <sup>70</sup>

		Age 18+	Ages 18 - 25	Age 26+
<b>Any Mental Illness in the Past Year</b>	<b>U.S.</b>	19.86%	27.85%	18.60%
	<b>Northeast</b>	19.45%	28.27%	18.10%
	<b>Connecticut</b>	18.85%	28.73%	17.27%
<b>Received Mental Health Service in the Past Year</b>	<b>U.S.</b>	15.57%	16.19%	15.48%
	<b>Northeast</b>	16.96%	18.01%	16.80%
	<b>Connecticut</b>	17.50%	18.33%	17.36%
<b>Serious Mental Illness in the Past Year</b>	<b>U.S.</b>	4.91%	8.14%	4.40%
	<b>Northeast</b>	4.64%	8.14%	4.10%
	<b>Connecticut</b>	4.50%	8.54%	3.86%

Table 4. Major Depressive Episode in the Past Year (NSDUH 2018 – 2019)

	Age 12 - 17	Ages 18 - 25	Ages 18 +
<b>U.S.</b>	15.08%	14.48%	7.51%
<b>Northeast</b>	13.62%	14.43%	7.22%
<b>Connecticut</b>	14.41%	15.26%	7.06%

Table 5. Alcohol Use in the Past Month (NSDUH 2018 – 2019)

	Age 12- 17	Ages 18 - 25	Ages 18 +
<b>U.S.</b>	9.19%	54.72%	55.09%
<b>Northeast</b>	9.80%	58.93%	57.98%
<b>Connecticut</b>	11.24%	65.61%	64.73%

Table 6. Binge Alcohol Use in the Past Month (NSDUH 2018 – 2019)

	Age 12- 17	Ages 18 - 25	Ages 18 +
<b>U.S.</b>	4.78%	34.58%	26.15%
<b>Northeast</b>	5.04%	39.69%	27.00%
<b>Connecticut</b>	5.42%	47.60%	30.25%

<sup>70</sup> RTI International, “[National Survey on Drug Use and Health](#)”, SAMSHA, 2018-2019



Marijuana use is also prevalent among young adults. The Substance Abuse and Mental Health Services Administration (SAMHSA) relayed in their 2020 Behavioral Health Barometer report that 18.6% of people 12 years and older in Connecticut had used marijuana in the past year. The largest segment of this population, which used cannabis from 2017 to 2019, consisted of young adults aged 18 to 25 years. During the two-year data collection period, 44.8% of this group indicated past-year use. Marijuana use disorder affected 8.4% of this segment of the public from 2017 to 2019.<sup>71</sup> In addition, opioid overdoses are a serious concern as Connecticut residents are more likely to die from unintentional drug overdose than a motor vehicle accident. The majority of these deaths are linked to overdose of prescription opioid painkillers and illicit opioids.<sup>72</sup> Over 2,300 deaths of all ages occurred in the state involving heroin and 5,207 CT deaths related to fentanyl or fentanyl analogs throughout 2015 and 2021.<sup>73</sup>

The Department of Public Health tracks overdose deaths in the “Drug Overdose Monthly Report,” new and emerging substances, and monthly and yearly trends. The latest Drug Overdoses Monthly Report, January 2019–November 2021, indicates that when compared to 2019, fatal drug overdoses in Connecticut increased by 14.6% in 2020 to 1,378. New and emerging substances were found in several deaths. These included Flualprazolam, a designer benzodiazepine; Eutylone, a synthetic stimulant; and Para-fluorofentanyl, a fentanyl analog. Xylazine, an animal tranquilizer combined with fentanyl, has also been identified in several deaths since 2019. Other observations noted in the report were that the a) rates of unintentional and undetermined drug overdose-related death were consistently higher among males when compared to females (Figure 9); b) as of June 2021, the drug overdose mortality rate has substantially increased in the non-Hispanic Black and Hispanic populations compared to the previous year (Figure 10); and c) drug overdose death rates were highest in the 35–44-year-old age group in Connecticut and followed by 25–34 and 45–54 year age groups. (Figure 11)<sup>74</sup>

The impact of not addressing mental illness and substance use disorders is significant to both the individual suffering and the healthcare and larger economic systems. National data reveals that individuals suffering from depression have a higher risk of developing cardiovascular and metabolic diseases, and so are people with serious mental illness who develop these conditions twice more often. At least one-third of adults with mental illness experienced a substance use disorder, and they also have higher unemployment rates. High school dropout students are more likely to have significant symptoms of depression than their peers. Mental, emotional, or behavioral concerns are the cause that makes a school-age child three times more likely to repeat a grade. One out of every eight admissions to the emergency department involves mental illness or substance use disorders. One-fifth of individuals experiencing homelessness have a severe mental health condition. Mental illness is also frequent among incarcerated adults and youth in the juvenile justice system.<sup>75</sup>

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<sup>71</sup> Substance Abuse and Mental Health Services Administration, “[Behavioral Health Barometer](#)”, SAMSHA, Vol. 6, 2020.

<sup>72</sup> Connecticut State Department of Public Health, “[Opioids and Prescription Drug Overdose Prevention](#)”, Accessed 2021.

<sup>73</sup> Clinton H., “[Drug Overdose Deaths in Connecticut, 2015-2021](#)”, DPH Dashboard, last accessed on Dec 2021.

<sup>74</sup> CT Department of Public Health, “[Drug-Overdose-Deaths-Monthly-Report](#)”, Hartford, November 2021

<sup>75</sup> National Alliance on Mental Illness, “[Mental Health by the Numbers](#)”, Website, last accessed on Dec. 2021.



Fig. 10 CT Drug Overdose Mortality Rates, by Gender, 2019 – June 2021

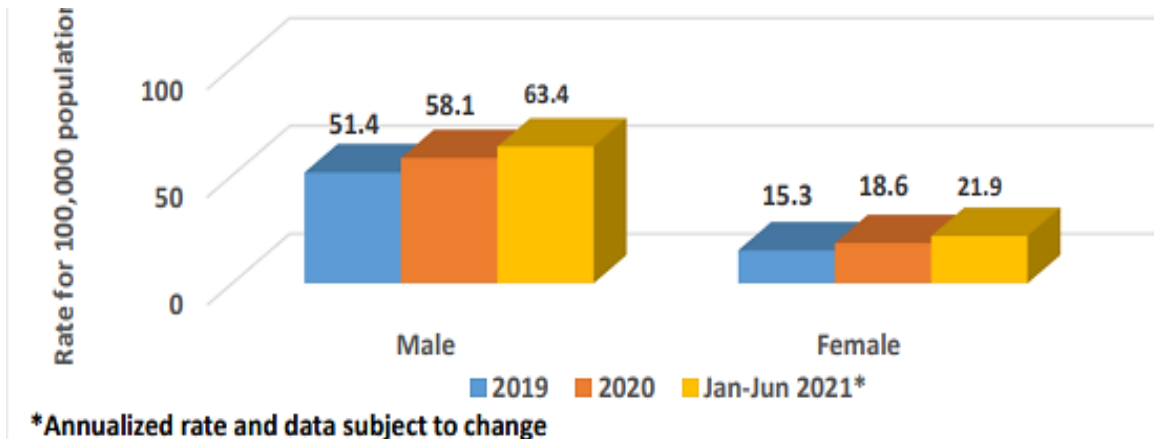


Fig. 11 CT Drug Overdose Mortality Rates, by Race/Ethnicity, 2019 – June 2021

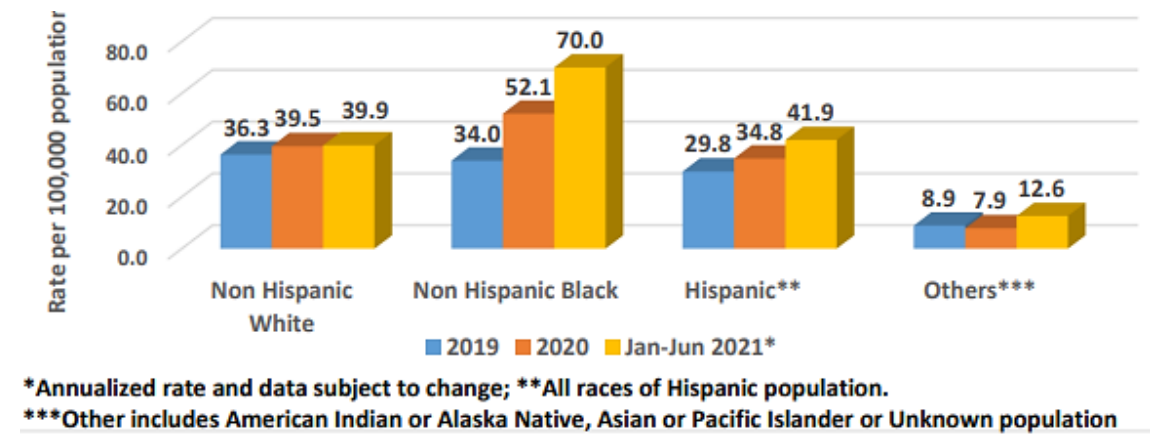
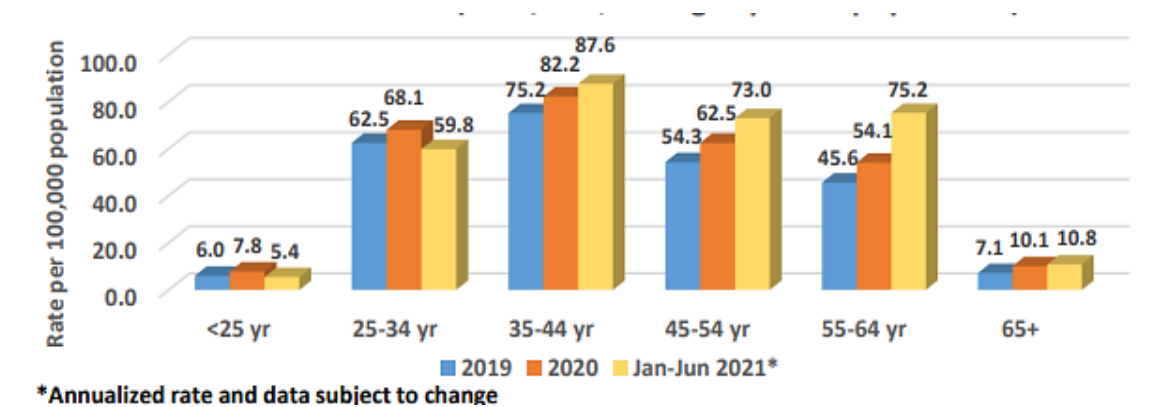


Fig. 12 CT Drug Overdose Mortality Rates, by Age, 2019 – June 2021



## F. Reproductive Age Women

In 2019, women aged fifteen to forty-four (15-44) were 56.8 percent of all 1.8 million women. This population segment is a frequent user of primary care services associated with the prenatal, pregnancy, delivery and postpartum, and interpregnancy periods. Non-Hispanic White women made up the bulk of this subpopulation in 2019, with over 563,000 people.

During 2018-2020 (average), about 1 in 8 women of childbearing age (ages 15-44) (12.0%) in Connecticut were living in families with incomes below the Federal Poverty Level.<sup>76</sup> Women of all races and ethnicities earn lower personal incomes than their male counterparts [Table 7]. This burden is higher for those who may have to seriously consider missing work to attend a doctor's appointment or purchase more robust health insurance when starting a family.

Table 7. Head of household Distribution in Connecticut's Large Cities

	Connecticut	Bridgeport	Hartford	New Haven	Waterbury
<b>Married-couple household</b>	73.32%	50.09%	33.89%	48.89%	50.36%
<b>Male householder, no spouse present</b>	7.44%	14.26%	11.84%	11.65%	14.21%
<b>Female householder, no spouse present</b>	19.24%	35.65%	54.27%	39.46%	35.42%

Covid-19 has exacerbated women's burden, especially those with dependent children. A recent study by the Permanent Commission on the Status of Women on economic security during COVID found that women aged 25-45 with dependent children were more likely to have their work impeded due to home schooling, lack of childcare, or work demands at home. The study also found that 35.4% of Connecticut's women indicated that their healthcare (affordability and accessibility) had been negatively impacted by covid-19; Hispanic women and those of more than one race reported a higher-than-average negative impairment to their healthcare due to COVID-19. One of the main factors limiting women's access to health care is losing health insurance coverage or decreasing coverage.<sup>77</sup>

In recent months women in rural Connecticut have seen three hospitals close their labor and delivery units on an indeterminate basis. The closure of the delivery units and the shortage of ob-gyn providers in these communities are expected to significantly impact access to prenatal and post-partum healthcare for these women. In addition, pregnant women in rural areas have to travel much farther and often outside of the county due to the recent closure of labor and delivery services in three of the state's rural area hospitals.<sup>78</sup>

<sup>76</sup> March of Dimes Foundation, "[Connecticut Quick Facts: Population](#)", 2019.

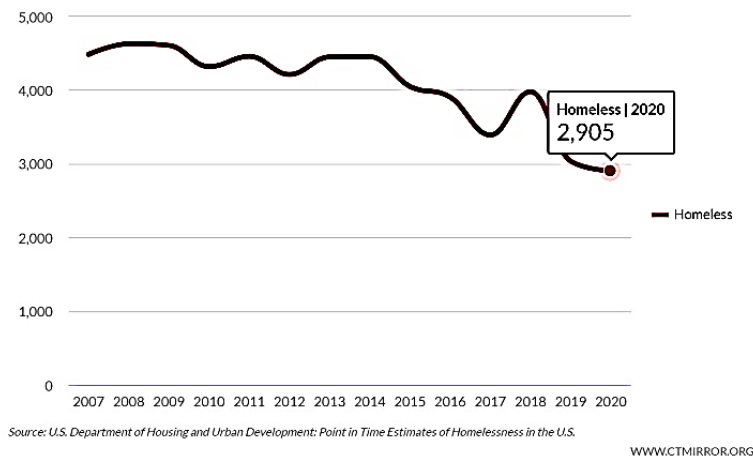
<sup>77</sup> Permanent Commission on the Status of Women in Connecticut, "[The Economic Impact of COVID-19 on Connecticut's Women](#)", 2021.

<sup>78</sup> Golvala K., "[In some rural CT towns, hospital cuts mean fewer options for giving birth](#)", *The Connecticut Mirror*, 2021.

## G. Homeless

Although homelessness across the country increased by 2020, there were fewer homeless people in the same year in Connecticut. Between 2007 and 2020, 27 states and the District of Columbia recorded decreases in chronic homelessness. Texas and Florida experienced the most significant declines in chronically homeless individuals. West Virginia and Connecticut had the largest percentage declines (86% and 83%) over this extended period. The homeless population in Connecticut has substantially declined over the last ten years. In the 2020 annual count, there were 2,905 people identified as experiencing homelessness. That represents a 33% decline from 2010 and a 4% decline from 2019.<sup>79</sup>

Fig. 13 Homeless Counts in Connecticut. 2007-2020



Alarming, 577 children in the 2020 count lived on the streets or in shelters. While children mainly were living with family members, at least 16 were alone, and seven were unsheltered. Most homeless people (74% in 2020) in Connecticut live in a short-term emergency shelter. Except for 2019, when the decline in the homeless population was due to fewer people living on the streets or unsheltered, a reduction in the long-term sheltered population represents the most considerable reduction over the years. This reduction is encouraging because it indicates that people are being diverted from long-term shelters to permanent housing solutions. Emergency shelters across the state served 5,233 households in 2020. The average stay was 88 days, and 40% of those who left moved into permanent housing. The total number of unsheltered homeless was reduced by 80% in the same year.<sup>80</sup>

In the 2020 count, there were 199 homeless veterans, and by the end of the year, nearly all of them were sheltered. The state received official recognition from the federal government for ending veteran homelessness, meaning that when veterans become homeless in Connecticut, they are being quickly identified and provided housing opportunities. Connecticut experienced the largest decline in chronically homeless individuals, with 4,069 fewer chronically homeless individuals counted in 2020 than in 2007. Florida had the subsequent largest decline, with 2,813 fewer chronically homeless individuals.

<sup>79</sup> Henry, M., et.al., "[The 2020 Annual Homeless Assessment Report \(AHAR\) to Congress](#)", HUD-Office of Community Planning and Development, Jan 2021.

<sup>80</sup> Connecticut Coordinated Access Networks, "[Connecticut Homelessness Data Dashboard](#)", 2021.

Fig. 14 Homelessness in CT, 2020

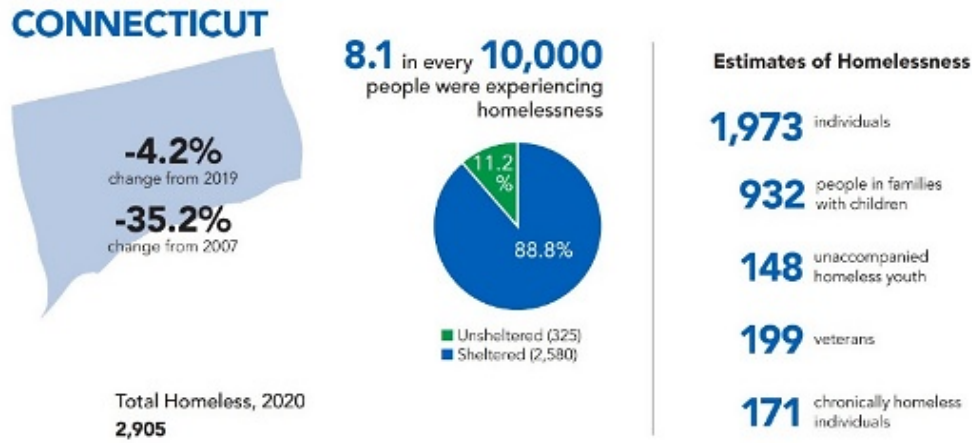
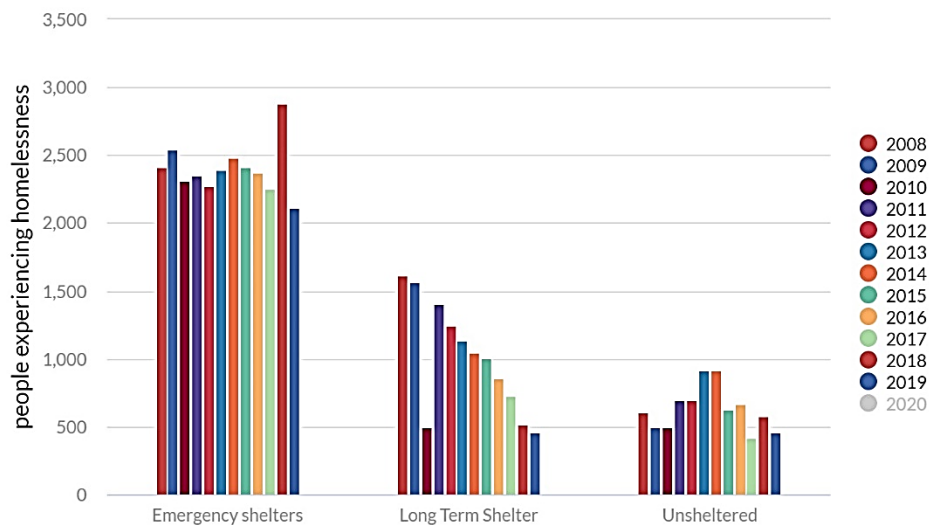


Fig. 15 Title Where People Experiencing Homelessness in the United States Sleep, by Year



Source: U.S. Department of Housing and Urban Development: Point in Time Estimates of Homelessness in the U.S.

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### H. Migrant Workers and Refugees

As in other parts of the country, migrant farmworkers in Connecticut are among the most economically disadvantaged and medically vulnerable groups and with minimal access to health care or medication. Migrant farmworkers may be domestic or international workers, including guest workers hired by employers authorized to fill temporary agriculture jobs.

In addition to barriers to access to health care such as affordable health insurance, language barriers, and lack of transportation, migrant workers also experience fear of deportation, loss or garnished

wages, and uncertainty about the consequences of missing work or having health issues. Agriculture is hazardous with exposure to pesticides, musculoskeletal problems, dermatitis and rashes, headaches, and eye problems. In addition, farmworkers often suffer from high rates of diabetes, chronic hypertension, and dental disease.

New England's most significant agricultural area extends south from Massachusetts' northern border along the Connecticut River to the Long Island Sound. The River Valley's communities host large numbers of seasonal migratory and agricultural workers. River Valley has sparsely populated rural areas, cities, and suburban communities. The migrant population in this area is estimated at 17,600 seasonal agricultural laborers and their families. Barriers to accessing quality healthcare include linguistic and cultural factors, immigration status, long daily work hours, difficulty navigating the healthcare system, and a transitory lifestyle that makes it difficult to establish a medical home with a primary care provider.<sup>81</sup>

A coalition of local organizations and the UConn Migrant Farm Worker Clinic formed a network of organizations to overcome barriers and attend to the health care needs of migrant and seasonal farmworkers. UConn and the Connecticut Area Health Education Centers (CT AHEC) Program strive to help migrant farmworkers overcome these barriers by conducting medical and dental screenings on-site at farmworker barracks free of charge.

The Connecticut River Valley Farmworker Health Program serves migratory and seasonal agricultural workers and their uninsured or underinsured families. Agricultural workers include those involved in aquaculture, animal production, and direct farming of seasonal crops. Agricultural work includes cultivating, harvesting, or preparing seasonal crops for market or storage.

A migratory agricultural worker is a person whose primary employment is agricultural work within the last 24 months and establishes a temporary home for this employment. A seasonal agricultural worker is a person whose primary employment is in agriculture on a seasonal basis, who has been so employed within the last 24 months and does not establish a temporary home for this employment.

The program has improved access to quality primary care and health-related services for farmworkers along the Connecticut River Valley, including serving over fifteen hundred workers and families in 2020, over one thousand medical transports and farm visits for health education, on-site clinical services, and Covid19 mitigation measures.

CT DSS Refugee Assistance Program: The Office of Community Services of the Department of Social Services (DSS) is responsible for disbursing federal funds related to the resettlement of refugees in Connecticut. DSS regional offices administer the Refugee Cash Assistance (RCA) and Refugee Medical Assistance (RMA) programs for up to eight months from the date of entry to the U.S. DSS also provides refugees with temporary family assistance/cash assistance, medical coverage, and food stamp assistance under those public assistance programs since refugees qualify as legal non-citizens.

The U.S. State Department assigns refugees to local affiliates of national voluntary resettlement agencies in Connecticut. DSS disburses federal refugee assistance program funds, administers refugee cash and medical assistance programs, and monitors resettlement activity for individuals who qualify as refugees under international law. A refugee can request to become a legal permanent resident after

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<sup>81</sup> Connecticut River Valley Farmworker Health Program, "[About Us](#)", *Website*, last accessed on Dec. 2021.

one year of residence in the U.S. and can apply for U.S. citizenship five years after their date of entry to the U.S.

The DPH Refugee and Immigrant Health Program: The Connecticut Department of Public Health's Refugee and Immigrant Health Program (RIHP) is the public health component of Connecticut's Refugee Assistance Program. The RIHP works with refugee resettlement agencies and other sponsors, local health departments, and health care providers to offer appropriate health assessments, follow-up or referral, and community-based health education to newly arriving entrants to Connecticut.<sup>82</sup>

The RIHP assists refugees and asylees, persons with special immigrant visas, lawful permanent residents, and certain other entrants to Connecticut. The goals of the program are a) to help ensure that refugees receive an initial domestic health assessment soon after arrival in the state, receive diagnosis and treatment for conditions of potential public health significance, and have referrals and treatment for chronic diseases and disorders; b) to notify appropriate health officials if entrants are diagnosed with conditions of public health significance; c) to compile, analyze, and report selected health data about entrants to Connecticut; and d) to provide technical assistance about refugee health matters.

Before coming to the United States, refugees undergo an overseas medical screening to determine eligibility for U.S. entry. Soon after U.S. Entry, refugees are advised to undergo an initial domestic refugee health assessment (RHA). In Connecticut, refugee resettlement agencies and other sponsors work with health care providers and local health departments to schedule these RHAs. The Centers for Disease Control and Prevention (CDC) and the Office of Refugee Resettlement (ORR) provide guidance and resources to conduct RHAs. The RIHP helps ensure that RHAs are conducted in a timely fashion and assists sponsors and health care providers by developing forms and supporting documents for use when they conduct RHAs in Connecticut.

The RIHP also conducts certain tuberculosis (T.B.) control activities as part of the broader mission of the T.B. Control Program at the DPH. Entrants who arrive with an overseas T.B. classification should undergo a U.S.-based TB evaluation soon after U.S. entry. The RIHP collaborates with sponsors, health care providers, and local health departments to ensure that evaluations, diagnoses, and treatment for T.B. or latent tuberculosis infection (LTBI) are obtained.

## I. Urban and Rural Populations

Where one lives can have a significant impact on the availability of resources and services. In Connecticut, the urban and rural populations differ in many ways. Urban population centers have continued to grow while many rural communities have seen a decline. About 18% of Connecticut's population lives in one of its five largest cities – Bridgeport, Hartford, New Haven, Waterbury, and Stamford. Currently, only about 9% of the state's population is classified by the census as "rural." There are currently 68 towns that meet the definition of "rural," as defined by the Connecticut State Office of Rural Health. These are towns with a population census of 10,000 or less and a population density of 500 or fewer people per square mile as designated as rural.

Immigrant populations, a significant driver of the state's population growth, is younger, are more likely to settle in the cities, and are also diverse in terms of race and ethnicity. The five largest cities in the

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<sup>82</sup> Connecticut Department of Social Services, "[Refugees Assistance Program](#)", *Website*, last accessed on Dec. 2021.

state house 22% of all Connecticut children under the age of five (5) and about 22% of those between 18 and 44 years of age. In contrast, the state’s shrinking rural communities tend to be predominantly white and are aged 65 years and older, except for the southwestern region which has more persons less than 20 years of age.<sup>83</sup> In 5 communities in rural Connecticut (Salisbury, Sharon, Essex, Bridgewater, and Union), more than 30% of residents are older than 65 years old.<sup>84</sup>

Table 8. Diversity of the Large Cities in CT

Race/Ethnicity	Bridgeport	Hartford	New Haven	Waterbury	CT
White	40.40%	31.30%	44.40%	60.90%	79.70%
Black or African American	35.10%	37.70%	32.60%	21.70%	12.20%
Two or More Races	4.90%	6.40%	4.40%	4.50%	2.50%
Hispanic or Latino	40.80%	44.30%	31.20%	37.40%	16.90%

The table below provides information on the demographic makeup of the large cities, rural towns, and the towns and cities in between. In large cities, those between 18 and 44 years of age constitute the largest age group at 41.61%. Rural towns are somewhat older, with those between 45 and 64 years of age constituting one-third of the population fully. Those 65 and over form 12.60% of the total population in the large cities but have a higher profile in rural towns at 20% of the population.

Table 9. Connecticut’s Population Distribution by Town Size, and Age of Residents

	Total	Male	Female	Under 5	5-17	18-44	45-64	65 and over
Urban - Large Cities	633,942	309,372	324,570	39,727	101,528	263,780	149,022	79,885
		48.80%	51.20%	6.27%	16.02%	41.61%	23.51%	12.60%
Rural	329,104	164,007	165,097	13,312	51,184	87,848	109,635	67,125
		49.83%	50.17%	4.04%	15.55%	26.69%	33.31%	20.40%
Suburban towns and smaller cities	2,602,241	1,270,398	1,331,843	127,559	394,122	861,283	737,255	482,022
		48.82%	51.18%	4.90%	15.15%	33.10%	28.33%	18.52%
<b>TOTAL</b>	<b>3,565,287</b>	<b>1,743,778</b>	<b>1,821,511</b>	<b>180,598</b>	<b>546,834</b>	<b>1,212,912</b>	<b>995,913</b>	<b>629,032</b>

<sup>83</sup> Connecticut State Office of Rural Health, "[CT Rural Health Reports](#)", 2020.

<sup>84</sup> Dugan E., et al., "[Connecticut Health Aging Report](#)", 2021.

In four of Connecticut’s large urban cities, Spanish is spoken at home in anywhere from 27% to 35% of the households. English proficiency is low in several of these households and can result in linguistic isolation. Such isolation can also be an issue in rural towns. For instance, in Connecticut’s rural areas, 31 percent of households where Asian or Pacific Island languages are spoken are linguistically isolated, and those residents may not live near others who speak the same language.<sup>85</sup>

Connecticut has a largely car-dependent transportation infrastructure. Anywhere from 1 in 4 to almost 1 in 3 households in the four large cities lack access to a car. While such access is not an issue for rural residents, their car dependency is higher due to the lack of mass transportation in rural communities. In the rural towns of North Canaan, Putnam, and Thompson, public transport use is 0%.

Internet access is an issue in both large cities and rural towns with low median household incomes. In both Hartford and Waterbury, more than 1 in 5 households have no internet access.

Table 10. Percent of CT Households in the Large Cities by Language and Transportation Modesh

	Bridgeport	Hartford	New Haven	Waterbury
Language spoken at home: Spanish	34%	35%	27%	28%
No access to car	20%	30%	28%	20%
Commute Mode: Public Transport	11%	14%	12%	5%

Table 11. Percent of Households Lacking Internet Access in Select CT Towns

No Internet Access Urban				No Internet Access Rural				
Bridgeport	Hartford	New Haven	Waterbury	North Canaan	Putnam	Canaan	Kent	Thompson
18%	23%	16%	23%	18%	15%	13%	11%	15%

<sup>85</sup> Davila K., et al., “[Towards Health Equity in Connecticut](#)”, DataHaven, 2020.



## IV. Impact of Primary Care Services in Connecticut

This section offers statewide performance data concerning primary care patient experience, health outcomes, and cost. Data and contextual information were obtained chiefly from the final evaluation report of the State Innovation Model conducted in Connecticut between 2015 and 2020. The evaluation relied heavily on data from the Department of Public Health and several other Connecticut State agencies and was conducted by a research team from the University of Connecticut and Yale University. Reports include statewide performance based on the entire Connecticut population. However, depending on the data sources, data is sometimes limited to individuals who have commercial, Medicare, or Medicaid coverage. The report presents measures that allow comparisons across payer categories and race/ethnic groups when data permits.<sup>86</sup>

Primary care needs can be inferred from evaluation data on patient experience, health outcomes, affordability and cost, quality improvement, and outcomes of previous reform efforts. Data sources for these results include a Connecticut adapted Consumer Assessment of Health Plans Survey (CAHPS) for the commercial and Medicaid populations, the 2019 DPH's State Health Assessment and State Health Improvement Plan, and the CT Chronic Disease Prevention Plan. The data source on health care expenditures is the Connecticut State Innovation Model (SIM) evaluation report. The focus of the innovation models is on transitioning away from paying for healthcare services based on volume toward Alternate Payment Models based on delivering high-quality care and lowering the growth of healthcare costs. Three initiatives for primary care quality improvement are conferred: The Advanced Medical Home (AMH), Community and Clinical Integration Program (CCIP), and Shared Savings Plan.

Findings of a survey of the primary care networks in the state, sponsored in 2019 by the Office of Health Strategy and administered by the Yale School of Public Health, were used to evaluate the impact of primary care reforms. The datasets used to evaluate population health include a) Connecticut's Behavioral Risk Factor Surveillance System (BRFSS), 2) the Youth Tobacco Survey (YTS), and 3) data from the DPH Vital Statistics records. The datasets used to evaluate health care quality included the CT's All Payers Claim Data (APCD) and the CT's Hospital Inpatient Discharge Data (HIDD). The Connecticut All-Payers Claims Database (APCD) contains eligibility and claims data (medical, pharmacy, and dental) from commercial health payers, Medicaid, children's health insurance, State Employee Health Benefits program, prescription drug plans, dental payers, self-insured employer plans, and Medicare.

### A. Patient Experience

Connecticut conducted a survey of commercially insured and Medicaid patients to assess their care experiences. To that end, the state used a modified version of the Clinician and Group Consumer Assessment of Healthcare Providers and Systems (CG-CAHPS) survey that includes several questions explicitly developed to assess access to behavioral health services. CG-CAHPS is a standardized, validated instrument used throughout the country, and vendors with extensive experience administered the patient experience survey. Three consecutive surveys were conducted between 2017 and 2019. The survey sample consisted of all Advanced Networks and Federally Qualified Health

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<sup>86</sup> UConn Health, Center for Population Health and Yale School of Public Health, "[Connecticut State Innovation Model, Final Evaluation Report](#)", Farmington and New Haven, 2020.

Centers (FQHCs) in the state participating in a payment reform project and providing care to Medicaid recipients or individuals insured in the commercial market, including two of the major commercial payers in Connecticut. Advanced Networks are physician group practices, independent practice associations, or clinically integrated networks that have entered into a shared savings program agreement with at least one public or private payer in which they are accountable for the quality and total cost of care. The surveys included a probability sample of two comparison patient groups who had used each Advanced Network or FQHC. Data was used to evaluate the impact of care delivery and payment reforms on patient experience. Patient experience analysis was stratified across racial/ethnic groups, comparing changes across periods and types of health coverage.

Medicaid recipients tended to report better care experiences than did commercially insured patients. Overall, 78% of commercially insured individuals rated their providers highly in three years. Among Medicaid recipients, 71% gave a similarly high rate in the first year and 72% in the second and third years. Differences by race and ethnicity were minor and inconsistent. Of the 36 statistical comparisons (e.g., Black vs. White, Medicaid, Black vs. White commercial, each year), only four were statistically significant ( $p < 0.01$ )

Fig. 16 Care Experiences among CT Commercially Insured and Medicaid Patients

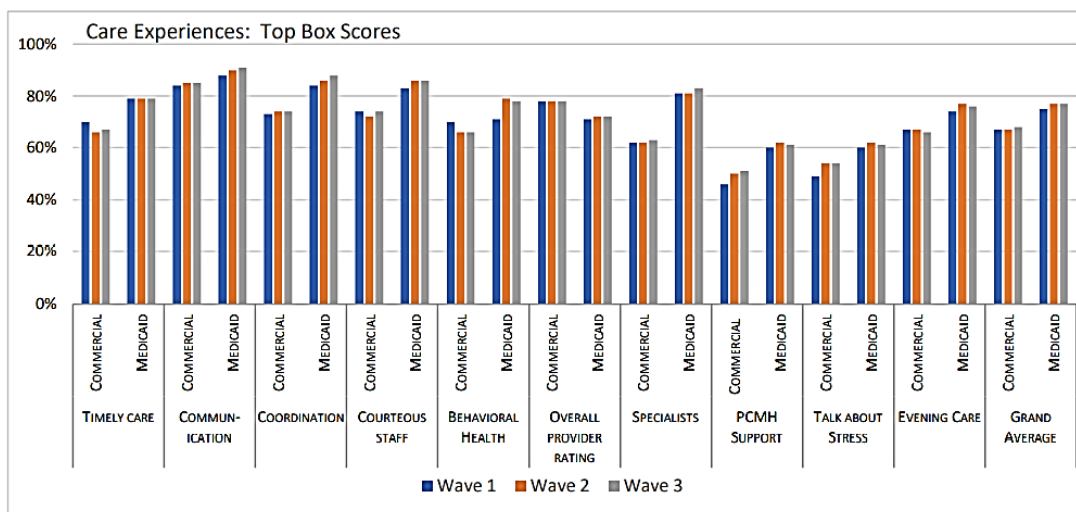
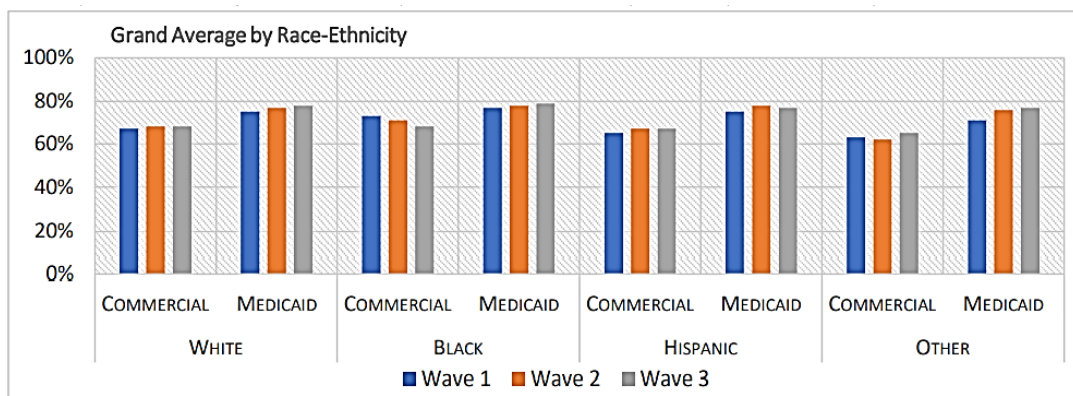


Fig. 17 Care Experiences among CT commercially insured and Medicaid patients by Race/Ethnicity



## B. Primary Care Related Health Outcomes

The DPH maintains a set of outcomes and performance indicators as part of its State Health Assessment. Priorities established in the State Health Improvement Plan, Chronic Disease Prevention Plan, and others guide the data collection and release. The following are outcomes selected due to their prevalence and burden on health and their potential for improvement by addressing barriers to health and primary care. The state tracks multiple indicators of primary care-related health outcomes, but this section is limited to the most salient measures of population health such as maternal and child health, metabolic, respiratory, and cardiovascular health.

***Pregnancy-related maternal mortality*** is potentially preventable through improvements to health before pregnancy and improved quality of medical care in the prenatal, delivery, postpartum, and inter-pregnancy periods. A pregnancy-related death occurs during pregnancy or within one year of the end of the pregnancy from any cause related to or aggravated by the pregnancy or its management. Between 2015 and 2017, thirty-two (32) pregnancy-associated deaths occurred in Connecticut. Of those, eleven (11) were pregnancy-related, and the remaining number were associated but not related to pregnancy. Pregnancy-associated deaths were most commonly due to medical disorders and the remaining due to overdoses, mental health conditions, and injuries.

Eighty percent of the pregnancy-related deaths were determined to be preventable, and the outcome would likely have changed in half of the cases. All deaths occurred during delivery or the immediate postpartum period. There were essential differences in maternal deaths by race and ethnicity as two-thirds of the deaths occurred among non-white mothers.<sup>87</sup>

***Infant mortality and low birth weight*** indicators continue to show disparities in infant health amongst racial/ethnic minorities. The disparity is severe for black infants who show higher infant mortality and low birth weight. The mortality rate for non-Hispanic black infants is 9.9 per 1,000 births compared to 4.9 for Hispanics and 3.0 for White infants. Similarly, low birth weight is 12.9% for non-Hispanic black newborns compared to 8.9 for Asian Americans, 8.0 for Hispanics, and 6 for White newborns. Both these outcomes trend worse for Medicaid patients compared to those with private insurance.

***Childhood lead poisoning*** is the most common pediatric public health problem that causes irreversible impairment but is entirely preventable. Black and Hispanic children are disproportionately affected by childhood lead exposure, with the risk of lead poisoning being more than double for Black children when compared to White children in 2017. Localities with older housing stock and a higher number of households below the poverty level had a higher count of lead poisoning cases. Bridgeport, Hartford, New Haven, and Waterbury have the highest number of households with incomes below the poverty level, as well as the highest rates of childhood lead poisoning. When comparing testing across the state, the rural areas of the eastern produce the highest number of confirmed lead tests.<sup>88</sup>

***Obesity in children and adults*** has increased consistently for the past 20 years, but recent data from 2011 to 2018 showed signs of a slowing increase in the obesity rate. Obesity rates are derived from self-reported weight and height among BRFSS respondents. Before 2013, approximately one-quarter of BRFSS respondents reported BMIs in the obese range, with an upward trend from 24.9 percent in 2013 to 25.3 percent in 2015. The state goal was to reduce the prevalence of adult obesity to 24.6

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<sup>87</sup> MMRC. Maternal Mortality in Connecticut 2015-2017. DPH. Hartford, 2020

<sup>88</sup> Matrix Public Health Solutions, "[An Assessment of Connecticut Rural Health](#)", CT Office of Rural Health, 2015.

percent by 2020, but rates have continued to increase. The unhealthy weight rates of adult Connecticut residents rose each year after 2015 to 27.4% obese and 37% overweight in 2018. Non-Hispanic Black residents, residents over 35 years of age, and those with lower educational attainment are disproportionately affected by obesity. Obesity in adults is a serious medical condition that can cause metabolic syndrome, high blood pressure, atherosclerosis, heart disease, diabetes, high blood cholesterol, cancers, and sleep disorders. Childhood obesity puts children at greater risk for high blood pressure, high cholesterol, type 2 diabetes, asthma, and joint and musculoskeletal issues. Children with obesity tend to become obese as adults, and their risk for weight-related diseases tends to be more severe.

Childhood obesity prevalence in Connecticut has increased significantly over the past few decades. In 2014/2015, the prevalence was 13.5 percent, the prevalence increased by 2.5% in 2016 and another 2.9% in 2017, and in 2018 reached 18.4%. The prevalence of childhood obesity is higher among males, younger children, and children from low-income households. Also, Hispanic and non-Hispanic Black children have obesity prevalence rates that are 2.5 and 1.9 times higher, respectively, than non-Hispanic White children. BRFSS data is the source of childhood obesity data based on respondent reports of their children's heights and weights. Data for children under five years old is considered unreliable due to recall error, and therefore, not included.

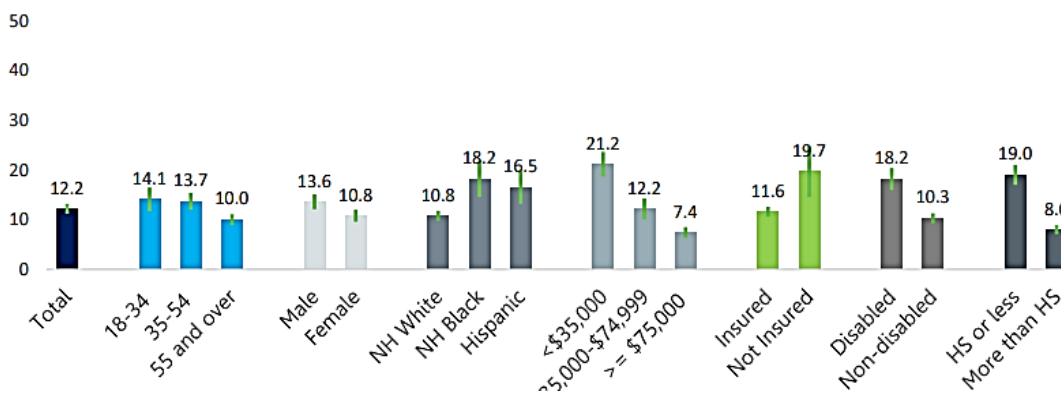
**Diabetes in adults** has no cure, but it can be treated and managed in a primary care setting. In Connecticut, diabetes was the seventh leading cause of death in 2017. Males have 1.3 times more diabetes-related hospitalizations compared with females. Non-Hispanic Black residents in Connecticut have 2.5 times more diabetes-related hospitalizations compared with non-Hispanic White residents. Also, Hispanic or Latino residents have 2.2 times more diabetes-related hospitalizations compared with non-Hispanic White residents.

The DPH regularly tracks statewide diabetes rates through the BRFSS. Survey respondents identified as diabetic adults respond affirmatively to the BRFSS question: "Has a doctor, nurse, or other health professionals EVER told you that you have diabetes?" (Diabetes during pregnancy excluded). The percentage of diabetic adults has increased steadily from 8.3% in 2013 to 9.3% in 2015. The rates leveled off in 2016 and increased again to 9.8% in 2017 and 9.7% in 2018.

**Asthma outcomes** are determined by multiple determinants, including low household income, environmental inequities (e.g., outdoor air pollution, substandard housing conditions, etc.), and exposure to pests, mold, air pollution, and secondhand smoke. Barriers to healthcare access can include a lack of health insurance coverage, long wait times and overwhelmed clinics, shortages of culturally and linguistically competent providers, and low health literacy. For the total population, females have a slightly higher asthma-related ED visit rate than males, but among children, males are more likely than females to have an asthma ED visit. In addition, asthma ED visit rates for non-Hispanic Black and Hispanic residents are nearly five times higher than their non-Hispanic White counterparts. This health disparity increased since 2012 when asthma ED visit rates were nearly four times higher among non-Hispanic Black and Hispanic residents than non-Hispanic White residents. Residents of large cities are disproportionately affected by asthma. Towns with age-adjusted asthma ED visit rates of more than 100 per 10,000 populations are Hartford, New London, New Britain, Waterbury, Norwich, New Haven, Bridgeport, Meriden, and Windham.

**Cigarette smoking in adults and high school youth** is the leading cause of preventable disease, disability, and death in the United States. Smoking rates are one of the population health measures tracked in the State Health Assessment. Adult data is obtained through the BRFSS, and the prevalence of smoking among high school students is captured by the Connecticut Youth Tobacco Survey (YTS). Adult smokers are defined in the BRFSS as respondents (18+) who report that they currently smoke cigarettes every day or some days, and youth smokers are defined as students who smoked cigarettes once or more in the past 30 days. Following a steady decline over several years, the percentage of smoking adults in 2013 was 15.5% and, the prevalence decreased to 13.5% in 2015. The downward trend continued so that the prevalence of adult smoking in Connecticut was 12.2% by 2018. After a steady decline from 8.9 percent in 2013 to 5.6 percent in 2015, in 2017, only 3.7% of high school students reported having smoked cigarettes in 2019, as many as 1 in 4 (equating to 27%) CT high school students were current users of e-cigarettes that year. Of the high school students, 31.6% indicated both e-cigarettes use and experiencing poor mental health.<sup>89,90</sup>

Fig. 18 Current Cigarette Smoking. Connecticut, 2018



**High Blood Pressure (HBP)** goes undiagnosed and untreated among many adults because it rarely has symptoms. It is especially important to have a primary care visit so that HBP can be caught early. The groups more likely to have been diagnosed with HBP include males, non-Hispanic Black and non-Hispanic White adults, older adults, and adults with lower educational attainment and lower annual household incomes.

As of 2019, BRFSS indicated that as many as 22.8% of adults surveyed in Connecticut had been recommended to monitor their blood pressure outside of the clinician’s office. Follow-up is high with this practice, 78.6% of adults check blood pressure at home, and 69.6% share the results in person with their healthcare professional. Seeing the efficacy in play, if a greater number of people in CT had access to primary care, it is likely they would be able to monitor their condition and prevent future crises.

<sup>89</sup> Connecticut State Department of Public Health, "[Current Tobacco Use Among High School Students](#)", 2019.

<sup>90</sup> Connecticut State Department of Public Health, "[Current E-Cigarette Use Among High School Students](#)", 2019.

Table 12. Proportion of CT Adults that have Ever Been Told They Have High Blood Pressure <sup>91</sup>

Demographics		%	95% CI	
Total		30.9	29.7	32.1
Age	18-34 years old	8.8	6.8	10.8
	35-54 years old	25.0	22.8	27.2
	55 and over	50.7	49.0	52.3
Sex	Male	33.0	31.2	34.9
	Female	28.9	27.3	30.6
Race/ Ethnicity	Non-Hispanic White	31.8	30.4	33.2
	Non-Hispanic Black	43.1	38.4	47.7
	Hispanic	22.4	19.0	25.8
	Non-Hispanic Other	22.7	18.2	27.2
Income	Less than \$35,000	39.1	36.2	42.1
	\$35,000-\$74,999	32.7	30.0	35.4
	\$75,000 and more	25.9	24.1	27.7
Insurance	Insured	32.0	30.8	33.3
	Not Insured	19.1	15.0	23.1
Disability	Disabled	46.8	43.8	49.8
	Non-disabled	26.6	25.2	27.9
Education	High School Graduate or Less	35.9	33.6	38.3
	More than High School	27.9	26.6	29.3

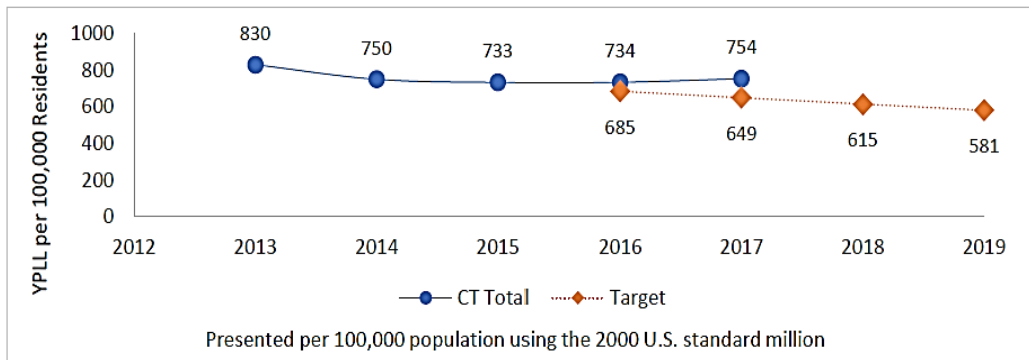
**Premature death due to cardiovascular disease** is a critical population health outcome. Obesity, diabetes, and smoking are all risk factors for developing cardiovascular disease, and improvements in the quality of primary health care delivery impact this population's health measures favorably. Data for this indicator is obtained through mortality statistics maintained by the Health Statistics and Surveillance Section of the DPH. This measure estimates the number of years of potential life lost (YPLL) for persons dying before age 75 due to cardiovascular disease.

The CT rate of YPLL per 100,000 was trending downward from the 2013-2015 period. As a result, target values declined by approximately 2% per year through 2020. In 2016, the observed rate of 734 YPLL was comparable to the 2015 rate but significantly higher than the target of 685. In 2017, the observed rate increased to 754, and there were significant race differences in this trend change. The rate for black residents decreased from 2016 to 2017, whereas rates for residents of other races all increased, but not significantly.

Figure 15 presents population-level results for premature death from cardiovascular diseases from 2013 through 2017. From the 2013 to 2015 period, the CT rate of years of potential lives lost (YPLL) per 100,000 was on a downward trend, resulting in target values that declined by approximately 2% per year through 2020. In 2016, the observed rate of 734 YPLL was comparable to the 2015 rate but significantly higher than the target of 685. In 2017, the observed rate increased, for the first time since 2013, to 754.

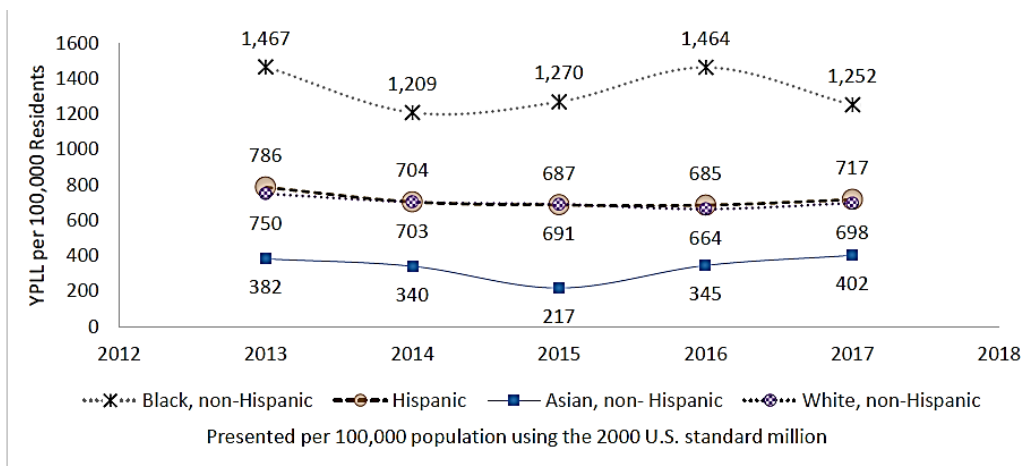
<sup>91</sup> Zheng X., "[Connecticut Behavioral Risk Factor Survey](#)." CT DPH, Dec. 2020.

Fig. 19 Death from Cardiovascular Disease



Race and ethnic disparities in CVD mortality were pronounced (Fig. 16). YPLL rates due to CVD were roughly twice as high among Blacks compared to Whites and Hispanics, and Asians had approximately half the YPLL rate of Whites and Hispanics. In addition, CVD mortality rates for Whites and Hispanics demonstrated a slight downward trend from 2013 to 2016, with a slight uptick in 2017. Rates for Asians and Blacks were less stable. Because of these year-to-year fluctuations in rates among Blacks and Asians, it will take additional years of data to ascertain strong trends in CVD mortality in these groups. This measure will be essential to monitor in future years to gauge the impact of primary care in improving health equity.

Fig. 20 Cardiovascular Death by Race/Ethnicity



### C. Oral Health Indicators

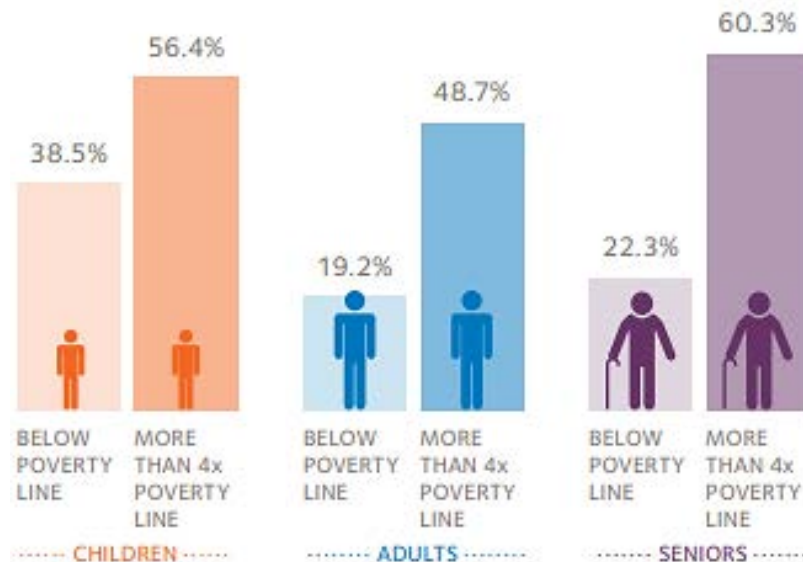
Dental decay remains the most common chronic disease affecting children. In 2018, approximately one out of every eleven Connecticut adults 65 years old and over has had all their natural teeth extracted. Older adults with lower educational attainment were 3.2 times more likely to have had all their natural teeth extracted when compared to those with more than a high school degree. Older adults from lower-income households were 3.3 times more likely to have had all their natural teeth extracted when compared to those with higher annual household incomes.



Racial/ethnic and socioeconomic disparities in oral health outcomes persist among both children and adults. When compared to non-Hispanic White and non-Hispanic Black children, Hispanic and non-Hispanic Asian children were 25% more likely to have dental decay experience. Possible explanations for these disparities include unequal access to quality oral health care that exists among specific population groups in Connecticut. Population groups such as the Hispanic and non-Hispanic Asian children who experience higher levels of dental decay and lack treatment are among the vulnerable populations considered by the DPH as “priority” populations.

Barriers to care include lack of access to affordable and comprehensive dental care, lack of dental insurance and the integration of oral health into medical practices, lack of transportation to get to dental care visits, cultural competency of providers, and perceptions that oral health care is a less essential aspect of overall health.

Fig.21 Percentage of Population who Visited a General Dentist in the past 12 months by Poverty Level

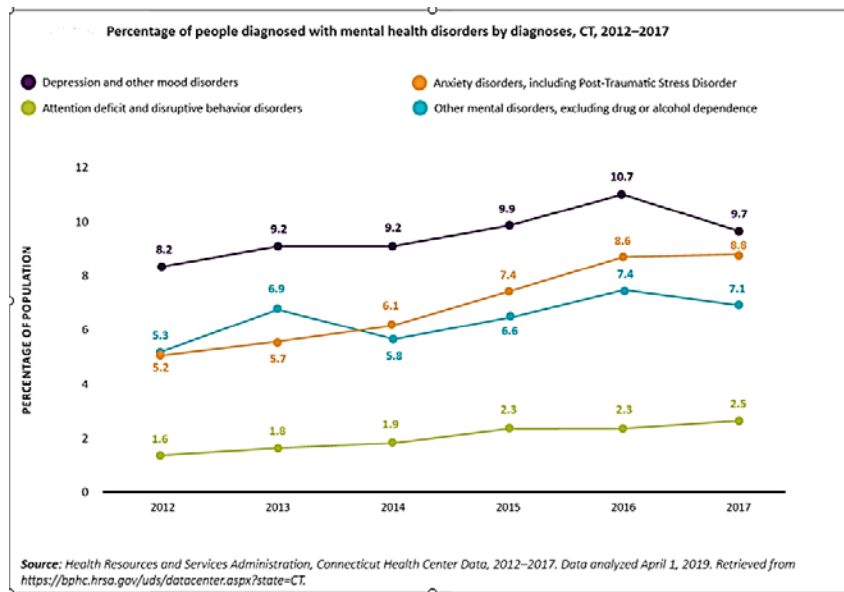


#### D. Mental Health and Addiction Indicators

**Mental health disorders** are a common reason for primary care services utilization. Data for the self-reported prevalence of several mental health conditions is obtained through the BRFSS. The most recent survey indicates that the percentage of the population diagnosed with depression, anxiety, ADHD, and other mental disorders, excluding drug or alcohol dependence, increased overall since 2012 in Connecticut. Between 2012 and 2017, the prevalence of depression, anxiety disorder, ADHD, and other mental disorders increased by 19%, 70%, 35%, and 34%, respectively. Notably, the state’s prevalence rates for each of these mental disorder categories exceeded the prevalence for the nation overall.



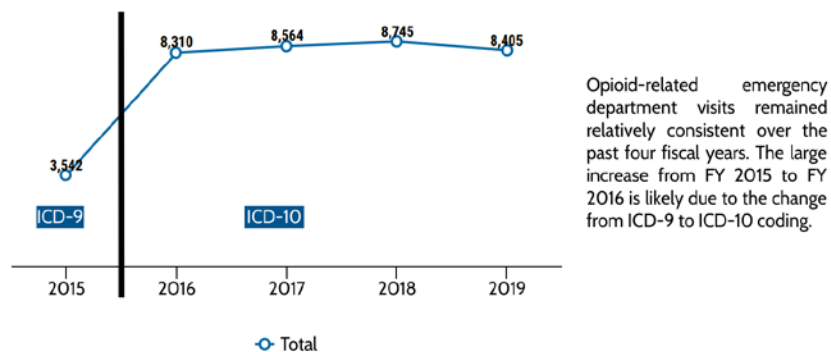
Fig. 22 Percentage of People in CT Diagnosed with Mental Health Disorders, by Diagnoses, 2012 - 2017



**Excessive alcohol consumption** was reported by one in five CT adults in 2018. Approximately one in six CT adults engaged in binge drinking, while one in 17 engaged in heavy drinking. Compared to their counterparts in the state, the prevalence of excessive alcohol consumption was significantly greater for adults 18–34 years old (28.2%) and 35–54 years old (20.4%); males (22.3%); Non-Hispanic White (19.6%) and Hispanic (20.7%) adults; adults from households earning at least \$75,000 (23.9%); adults without health insurance (23.9%); and adults without a disability (19.9%). The five-year trend shows a recent increase in percent prevalence from 2017 to 2018 from 15.4% to 18.8%, respectively.

**Opioid use** is also a frequent reason for emergency department visits. In Connecticut, opioid-related emergency department (ED) visits have ranged between 8,310 to 8,745 visits annually between 2016 and 2019. Approximately 63% of the visits were from individuals between 18 and 44 years of age. Medicaid patients make up the majority of these visits. White non-Hispanics accounted for 63.5% of the ED visits, followed by Hispanics at 22.5% and black non-Hispanics at 10.9%.<sup>92</sup>

Fig. 23. Opioid-Related Emergency Department Visits



<sup>92</sup> CT Office of Health Strategy, “Facilities and Services Plan - 2018 Supplement”, Hartford, April 2019

## E. Healthcare Delivery Measures

The state evaluated several measures of healthcare delivery to assess the impact of the primary care reforms implemented by the State Innovation Model project between 2016 and 2020. The metrics were intended to evaluate the impact of promoting new payment models that required meaningful improvement in access and quality of care. The measures included data on a regular source of care for adults, preventable hospital admissions and re-admissions, diabetes care (HbA1c testing), cancer screening for women, anti-depressant medication management, and initiation of treatment for alcohol or other drugs dependence, follow-up after ED visits or hospitalizations for mental illness.

***Adults with a regular source of care*** are more likely to have better health outcomes by regularly visiting a primary care provider. Preventive visits allow patients to receive treatment for early-stage conditions and remain monitored for chronic conditions. Primary care provider visits offer opportunities for education and promotion of healthy behaviors. The indicators of having a regular source of care are determined by the percentage of adults having a preventive or ambulatory visit during a defined period. For Medicare patients, the defined period is the measurement year, and ages include all adults at least 20 years of age. For commercial patients, it is the measurement year and two years before the measurement year. Rates of preventive/ambulatory visits for both payers for all three years were above 97%. However, the commercial trend decreased slightly and was statistically significant from 2015 to 2017. In contrast, Medicare rates increased slightly and were statistically significant from 2015 to 2017.

***Preventable Hospital Admissions and Re-admissions*** focus on Ambulatory Care Sensitive Conditions (ACSCs). Acute and chronic ACSCs are 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. ACSC includes diabetes with short-term complications, diabetes with long-term complications, uncontrolled diabetes without complications, diabetes with lower-extremity amputation, chronic obstructive pulmonary disease, asthma, hypertension, heart failure, dehydration, bacterial pneumonia, and urinary tract infection. Preventable hospital admissions were measured using the Agency for Healthcare Research Quality's (AHRQ's) Prevention Quality Indicators, and data to calculate the measures were derived from the CT Hospital Inpatient Discharge Database (HIDD).

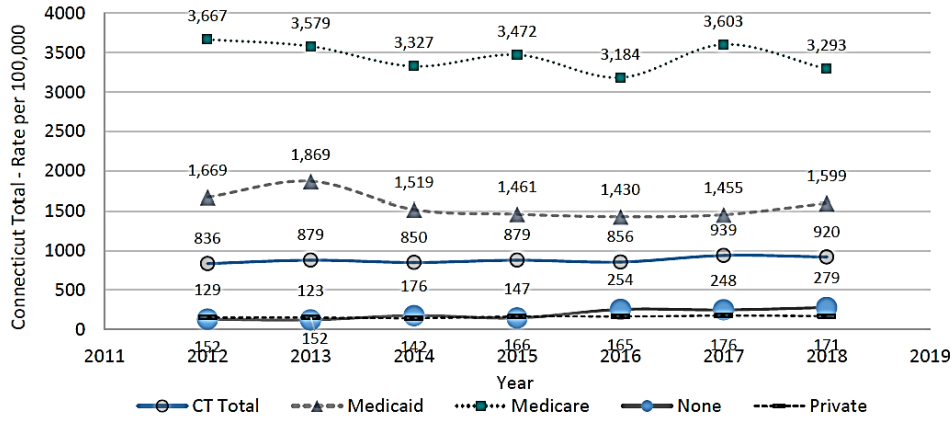
The overall hospital admissions rate for ACSCs had a downward trend showing a reduction (5.7%) between 2012 and 2015. Although the observed rates decreased in 2018, the targets decreased faster. In 2016, the observed rate was 2.5% lower than the state target, but by 2018, the observed rate was 7.1% higher than the target. The overall composite score of hospital *re-admissions* for ACSCs remained reasonably stable from 2012 (16.4%) to 2015 (16.7%). In 2016 and 2017, the observed rates of 15.6 and 16.0, respectively, were lower than in 2015.

*Admissions for acute conditions* include only dehydration, bacterial pneumonia, and urinary tract infections. Between 2012 and 2015, the rate of hospital admissions due to acute ACSCs had a 19.9% reduction from 2012 to 2015. Although the rate in 2016 had further decreased by 3.7% from 2015, it was still 7.8% greater than the target rate. However, the 2017 rate had a 16.5% reduction and was only 1.2% greater than the target rate. Although the acute admissions rate decreased by almost 20% between 2015 and 2018, the 2018 rate was still 14.6% higher than the state target.

*Admissions for chronic conditions* include diabetes with short-term complications, diabetes with long-term complications, uncontrolled diabetes without complications, diabetes with lower-extremity amputation, chronic obstructive pulmonary disease, asthma, hypertension, and heart failure without a

cardiac procedure. Between 2012 and 2015, the rate of hospital admissions had increased by 5.1%. The 2016 rate was 2.7% lower than the 2015 rate and 2.5% lower than the 2016 state target. However, in 2017 and 2018, the rates increased and remained 6.5% and 4.6%, respectively, higher than the state targets.

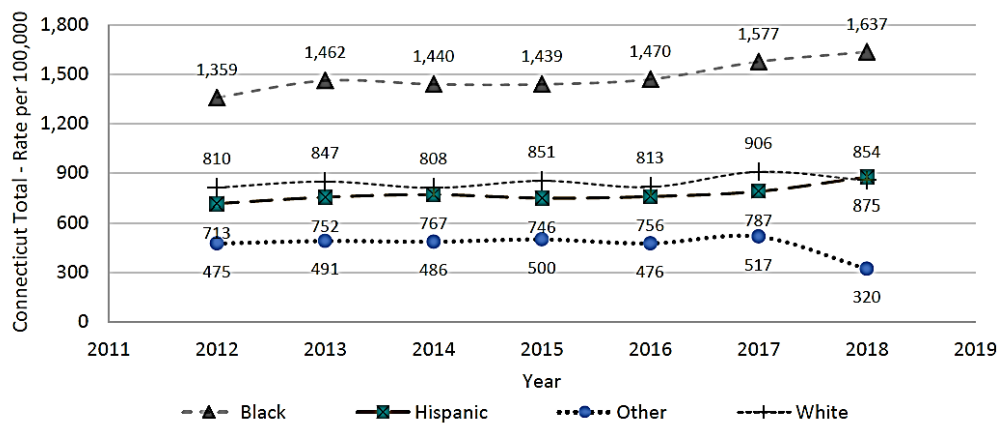
Fig. 24 Hospital Admissions for Chronic Ambulatory Care Sensitive Conditions by Insurance Type



Total population rates fluctuated within a narrow range and increased slightly from 2012-2018. Medicare beneficiaries had the highest rates of preventable admissions. From 2012-2018, Medicaid beneficiaries remained approximately 8 to 9 times more likely to have a preventable hospital admission than the commercially insured. Admission rates of uninsured individuals were comparable to those of patients with commercial insurance through 2015 but increased sharply in 2016-2018.

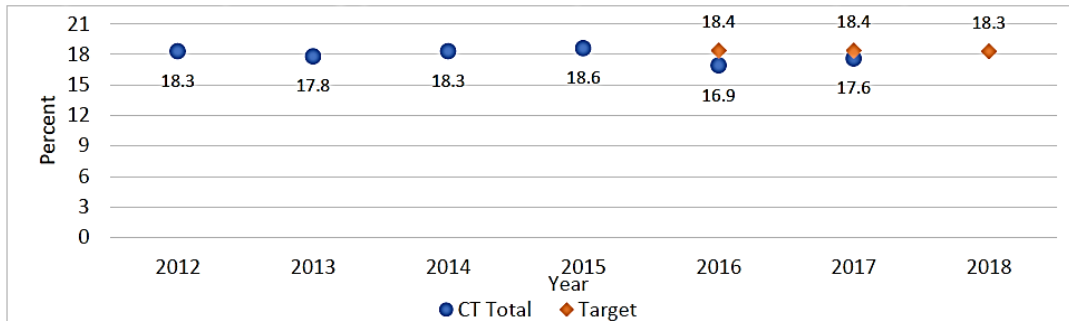
Race and ethnicity disparities in preventable hospital admissions rates for chronic conditions were pronounced and consistent from 2012-2018. Black residents' rates were almost twice as high as rates for White and/or Hispanic residents. Over time, slight increases in preventable admissions were observed across race and ethnic groups, although the "Other" races category demonstrated a sharp drop in 2018.

Fig. 25 Hospital Admissions for Chronic Ambulatory Care Sensitive Conditions by Race/Ethnicity



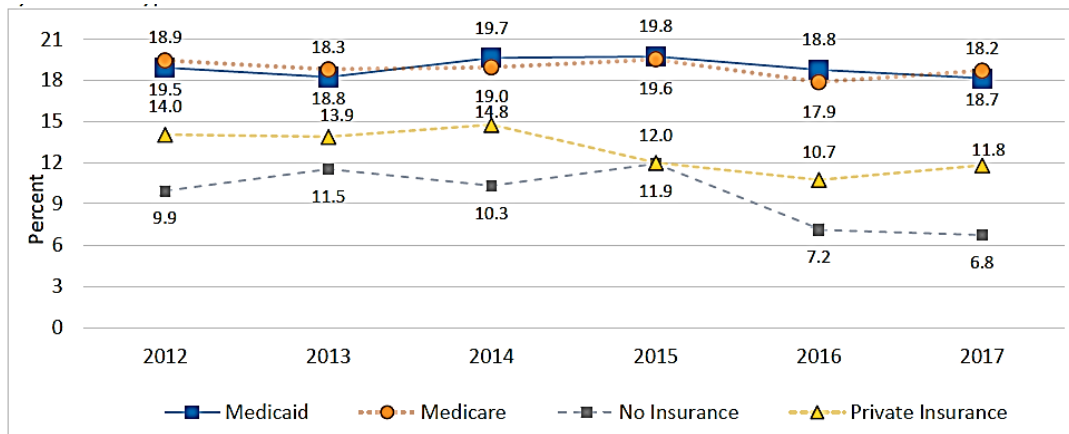
Hospital Re-admissions rate for acute ACSCs between 2012 (13.9%) and 2015 (13.5%) remained relatively stable and subsequently decreased in 2016 (13.2%) and 2017 (12.5%). These rates were lower than the state targets by 0.1% and 0.6%, respectively. Hospital Re-admissions rate for chronic ACSCs remained relatively stable between 2012 (18.3%) and 2015 (18.6%) and subsequently demonstrated a decrease both in 2016 (16.9%) and 2017 (17.6%). These rates were lower than the state targets by 1.5% and .8%, respectively.

Fig.26 30-Day Re-admissions after Discharge for Chronic Ambulatory Care Sensitive Conditions (PQI 92)



Hospital Re-admissions rates by insurance type were highest among Medicare and Medicaid beneficiaries from 2012-2017. Declining rates have been observed among the commercially insured and uninsured since 2014, but it is unclear whether that constitutes a significant trend.

Fig. 27 30-Day Re-admissions after Discharge for Chronic Ambulatory Care Sensitive Conditions (PQI 92) by Insurance Type



**Optimal diabetes care** through blood sugar control is an essential component of the primary care management of type 1 and 2 diabetes to minimize co-morbidities. Best practices for the care of diabetic patients include regular testing of blood sugar, here defined as the percent of diabetic patients receiving annual Hemoglobin A1C (HbA1c) tests. Regular measurement of blood sugars determines whether recommended care adequately maintains acceptable blood sugar levels.

The percent of diabetic patients who receive annual HbA1c tests is calculated using the All-Payer Claims Database. The state estimated this indicator for patients aged 18-64 with commercial insurance from 2015 to 2017. In 2015, 80.4% of diabetic patients had an HBA1c test. This rate increased significantly to 85.9% in 2016 and 2017. Patients with a qualifying primary care provider visit in 2017 had a much higher rate of annual HbA1c testing (87.9%) than patients who did not see a primary care provider (12.8%). These results among commercially insured patients highlight the importance of primary care. Medicare and Medicaid data was not available at the time of this analysis.

**Breast cancer screening** is a best practice for prevention, and it is defined as the percentage of women 50–74 years of age who had an annual mammogram. This indicator was calculated for Connecticut separately for patients with commercial insurance and patients with Medicare from 2015 to 2017. Rates increased significantly from 2015 to 2017 among patients with both types of insurance. Among commercial patients, the rate increased from 2015 (62.6%) to 2017 (64.2%). Among Medicare patients, the rate increased from 2015 (61.4%) to 2017 (64.8%).

**Anti-depressant medication management** is essential for the treatment of depression, a severe condition that interferes with daily functioning and, in the most serious cases, leads to suicide. Anti-depressant medication in the outpatient setting is essential for the treatment and prevention of major depression. Regular visits to primary care providers and proper care ensure adherence, treatment effectiveness, and side effects.

Anti-depressant Medication Management is defined as the percentage of adults aged 18-64 who, following a diagnosis of major depression, receive and remain taking anti-depressant medication for at least 12 weeks or six months. The percentage of depressed persons with commercial insurance who remained on an anti-depressant for 12 weeks increased significantly from fiscal years 2015 (68.4%) to 2017 (72.8%). Likewise, those who remained on an anti-depressant for six months increased significantly from 2015 (48.9%) to 2017 (53.2%). Unfortunately, overall data for the state was not available for this measurement.

**Initiation and/or engagement for treatment of alcohol or other drug dependence** effectively prevents and ameliorates adverse outcomes and reduces health care costs. Substance use disorders, including alcohol/drug abuse and dependence, are serious medical conditions. They have wide-ranging personal and societal consequences, including medical co-morbidities, employment interruption, economic loss, relationship conflict, and intentional or unintentional injuries. Unfortunately, only a small minority of substance use disorders obtain treatment.

Two state indicators, reflective of outpatient access and care, are available for commercially insured patients. First, initiation of treatment is defined as the percentage of patients who had a newly diagnosed episode of alcohol or other drugs (AOD) abuse or dependence that initiated treatment through an inpatient admission, outpatient visit, intensive outpatient encounter, or partial hospitalization, telehealth, or medication-assisted treatment (MAT) within 14 days of the diagnosis. This rate decreased slightly, but not significantly, from 2015 (40.8%) to 2017 (39.3%) for commercially insured patients. Second, engagement of treatment is defined as the percentage of commercial beneficiaries aged 18-64 who had two or more additional AOD services or medication treatment within 34 days of the initiation visit. This rate remained steady from 2015 (15.7%) to 2017 (15.8%).

**Follow-up after an ED visit for alcohol and other drug abuse or dependence** is defined as the percentage of emergency department (ED) visits for members 13 years of age and older, with a principal diagnosis of

alcohol or other drugs (AOD) abuse or dependence, who had a follow-up visit for AOD within either thirty or seven days after the ED visit. Rates are available separately for commercially insured and Medicare patients.

The percentage of ED visits for which a commercially insured patient received a follow-up visit within 30 days increased not significantly from 2015 (14.2%) to 2017 (17.1%). However, the same rate for Medicare patients increased significantly from 2015 (17.5%) to 2017 (21.8%).

The percentage of follow-up visits within seven days of the ED visit among patients with commercial insurance increased from 2015 (10.2%) to 2017 (13.0%). On the other hand, there was a non-significant increase in the 7-day rate among Medicare patients from 2015 (13.7%) to 2017 (16.2%).

***Follow-up after an ED visit for mental illness*** by a primary care provider after an ED visit due to mental illness predicts better physical and mental functioning, better adherence to care plans, and a lower likelihood of repeat visits to the emergency department. The rate is defined as the percentage of emergency department (ED) visits for members six years of age and older with a principal diagnosis of mental illness who had a follow-up visit for mental illness. The percentage of ED visits for which a commercially insured patient received a follow-up within 30 days increased significantly from 2015 (65.2%) to 2017 (70.8%). The same rate increased significantly among Medicare patients from 2015 (51.3%) to 2017 (64.2%). Within seven days of the ED visit, the follow-up visits among patients with commercial insurance also increased significantly from 2015 (50.1%) to 2017 (57.3%). Among Medicare patients, the same rate also increased significantly from 2015 (40.6%) to 2017 (52.6%).

***Follow-up after hospitalization for mental illness*** by trained mental health professionals in primary care settings is essential for optimal outcomes following discharge. In 2019, there were 23,793 psychiatry-related and 7,564 substance abuse-related inpatient discharges from Connecticut hospitals.<sup>93</sup> This indicator is defined as the percentage of discharges for members six years of age and older hospitalized for treatment of selected mental illness diagnoses and who had a follow-up visit with a mental health practitioner within 30 days or seven days.

The percentage of discharges for which a commercially insured patient received follow-up within 30 days decreased significantly from 2015 (75.3%) to 2017 (71.9%). Patients aged 6–44 drove this decrease among commercially insured patients. Conversely, the 30-day rate increased significantly among Medicare patients from 2015 (76.9%) to 2017 (78.0%). Older Medicare patients also drove the increase while the same rates for younger Medicare patients significantly decreased from 2015–2017.

Second, the percentage of discharges for which a commercially insured patient received follow-up within seven days decreased significantly from 2015 (57.9%) to 2017 (55.4%). Consistent with the 30-day rate, the decrease in the 7-day rate among commercially insured patients was driven by patients aged 6–44. Among Medicare patients, the 7-day rate increased significantly from 2015 (52.7%) to 2017 (55.0%). Significant increases were evident in all adult age categories. Each year, the 7-day rate increased as age increased, so patients 75+ had rates that averaged about 63%.

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<sup>93</sup> Connecticut Office of Health Strategy, "[Facilities and Services Plan--2020 Supplement](#)", Hartford, 2020.

## F. Affordability and Cost

Connecticut focused in the last few years on transitioning away from volume-based payment for healthcare services towards advancing Alternate Payment Models (APMs) that reimburse providers based on the quality of services and reduction of costs. To that end, Connecticut designed and launched the Medicaid Shared Savings Program (SSP) to reward primary care providers credentialed as Person-Centered Medical Homes (PCMHs). The program urged providers to enhance care coordination activities and linked the clinical and community-based settings to address social determinants of health.

The state conducted an extensive analysis of inpatient and outpatient healthcare claims to assess costs and affordability. The primary care cost measures and the CT Healthcare Quality Scorecard were aligned to identify the various types of primary care providers and procedure codes related to primary care services. Selected metrics of affordability include: a) The total healthcare expenditures per member per month (PMPM), which is a summation of the total medical and pharmacy expenditures, b) The total medical expenditures per member per month, which includes the total amount paid by payer(s) as well as the members for all medical services, c) The outpatient expenditures per member per month, which includes total amount paid by payers as well as members for outpatient care, d) The primary care expenditures per member per month that is the total amount paid by payers as well as members for primary care per patient per month during a fiscal year. The numerator of this indicator includes medical claims for primary care services identified by screening procedure codes in the APCD for the primary care CPT/HCPCS codes. Primary care provider taxonomies were established by linking the NPI in the APCD data with National Plan and Provider Enumeration System (NPPES) data.<sup>94</sup>

**Total healthcare and medical expenditures** in the commercial and Medicare market show some remarkable features. Overall, and by 2020, the commercial total health expenditures increased, predominantly driven by the increase in expenditures on pharmacies even though the medical expenditures had decreased. Of note, there was a decrease in the enrollment numbers leading to an increase in the per member per month costs. In addition, although the Medicare PMPM decreased by the end of 2019, there was an increase in the outpatient and primary care expenditures in both Commercial and Medicare claims data due to incentives introduced by the primary care reform projects in Connecticut.

The percentage increase in outpatient and primary care expenditures was higher among the Medicare population than the Commercial population. That trend aligns with the state's goals to reduce hospitalizations and provide more outpatient preventive care. For commercially insured patients, overall healthcare costs increased, with increased costs in inpatient, outpatient, and pharmacy services. However, primary care costs for commercial patients remained the same. Pediatric costs were generally lower than inpatient and pharmacy costs for adults but were significantly higher for primary care services. For Medicare services, overall medical costs remained stable, with inpatient costs decreasing, and outpatient costs, including primary care services, increasing significantly.

Total Healthcare Expenditures including medical and pharmacy claims for the commercially insured population in the state decreased from \$5.23 billion in 2013 to \$5.15 billion in 2015 and increased again to \$5.66 billion in 2017. Per member per month, healthcare expenditures in Connecticut increased from \$403 in 2013 to \$519 in 2017. The total reported expenditures for medical claims only (pharmacy non

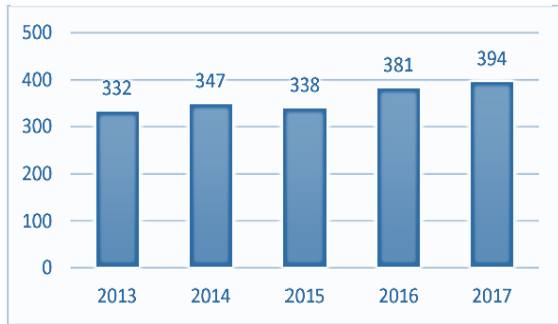
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<sup>94</sup> UConn Health, Center for Population Health and Yale School of Public Health, "[Connecticut State Innovation Model, Final Evaluation Report](#)", Farmington and New Haven, 2020.

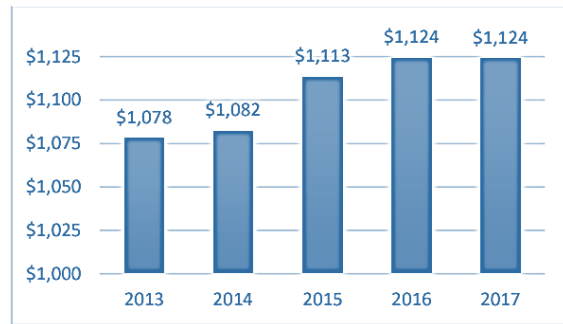


included) for the commercially insured population decreased from \$4.18 billion in 2013 to \$3.8 billion in 2015 and increased again to \$4.13 billion in 2017. Medical claims account for a large proportion of the total healthcare expenditures. The total annual per member per month medical expenditures increased from \$332 in 2013 to \$347 in 2014, decreased to \$338 in 2015, subsequently increasing again to \$394 in 2017.

*Fig.28 Trend in Commercial Medical Expenditure PMPM*



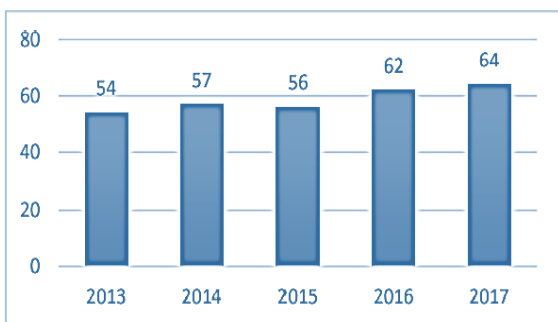
*Fig.29 Total Medicare and Medicare Advantage Medical Expenditure PMPM*



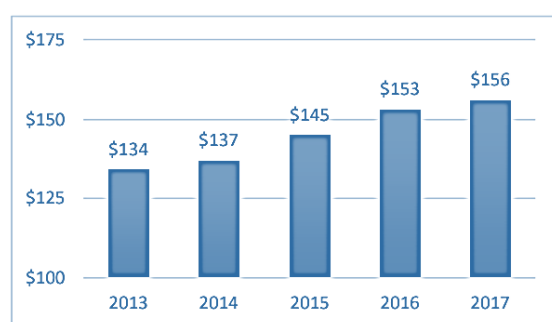
The total reported expenditures for medical claims only (pharmacy non-included expenditures) for Medicare beneficiaries increased from \$7.08 billion in 2013 to \$7.88 billion in 2017. However, the total annual per member per month medical expenditures remained reasonably constant at \$1078 in 2013 to \$1,124 in 2017.

**Outpatient Services Health Expenditures** in the commercial market experienced a net decrease in the total expenditures on outpatient events from \$682 million in 2013 to \$668 million in 2017. However, there was a net increase in commercial outpatient PMPM expenditures from \$54 in 2013 to \$64 in 2017 (Figure 30). Overall, there was an 18% increase in outpatient PMPM expenditures. In turn, the Medicare health expenditures for outpatient services showed a net increase in the total expenditures on medical claims from \$881 million in 2013 to \$1.09 billion in 2017. Medicare and commercial insurance combined showed an increase in outpatient PMPM expenditures from \$134 in 2013 to \$156 in 2017, or a 16.4% increase in PMPM expenditures (Figure 31).

*Fig. 30 Trend in Commercial Outpatient Expenditure PMPM*



*Fig. 31 Total Medicare and Medicare Advantage Outpatient Expenditure PMPM*





**Primary care healthcare expenditures** in the commercial market remained constant between 2013 (\$328M) and 2017 (\$326M). Primary care costs calculated using the procedure codes from a Millbank methodology and HEDIS primary care value set showed a net increase from \$26 PMPM in 2013 to \$31 PMPM in 2017 (Fig. 32). As a result, the Medicare total expenditures on primary care service events increased by 55.9%, from \$186M in 2013 to \$290M in 2017. Similarly, a net increase of 46.2% in costs occurred from \$28 PMPM in 2013 to \$41 PMPM in 2017 (Fig. 33).

Fig. 32 Total Commercial Primary Care Expenditure PMPM

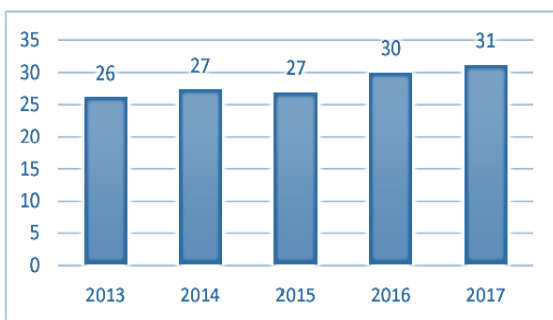
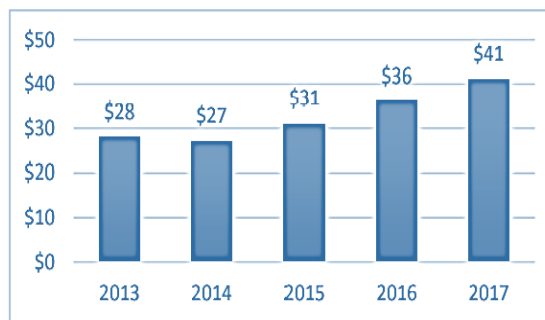


Fig. 33 Total Medicare and Medicare Advantage Primary Care Expenditures PMPM



### G. Primary Care Quality Improvement Initiatives

For at least four years before 2020, Connecticut has sought to incentivize Alternative Payment Models (APMs) for primary care providers to improve the quality of service delivery, improve outcomes, and lower healthcare spending. Payers in the state developed such payment programs, including the Medicaid PCMH+ and commercial payers’ shared savings programs (SSPs), but access to better clinical data was still needed to establish more meaningful and accurate incentive-based systems. Better data would lead to more valid attribution models, better risk stratification, better quality indicators, more accurate program evaluation, and more robust tools offered to providers.

Connecticut aligned care delivery support programs with the APMs by supporting independent practice associations, large medical groups, clinically integrated networks, and integrated delivery system organizations. Connecticut had approximately fifteen Advanced Networks participating in shared saving arrangements with Medicare, Medicaid, or commercial payer(s). In the past several years, considerable market consolidation has resulted in an estimated 85% of CT’s Primary Care Practitioners being employed by or affiliated with a provider organization participating in at least one shared savings payment contract.

In 2016, Connecticut launched the Advance Medical Home and, in 2018, the Community and Clinical Integration programs. These two programs provide technical assistance, on-site support, and direct funding to assist healthcare providers in mastering quality improvement capabilities.

**The Advanced Medical Home (AMH)** program enabled primary care practices to achieve Patient-Centered Medical Home (PCMH) recognition, improving patient care, and enabling those practices to receive higher Medicaid reimbursement rates. Primary care practices and FQHCs that were PCMH recognized became eligible to participate. Although the AMH designation

offered primary care practices the necessary support to succeed in Medicaid accountable payment arrangements and Medicare and commercial shared savings arrangements, the program did not reach the target enrollment.

The goal of the AMH program was to have 89% of Medicaid members receiving care from primary care practices participating in the program and have more than 1,300 providers, including primary care practices, transform and improve care delivery. By 2018, approximately 283,547 (37%) of Connecticut Medicaid members were served by providers enrolled in APMs.

Although the interest in the AMH program was high at the onset and payers agreed to pay value-based incentives, the completion of the AMH requirements was challenging, and enrollment diminished over time despite extensive efforts to recruit additional practices. Therefore, recruitment was discontinued in 2017. Nevertheless, AMH participating practices that achieved PCMH recognition designed procedures to enable better access to care developed care coordination capacity became attuned to using data to inform their panel members, and became attentive to working within a quality framework.

***The Community and Clinical Integration Program (CCIP)*** built on the AMH program by improving care delivery models across primary care participants. Specifically, CCIP focused on improving complex care management, behavioral health integration, and health equity. The promotion of Community Health Workers (CHWs) complemented AMH by supporting patients with complex needs and addressing social determinant risks. The CCIP program provided technical assistance, peer learning opportunities, and subsidies to seek high-quality standards of care delivery. These standards focused on comprehensive care management, health equity, and behavioral health integration.

Five Advanced Networks and one FQHC fully participated in CCIP. They included the Community Health Center Inc. and its 14 locations across the state, the Northeast Medical Group and its forty primary care locations across Southern CT, the Value Care Alliance made up of six hospitals, the Hartford Healthcare Medical Group, Prospect Medical Holdings, and the Wheeler Clinic in partnership with the Community Health and Wellness Center of Greater Torrington.

Based on the experience during the first wave of enrollment, the CCIP Core Standards were streamlined to focus on the most critical elements. CCIP participants reported widespread implementation of Community Health Workers, expansion of a technology platform to inform providers of patient hospital utilization, expanded behavioral health integration, and expanded data collection on race, and ethnicity. Although CCIP participants were experienced in managing care delivery reforms and are large organizations, they faced issues implementing changes to the EHRs. Such barriers were often unique to each organization, varying based on the number and type of EHR(s) and associated software and the nature and scale of the EHR deployment. CCIP also faced challenges in participation lower than projected enrollment.

***Shared Savings Plans (SSP)*** The state promoted a Medicare Shared Savings Program (MSSP), a shared framework for value-based payment, and launched the Medicaid Shared Saving Program (PCMH+ SSP) by building on the pay-for-performance PCMH initiative. These payment incentives have advanced primary care in Connecticut and contributed to improved quality performance and reductions in the total cost of care.

Table 13. *Number of Beneficiaries Participating in Shared Savings Plans*

Year	Individuals in an SSP	Individuals with a PCP	Percent in an SSP	Target Percent
2016	496,055	1,296,728	38.3%	32.0%
2017	828,692	1,838,604	45.1%	50.0%
2018	834,545	1,817,472	45.9%	64.0%

The CT’s five largest health plans, Medicaid and the state employee health plan, implemented value-based payment arrangements through shared savings programs (SSP). The arrangements were directed at providers with sufficient scale and capabilities, and they are broadly aligned with the Medicare SSP. The state’s goal was to engage over 5,000 primary care providers in SSP participation.

Table 14. *Primary Care Physician Participation in Shared Savings Plans*

Year	Number of PCPs with patients in a SSP	Target
2017	3,100	4,693
2018	6,537	5,072
2019		5,450

**Primary Care and Community Health Related Reforms.** In late 2020, the state renewed its commitment to expand Primary Care investments and reduce the total level of health care costs. It established a Primary Care and Health Care Related Reforms workgroup (PCRRWG) to introduce new models and innovations, including initiatives that would lessen the impact of the COVID-19 pandemic. One of two approaches adopted by the workgroup consisted in understanding the links between existing community health initiatives and the improvement of primary care quality of care. Secondly, the workgroup directly addressed the challenges of Primary Care practices to obtain improved reimbursement and meet the renewed quality of care standards.

Among the multiple topics for the workgroup’s consideration are population health and equity initiatives such as the Health Enhancement Communities (HECs), community information exchange, and braided funding strategies. The workgroup is also exploring Primary Care practice transformation options such as clinical innovations, pediatric models, safety-net clinic and FQHC models, and behavioral health models for integration of primary care. A few topics involve both clinical and community options for integration, like incorporating the patient’s perspective, proposing payer-led models, and promoting data-informed coordination.

In the spring of 2020, the primary care subgroup had a renewed charge to outline a roadmap for advancing Primary Care that includes targets for Primary Care spending. The state expects to increase primary care spending to 10% of the total healthcare spending by 2025. A roadmap for advancing Primary Care clarifies why payers and employers should invest more in primary care. Based on previous efforts to reform primary care in the state, the roadmap will address care delivery and payment models with specific recommendations to implement in 2022.<sup>95</sup>

<sup>95</sup> CT Office of Health Strategy, “[Roadmap for Strengthening and Sustaining Primary Care](#)”, DRAFT, Nov. 2021.

## V. Primary Healthcare Infrastructure

### A. Governing framework

**The Health Care Cabinet** was established to advise the office of the Governor and the Office of Health Care Strategy on issues related to health care reform and the implementation and development of an integrated health care system for Connecticut.

The cabinet convenes working groups on specific policy topics. It enrolls volunteer experts in the field to make recommendations on service delivery and provider payment reforms, including multi-payer initiatives, cost reduction, health information technology, and evidence-based quality improvement. Areas of focus include the assessment of reforms' impact on various constituencies, reducing barriers and burdens, the cost-effectiveness of health care purchasing, the health insurance marketplace, and recommendations for health disparities reduction.

**The Office of Health Care Strategy (OHS)** was established to develop and implement a comprehensive and cohesive health care vision for the state, including, but not limited to, a coordinated strategy for cost containment. The OHS is responsible for planning and providing quality health care in the state to ensure improved access and cost-effective health care services, avoiding duplication, and improving their availability and financial stability. This office also coordinates health information technology initiatives, oversees, and administrates the all-payer claims database, and convenes the Health Insurance Exchange to discuss issues that guide the development of adequate health care cost and quality strategies.

**The Department of Public Health** leads the state in matters of public health policy and oversight. The agency administers a network of public health services in partnership with local health departments, advances and coordinates access to federal initiatives, training and certification, technical assistance and oversight, and specialty public health services unavailable at the local level. The DPH is a source of health information and analytics for the governor, General Assembly, federal government, and local communities. In this capacity, the DPH monitors the health status of Connecticut's residents, sets health priorities, and evaluates the effectiveness of health initiatives. The agency regulates healthcare professionals and provider organizations to assure the quality and safety of health services.

**The Department of Mental Health and Addiction Services (DMHAS)** is a state agency responsible for promoting overall health and wellness to persons with behavioral health needs through an integrated network of holistic, comprehensive, effective, and efficient services.

DMHAS provides statewide behavioral health services to over 110,000 individuals through state-operated services and over 160 private, not-for-profit contractors. DMHAS runs two state psychiatric hospitals, including detox and residential treatment services for addiction disorders. Inpatient units are also available at three other state-run facilities.

**The Department of Social Services (DSS)** is designated as the state agency for the administration of a) the Connecticut Energy Assistance Program, b) the Refugee Assistance Program, c) the Legalization Impact Assistance Grant Program, d) the Temporary Assistance for Needy Families program, e) the Medicaid program, f) the Supplemental Nutrition Assistance Program, g) the State Supplement to the Supplemental Security Income Program, h) the State Child Support Enforcement Plan, i) the implementation of the Social Services and Community Services Block Grants, and j) the state plan for the

Title XXI State Children’s Health Insurance Program. The DSS serves about one million residents of all ages in all 169 cities and towns, supporting the basic needs of children, families, and individuals, including older adults and persons with disabilities.

**Medicaid:** DSS helps eligible children, youth, and adults, including persons with disabilities and older adults, access needed health coverage through Medicaid, Children’s Health Insurance Program, and other programs. Connecticut’s HUSKY Health program combines services under Medicaid and the Children’s Health Insurance Program. The program has four parts: HUSKY A (children, parents/relative caregivers, and pregnant women), HUSKY B (Children’s Health Insurance Program), HUSKY C (aged, blind, or with disability), and HUSKY D (low-income adults under age 65 and without dependent children). DSS works with Access Health CT, the state’s health insurance exchange/marketplace, to provide health coverage through a shared eligibility and enrollment system.

During SFY 2021, approximately 996,800 individuals received at least one month of coverage in the HUSKY Health Medicaid areas (HUSKY A, C, and D) and approximately 24,400 in the Children’s Health Insurance Program (HUSKY B).

**The State of Connecticut Insurance Department’s** primary mission is to protect the consumers in the state by regulating the insurance industry and enforcing state laws that dictate the details of insurance policies. By providing assistance, outreach, and education to residents, the Insurance Department ensures that policyholders can make informed choices and are treated fairly.<sup>96</sup> The Health and Life Division maintains all group and individual health and life insurance contracts, in addition to publishing a Consumer Report Card on Health Insurance Carriers in the state. The publication helps consumers organize, compare, and choose plans that are best for them.<sup>97</sup> By supporting the balance of both regulating insurance products to keep the market just and providing informative media to the public, the Connecticut State Insurance Department impacts the primary care environment by making insurance accessible and coverage fair.

The Insurance Department is also available to the consumer by way of the Connecticut State Office of the Health Advocate, which utilizes outreach programs and disseminates information regarding consumers’ rights under healthcare plans.<sup>98</sup>

**The Comptroller’s Office** oversees and manages health insurance plans offered to state and local employees. The state health plan provides coverage to over 220,000 people.<sup>99</sup> The Comptroller has instated the Health Enhancement Program (HEP), which initiative aligns preventative care and chronic disease management with reduced long-term costs for those covered by the state’s health insurance plans. Further, the Comptroller’s office has increased accessibility of health insurance by instituting the Connecticut Partnership Plan, which allows cities and towns to partner with the state to purchase health insurance coverage to offer competitive, comprehensive plans for municipal employees to opt into.<sup>100</sup> Most recently, the Comptroller’s office brokered an agreement with The Centers for Medicare and Medicaid Services (CMS) on an Advanced Alternative Payment Model (AAPM) for providers contracting with the state to obtain higher Medicare reimbursement, in exchange for more standardized pricing across ‘common’ procedures. By regulating the field, the Comptroller’s Office increases competition in

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<sup>96</sup> State of Connecticut Insurance Department, "[Missions and Divisions](#)", *Website*, last accessed December 2021.

<sup>97</sup> State of Connecticut Insurance Department, "[Consumer Report Card on Health Insurance Carriers in Connecticut](#)", 2021.

<sup>98</sup> Connecticut State Office of the Healthcare Advocate, "[About OHA](#)" *Website*, last accessed Dec. 2021.

<sup>99</sup> Business Wire, "[State Health Plan First in the Nation to Be Recognized for Innovative Payment Model](#)", 2021.

<sup>100</sup> State of Connecticut Comptroller, "[News from Comptroller Kevin Lembo](#)", 2021.

the health insurance marketplace and assists residents in being active participants. With these improvements in coverage, availability comes an increase in the demand for health care.

**Health System** in Connecticut has undertaken major changes in recent years. Acquisitions and mergers occurred at several Connecticut hospitals: Sharon, Norwalk, and Danbury (Western CT Health Network/Nuvance), Bridgeport (Yale-New Haven Health Services Corporation), and Milford Health and Medical, Inc.; St. Vincent's Medical Center and Hartford HealthCare Corporation/St. Vincent's Medical Center Holdings, Inc. While Emergency Department (ED) utilization has declined over the last five years, it continues to fill a gap in the primary care infrastructure. Almost 1 in 2 (48%) ED visit is by a Medicaid patient. 52% of the ED super utilizers (those with ten or more visits) are racial/ethnic minorities. Opioid-related emergency department visits remained relatively consistent over the past four fiscal years at about 8,400 visits annually. Approximately 63% of opioid-related emergency department visits were patients ages 18-44 years old.

**The Connecticut Hospital Association** supports hospitals in delivering quality care, engaging patients, and achieving critical alignment among providers, payers, and policymakers. The CHA is a persuasive voice representing hospitals and health systems at all levels. Its central function is to foster partners and engage legislators and candidates for office to recognize hospital and health systems' priorities. CHA works closely with the Connecticut Healthcare Association Collaborative and its members, the Connecticut Association for Healthcare at Home, the Connecticut Association of Health Care Facilities, the Connecticut State Medical Society, and LeadingAge Connecticut. A few examples of CHA's advocacy include reversing issues around the patient classification system on Medicaid funding, paid family leave, trauma center fees, the use of helmets by motorcycle operators and passengers, limiting "on-call" shift scheduling, addressing opioid use, increasing the legal age for purchasing tobacco products, telemedicine, certification for community health workers, and property taxation of hospital outpatient facilities. Other areas of work include education services to provide opportunities for healthcare professionals across the care continuum to develop skills and insights that help them respond to critical issues and challenges in the healthcare field. CHA works with technology affiliates, ChimeData and ChimeNet, to leverage and expand hospitals' and health systems' clinical integration strategies, drive quality improvement, and deliver shared IT infrastructure solutions.

**Community Health Center Association of Connecticut (CHCACT)** offers advocacy, program administration, and training and technical assistance to Connecticut's community health centers (CHCs). In recent years, CHCACT partnered with state agencies to provide case management for those with HIV/AIDS, emergency preparedness programs for CHCs, outreach for Medicaid and health insurance exchange enrollment, and some quality improvement initiatives.

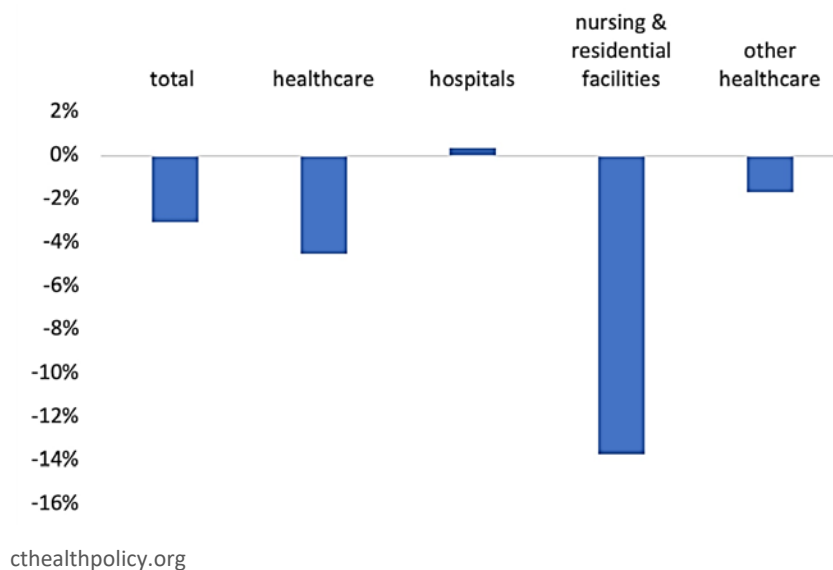
## B. Healthcare Workforce

Connecticut expects to see an increased demand for primary care services due to a combination of factors. Population growth has been negligible at 1%; however, more recently, many areas in the state have seen growth due to outmigration from neighboring states in the wake of the covid-19 pandemic. The aging population also drives demand for primary care services due to aging-related health needs as well as multiple co-morbidities that come into play. The number of insured individuals in the state has

increased due to ACA implementation and Medicaid expansion. These individuals are more likely to seek care due to insurance coverage.

Healthcare jobs have not rebounded from pandemic losses as well as has the total Connecticut jobs, lagging 1.5% behind total state employment (-3.1% total, -4.5% healthcare). Nursing and residential facility jobs have taken most of those losses.<sup>101</sup>

Fig. 34 Connecticut Percent Change in Employment between Jan 2020 and Sep 2021.



Modeling workforce needs is complex. However, trends across several studies point in the direction of provider shortages. The Association of American Medical Colleges, in its latest report of “The Complexities of Physician Supply and Demand: Projections from 2018 to 2033,” published in 2020, indicates a need for as many as 21,400 to 55,200 primary care physicians across the country.<sup>102</sup>

For Connecticut, the Health Resources and Services Administration (HRSA) projects a shortage of primary care providers as demand continues to outpace supply. HRSA’s modeling suggests that the current workforce meets only 45% of the demand in the state. This trend is projected to continue until 2030.<sup>103</sup> The Robert Graham Center, founded by the American Academy of Family Physicians, attempts to also project workforce needs at the state level. In its latest projections spanning 2010-2030, the report projects that Connecticut will need an additional 404 physicians by 2030, a 15% increase compared to its workforce in 2010.<sup>104</sup> The report also projects that the demand in Connecticut will be higher than those projected for the Northeast states as a whole.

<sup>101</sup> Andrews, E., “[CT Healthcare employment is slowly rebounding, except for nursing homes](#)”, *CT Health Policy Report*, 2021.

<sup>102</sup> HIS Markit Ltd., “[The Complexities of Physician Supply and Demand: Projections From 2018 to 2033](#)”, *Association of American Medical Colleges*, 2020.

<sup>103</sup> The National Center for Health Workforce Analysis, “[Projected Supply and Demand of Healthcare Workers Through 2030](#)”, *HRSA Dashboard*, Last accessed on Dec. 2021.

<sup>104</sup> Petterson S.M., et al., “[State-level projections of primary care workforce, 2010-2030](#)”, *Robert Graham Center*, 2013.



Table 15. Connecticut Physician Counts, as of 2018 <sup>105</sup>

	Count	
<b>State Totals, 2018</b>	Population	3,572,665
	Active Physicians	12,579
	Primary Care Physicians	3,777
<b>Per 100,000 CT Population, 2018</b>	Active Physicians	352.1
	Active Primary Care Physicians	105.7
	Active Patient Care Primary Care Physicians	93.7
<b>Percentage of CT Active Physicians, 2018</b>	Female	37.9%
	Age 60 or Older	34.1%
	International Medical Graduates (IMGs)	29.7%
<b>Total CT Active Physicians by Specialty, 2018</b>	Family Medicine / General Practice	653
	Internal Medicine	2,105
	Internal Medicine / Pediatrics	65
	Pediatrics	830
<b>Percentage of Physicians Retained in State, 2018</b>	From Graduate Medical Education (GME)	34.5%
	Undergraduate & Graduate Medical Education	52.8%

The ratio of primary care physicians with active patients per 100,000 population is estimated to be 93.7 in Connecticut (1,067.23 to 1)., However, the provider distribution is not even across the state resulting in several areas that routinely receive shortage designation by the Health Resources and Services Administration.

According to a recent report published by the Association of American Medical Colleges, Connecticut ranks in the bottom ten amongst states for the percentage of physicians retained in-state, 19.1%, from undergraduate medical education. Furthermore, only 35% of the physician workforce that completes Graduate Medical Education in Connecticut stays to practice within Connecticut. Table 15 above demonstrates these details and provides an overview of the physician workforce.

The onset of the covid-19 pandemic has exacerbated the shortages further. While quantitative data is not yet available, several stakeholder groups inform us that provider burnout and/or concerns about covid itself are driving providers to either retire or leave the profession. In Connecticut, the Community Health Center Association of Connecticut reports on Federally Qualified Health Centers, noting employment trends. There is a 25% minimum increase in time-to-hire, variable to the position being filled. This growth period becomes enlarged considering the 30% increase in the number of open positions, compared to one year previous. Some positions can remain unfilled for 12 months or longer, and there is already a 10% increase from last year in already high turnover rates. <sup>106</sup>

Since 2014, a Connecticut law has allowed Advanced Practice Registered Nurses (APRNs) with three or more years of practice experience with a Connecticut licensed physician to practice independently from physicians. The number of APRNs with a license to practice independent of physician collaboration has

<sup>105</sup> Association of American Medical Colleges, "[Connecticut Physician Workforce Profile, 2018](#)", 2019.

<sup>106</sup> Community Health Center Association of Connecticut, "Workforce Update: Connecticut's Community Health Centers." 2021.



increased from 439 in September 2016 to 954 as of November 2021, a 117% increase within five (5) years.<sup>107, 108</sup>The primary care shortage would have been substantially acute without these APRNs filling the gap. Table 16 below describes the distribution of registered nurses (RNs).

Table 16. *Type of Work Setting for RNs*<sup>109</sup>

CT RNs by Type of Work Setting	Number	Percentage
Hospital	21,968	39%
Nursing home/extended care/assisted living facility	8,746	16%
Other	6,455	12%
Ambulatory Care setting	5,150	9%
Home Health	4,582	8%
Insurance claims/Benefits	2,397	4%
School Health Service	2,112	4%
Community Health	1,674	3%
Academic Setting	966	2%
Public Health	804	1.4%
Correctional Facility	415	1%
Occupational Health	341	1%
Policy/Planning/Regulatory/Licensing Agency	78	>1%

In 2020, the Council issued a Workforce Strategic Plan with several key findings regarding the healthcare industry sector. The report particularly noted that “Healthcare-related occupations represent the largest employment category in the State of Connecticut at approximately 16% of the State’s workforce or 270,000 jobs, with 220,000 in delivery of healthcare and the balance in the provision of social services” and that “Annual demand for new employees exceeds 7,000, with significant shortages in nursing, certified nursing assistants, skilled technician roles, and home healthcare.”<sup>110</sup>

At the time of the report, 2,500 certified nursing assistant (CNA) positions are open, coupled with an attrition rate of 30 – 50%. Poor job quality played a role, but the benefits cliff deterred people from staying in the field. Compensation for CNAs is below the Connecticut Living Wage. Even if a CNA advanced his or her credentials to a licensed practical nurse (LPN) and then to a registered nurse, there is not enough significant financial improvement due to income changes. As of 2020, there was also a shortage of RNs in the state, with a simultaneous need for about 3000 new RNs per year. This challenge is accompanied by the fact that 52% of CT’s employed RNs are over the age of 50, which will worsen the shortage when this group begins retiring. See Table 17 for a detailed view of nurses’ employment by age. Unfortunately, 7000 qualified nursing school candidates were recently rejected from Connecticut schools due to limited educational capacity, partially due to unavailable practical clinical settings and accompanying faculty. Staff shortages and high turnover rates lead to reduced quality of care, impacting the patient experience.<sup>111</sup>

<sup>107</sup> Orlando J., "[Advanced Practice Registered Nurses in Connecticut](#)", 2016

<sup>108</sup> CT DPH, "[APRNs Practicing Not in Collaboration with a Physician](#)", Website, last accessed on Dec. 2021.

<sup>109</sup> The Connecticut Center for Nursing Workforce, Inc., "[Understanding Connecticut's Nursing Workforce](#)", 2019.

<sup>110</sup> Governor’s Workforce Council, "[Workforce Strategic Plan 2020](#)", Connecticut, 2020.

<sup>111</sup> Ibid, 110

Table 17. RNs and LPNs in Connecticut: Employment Status by Age.<sup>112</sup>

CT RNs & LPNs by Employment Status	<30yr	30-39yr	40-49yr	50-59yr	60-69yr	70+yr	Total
FT employed in nursing/position requires nursing license	5,694	10,501	11,332	12,578	8,097	522	48,724
Nursing volunteer	16	30	71	104	251	234	706
FT employed in field other than nursing	66	187	243	496	447	50	1,489
Unemployed; not seeking nursing work	74	249	290	566	1,087	581	2,847
Unemployed; seeking nursing work	155	347	334	532	578	181	2,127
Retired		3	15	157	2,148	2,489	4,812
PT employed in nursing/position requires nursing license	539	1,549	1,546	1,663	1,688	579	7,564
Per diem employed in nursing/position that requires nursing license	292	678	519	526	817	367	3,199
PT employed in field other than nursing	30	32	69	126	203	71	531
Per diem employed in field other than nursing	5	17	17	27	41	18	125
Total Number of RNs & LPNs	6,871	13,593	14,436	16,775	15,357	5,092	72,124

### C. Health Care Facilities

**Outpatient Clinics.** The Department of Public Health licenses outpatient clinics in Connecticut. Outpatient clinics include Federally Qualified Health Centers, School-Based Health Centers, Urgent care centers, hospital-based outpatient clinics, health departments, and free clinics. They are an important source of primary care for over 10% of Connecticut’s residents. Integrated care is offered in many of these sites with co-location of medical, dental, mental health, and/or specialty services.

Table 18. Number of Outpatient Clinics by Service and Location Type

	Medical Services	Dental Services	Mental Health Services
<b>Outpatient Centers</b>	209	83	38
<b>School-Based Health Centers</b>	138	181	101
<b>Total</b>	347	264	139

<sup>112</sup> Ibid, 109

**Federally Qualified Health Centers:** There are 17 Federally Qualified Health Centers (in 145 locations) in Connecticut, serving over 392,000 individuals annually. Their services include medical, dental, behavioral health, lab, pharmacy, and/or outpatient specialty-based services such as optometry, ob-gyn, and podiatry.

Fig. 35. Community Health Centers Distribution in CT <sup>113</sup>

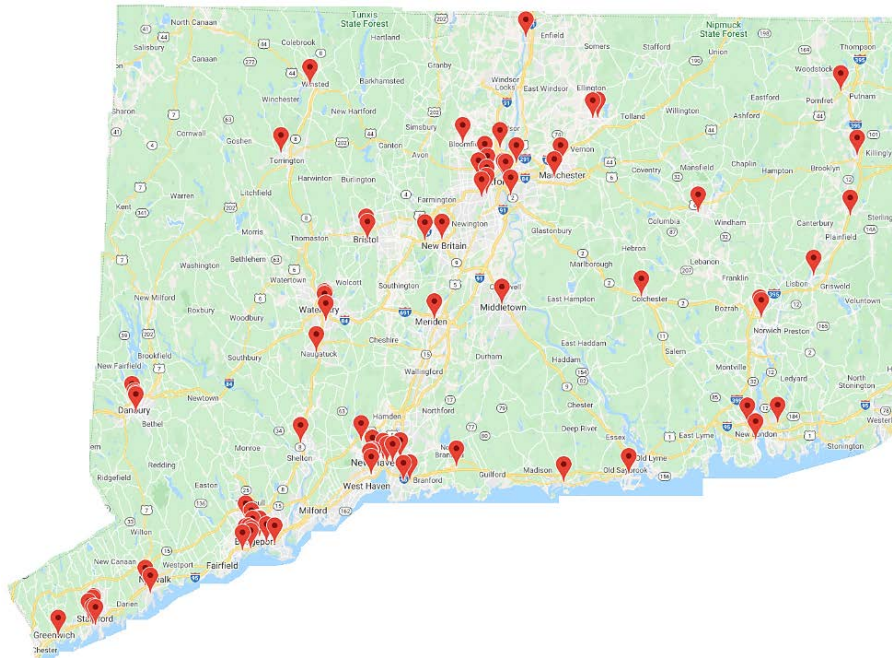


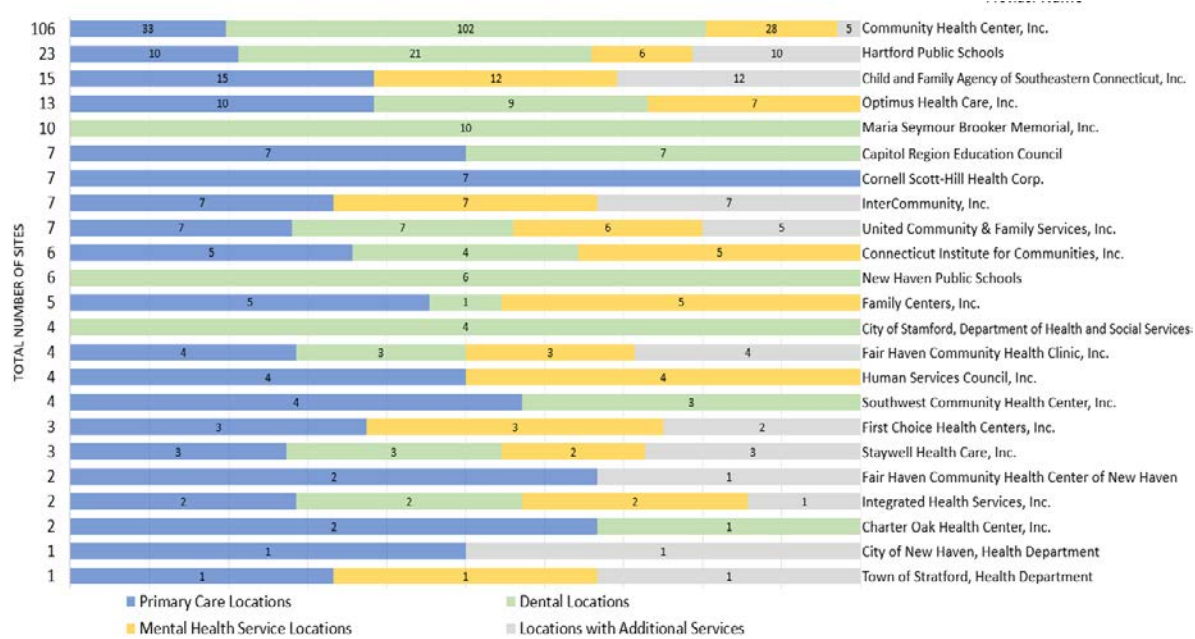
Table 19. FQHCs Patient Profile

Ages		Insurance	
0-18	32%	HUSKY (Medicaid)	63%
18-64	61%	Commercial	14%
65+	7%	Medicare	8%
		No Insurance	17%

**School-Based Health Centers:** There are 245 School-Based Health locations in the state. The existence of school-based clinics is significant because, for some children in CT, these programs are the only times they will engage with healthcare. Available primary care services at schools allow rapid care, avoid loss of instruction, and prevent parents from losing work. School-based clinics reduce emergency room utilization and increase patient follow and referrals. Young adults may experience gaps in care after HS graduation. Primary care services are available in 135 locations, dental services in 178 locations, and mental health services in 99 locations. Many offer more than one type of service. There are 48 locations (all in urban centers) that offer all three services – primary care, dental, and mental health. Additional services such as well-child care or family planning are also available in certain cases.

<sup>113</sup> Community Health Center Association of Connecticut, “[Find a Health Center](#)”, Website, last accessed Dec. 2021.

Fig. 36 School-Based health Centers in Connecticut (Source?)



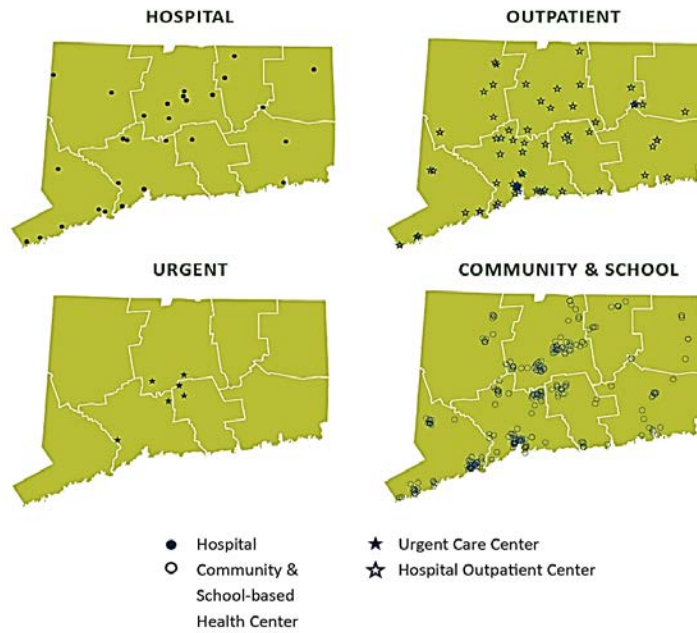
### Hospitals and Healthcare Facilities

Connecticut has a robust system of health care facilities with distinct structures to meet the varied needs of the population. Hospital and Medical Centers are institutions built, staffed, and equipped to provide a broad range of clinical services, including diagnosis of disease, medical and surgical treatments. Connecticut’s hospital networks provide maternity and newborn care, behavioral health, and rehabilitation services. Some hospitals may serve as centers of research, biotechnology, and teaching of medical staff.

Outpatient Clinics provide observation, diagnostic, and treatment services for patients without the need for hospital admission. A few of these clinics offer surgical outpatient care to treat minor surgical procedures. Urgent Care Centers provide access to care for unscheduled visits due to sudden illness or non-life-threatening injury requiring care within 24 hours. These centers are open for extended hours such as evenings, weekends, and some holidays. Connecticut has a vast network of School-Based Health Clinics (SBHC) that provide an interdisciplinary model of co-located medical and behavioral health services to students in elementary, middle, and high schools. Community Health Centers are usually federally qualified to provide coordinated medical, dental, behavioral health, and lab services to people of all ages regardless of ability to pay. Every CHC in Connecticut has multiple sites. Northwest Connecticut — and its mostly rural communities — has the least number and the smallest concentration of healthcare facilities.<sup>114</sup>

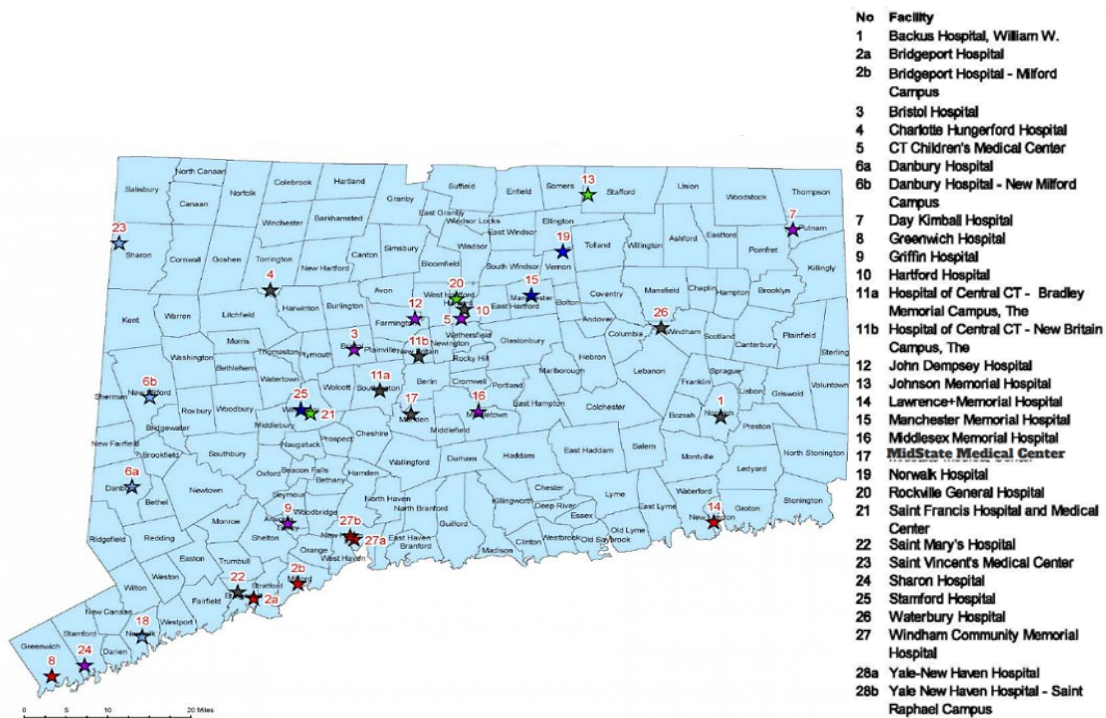
<sup>114</sup> Healthy CT 2025, “State Health Assessment: Health Systems”, DPH, 2019

Fig. 37 Geographic distribution of healthcare facilities, CT, 2017



Source: CT OHS, Health Systems Planning. Data analyzed March 5, 2019.

Fig. 38 Connecticut Acute Care and Children’s Hospitals by Health System<sup>115</sup>



<sup>115</sup> CT Office of Health Strategy, “Facilities and Services Plan, 2020 Supplement”, April 2020



### State-operated Mental Health and Substance Abuse Services.

The Department of Mental Health and Addiction Services (DMHAS) operates four inpatient treatment facilities for persons with severe addiction and/or psychiatric problems. DMHAS also operates and/or funds Local Mental Health Authorities (LMHAs), offering a wide range of therapeutic programs and crisis intervention services throughout the state.

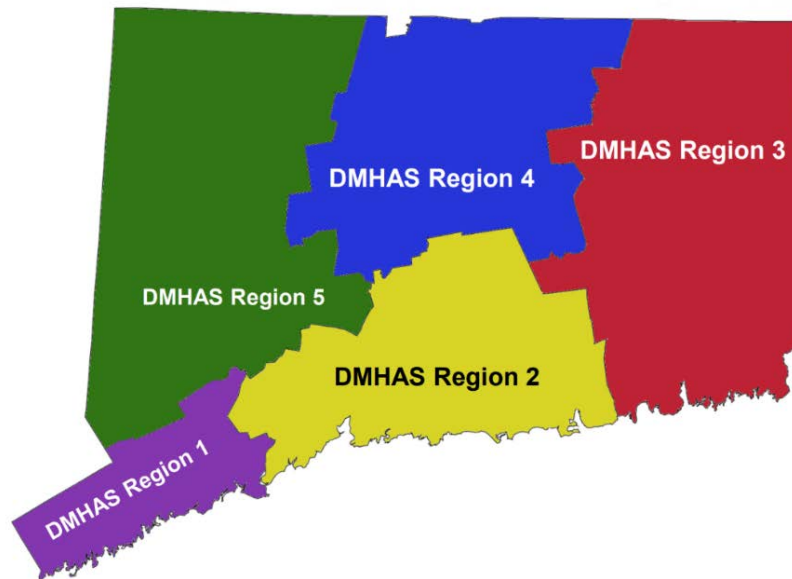
During State Fiscal Year 2019 (July 1, 2018 – June 30, 2019), the Department of Mental Health and Addiction Services served 104,166 people.

56,733 clients were treated in Substance Abuse (SA) programs (49,544 in only SA programs, plus 7,189 who received SA and MH services).

54,622 clients were served in Mental Health (MH) programs. (47,433 MH only, plus 7,189 MH and SA)

A smaller group of clients (7,189) received services from both MH and SA programs during SFY19.

Fig. 39 Department of Mental Health and Addiction Services Regions<sup>116</sup>



### Local Health Departments

There are currently 65 local public health departments and districts serving Connecticut residents. Though the overall total number of Local Health Departments and Districts (LHDs) has decreased since 2013, the percentage of residents covered by full-time local health services has increased. These changes align with trends in other decentralized states across the US that are pursuing cross-jurisdictional sharing of resources, including regionalization or districting. Resource sharing, like the formation of health districts, can be an intensive process that requires financial and political-strategic planning, funding, state legislative action, and change management. To facilitate this, the DPH provides

<sup>116</sup> Minervino, A., et.al., "[Working in Supportive Housing](#)", *Connecticut Supportive Housing Quality Initiative*, 2017.

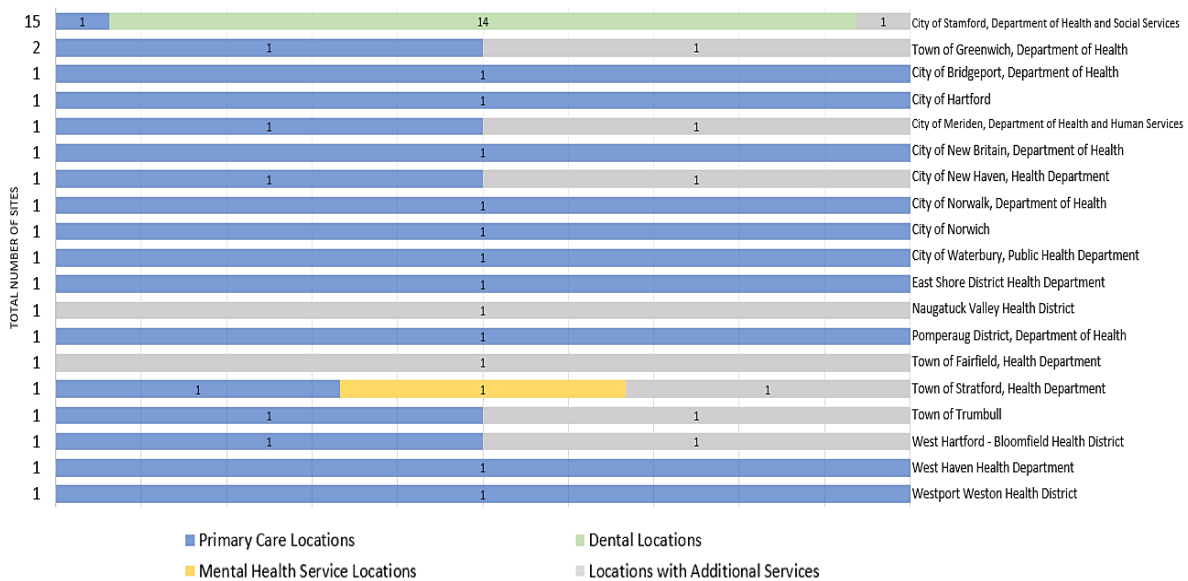
grant funding to support the joining or formation of health districts. The DPH also conducts local health assessments to review the delivery of the 10 Essential Public Health Services and compliance with statutory and regulatory requirements via its annual local health survey.<sup>117</sup>

Table 20. Number and type of Local Public Health Departments and Districts (LHDs), CT, 2013 and 2019

	FULL-TIME LHDs	PART-TIME LHDs	TOTAL LHDs
2013	<b>50 Agencies</b> <ul style="list-style-type: none"> <li>• 29 independent municipal health departments</li> <li>• 21 districts covering 2–18 towns</li> </ul>	24 Agencies	74 Agencies
2019	<b>53 Agencies</b> <ul style="list-style-type: none"> <li>• 33 independent municipal health departments</li> <li>• 20 health districts covering 2–20 towns</li> </ul>	12 Agencies	65 Agencies

Source: CT DPH Local Health Administration.

Fig. 40 Municipally Owned Outpatient Clinics

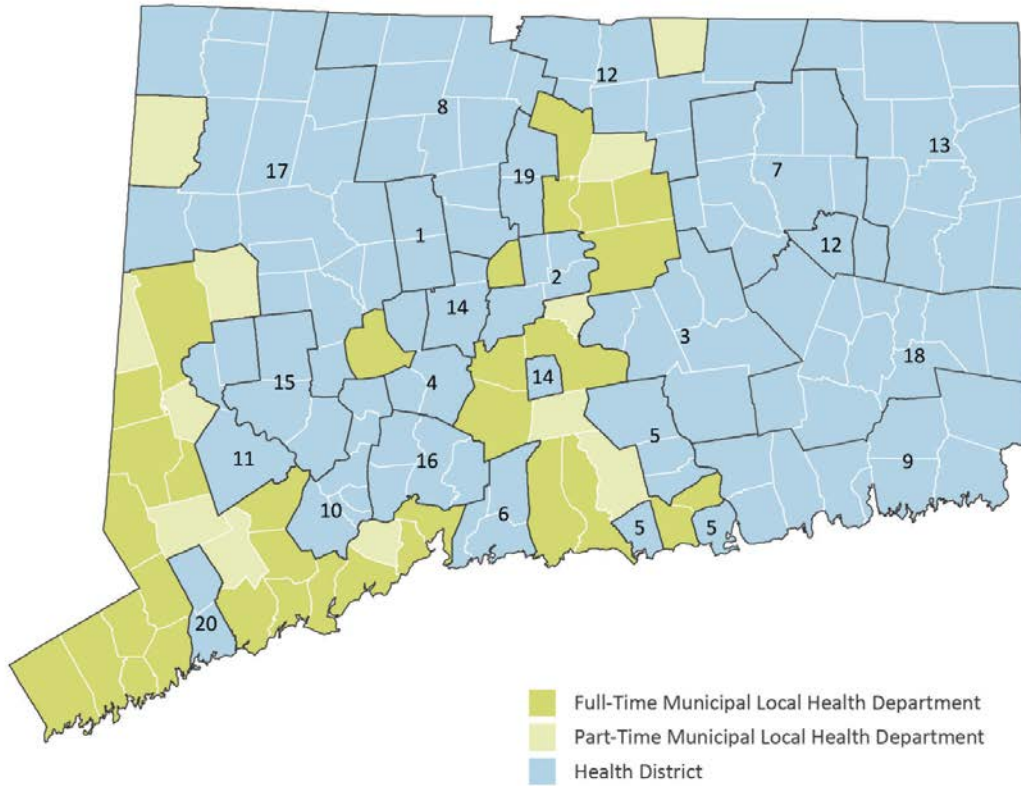


The majority of the 12 part-time health departments are mostly in the western half of the State. Since health districts and full-time municipal Local Health Departments (LHD) provide more of the 10 Essential Public Health Services compared to part-time municipal LHDs, the geographical concentration of part-time health departments may indicate potential gaps in services for some Connecticut residents. In these jurisdictions, assessments are an important approach to help identify community health and wellbeing issues and the capacity of local systems to conduct these essential services. In addition to the 65 local public health departments, Connecticut is home to two sovereign nations — Mashantucket Pequot Tribal Nation and the Mohegan Tribe — that provide public health services to their communities

<sup>117</sup> Healthy CT 2025, “[State Health Assessment: Health Systems](#)”, DPH, 2019

through the federal Indian Health Services and a self-organized LHD, respectively. Both nations are in Southeastern Connecticut.

Fig. 41 Geographic distribution of Local Health Departments, CT, 2019



Source: CT DPH Local Health Administration.



## VI. Discussion

Barriers to primary care are at both structural and at population sub-group levels. The current healthcare system's infrastructure and the state's legislative policies determine the type of access and how primary care providers deliver care. The combined effect of the multiple parts of the health care system - eligibility determinations, employer-tied insurance, deductibles, co-pays, complex provider reimbursement structures, and legislated scope of practice-- all contribute to the availability of quality primary care and the ultimate achievement of the system's outcomes.

Several obstacles stand in the way of optimal primary health care in Connecticut. Previous sections in this report provided observations and data assessing needs and barriers. This section highlights how those observations play out in Connecticut, and it helps to identify actionable areas for intervention.

**A. Primary Care Provider Shortages:** The state has a severe shortage of primary care providers, which is expected to continue over the next several years. Furthermore, over the last several years after the enactment of the Affordable Care Act, the newly insured through Medicaid expansion and the insurance exchange are beginning to seek care in more significant numbers. This trend places an additional burden on the already limited supply of providers. The recent growth of retail clinics and urgent care centers helps meet the demand. Still, this short-term follow-up type of practice does not provide the necessary continuity and care coordination expected of high standards of care and access. The costs related to medical school education and the competitiveness for limited medical school slots also shape the profile of the provider workforce and where they decide to practice.

Access to primary care services is also highly dependent on their location. For example, specific areas of Connecticut's rural and urban population centers lack sufficient access to primary care providers and are documented in the state's current shortage designations system.

Racial/ethnic minorities particularly struggle to get access to primary care providers. For instance, data indicates that more than one in four Hispanic adults do not have a personal doctor as compared to white adults, for whom the rate is over one in 10.<sup>118</sup> While the reason for the disparity is not entirely clear, national studies indicate that many factors may come into play, including attitudes towards healthcare and different usage patterns amongst racial groups, language barriers, and poor cultural match between the patients and their providers.<sup>119</sup>

**B. Access Challenges for Priority Populations:** Connecticut conducted at least three waves of surveys to assess patients' experience with their primary care practices. Medicaid recipients reported better care experiences than commercially insured patients. Several factors account for the differences in perceived patient care experience, such as differences in patient characteristics and source of insurance coverage. Differences by race and ethnicity were slight and inconsistent. Using different

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<sup>118</sup> Levin, A., "[Health Disparities in Connecticut: Causes, Effects, and What We Can Do](#)", *Connecticut Health Foundation*, January 2020.

<sup>119</sup> IOM, "[Unequal Treatment: Confronting Racial and Ethnic Disparities in Health Care](#)", *National Academies Press*, 2003.

vendors to evaluate the Medicaid and Commercial patients' experiences might account for some differences.<sup>120</sup>

Although quality benchmarks were not assessed for all payers' populations, patients having a regular source of care with attributed providers, and especially with providers affiliated with an Advanced Network (AN), still received care more in line with recommended standards. They were also more likely to meet national care quality benchmarks than those who did not have a regular source of primary care or had providers not affiliated with ANs.

There are, however, some critical differences between commercially insured and Medicare populations regarding quality scores. For example, among those with commercial insurance, 67% of patients indicated that they always received timely care, 85% told that they always felt their providers communicated effectively and comprehensively, 74% found that staff was always courteous, and 78% felt their providers were of high quality. In contrast, people with Medicaid insurance were inclined to rate their providers more highly. For example, 79% said they always received timely care, 88% felt they always had good communication with providers, and 83% felt that staff was always courteous, with 71% indicating their providers were excellent.

Other quality measures for accessing primary care services remain below national benchmarks, and data is generally not available to assess all populations. For example, that is the case for monitoring patients while on long-term medications or ensuring that adolescents receive all immunizations and well-care visits. Although these indicators are susceptible to improvement regardless of attribution, having a regular source of care contributes to better rate improvement per provider. Similarly, diabetes control measures and eye exams were more frequent among patients attributed to primary care practices. Primary care practices ranked below national averages in their ability to maintain medications for asthma control, unnecessary imaging, and provide unnecessary antibiotics for bronchitis.

Some other sensitive measures include interventions in behavioral health care. Primary care providers in Connecticut do well both by offering follow-up visits for ADHD medication and keeping adult patients on antidepressant medication for the prescribed time. Initiation of treatment for substance use was equivalent to national benchmarks; however, the state's rate of SUD services was below the benchmark after initiation, with many entities ranking below the national benchmark.

**C. Impact on Health Outcomes:** The state has undertaken projects to reform primary care services to improve access and quality of care. Goals and targets defined for such projects assumed that all conditions measured are sensitive to primary care improvements and that percentages of expected improvement are within an attainable range. These outcomes also point to the primary care interventions most in need of addressing. The assessment of many of the primary care sensitive outcomes measures occurred in Connecticut between 2015 and 2018

Smoking remains a significant risk factor for multiple chronic diseases, and it is a behavior entirely susceptible to modification in the primary outpatient setting. Rates of smoking among youth have decreased but are subject to rapid fluctuations as new youth cohorts enter the exposed group every year. The rapid increase in vaping is indicative of the prevalence of such risky behaviors. Managing

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<sup>120</sup> UConn Health, Center for Population Health and Yale School of Public Health, "[Connecticut State Innovation Model, Final Evaluation Report](#)", Farmington and New Haven, 2020

diabetes and obesity remains a challenge for the primary care teams. Although diabetes rates have leveled off, obesity continues to rise among adults.

Measuring premature death provides a high-level assessment of the quality of medical care, mainly in the outpatient and primary care setting. However, the attribution of this type of outcome is imprecise. This is because many social and economic variables are factoring in the results and even include sudden increases in mortality rates such as in the pandemic. In the past few years, there has been some variation in premature death. For example, the rate leveled off after 2015 and subsequently increased by 2018. In addition, there are racial differences independent of health coverage, with Black individuals experiencing a decrease in premature death while other groups had increased.

**D. Quality of Healthcare Delivery:** As part of the effort to improve population health and access to primary care in Connecticut, the state also assessed quality measures of healthcare delivery. To this end, the state evaluated the degree to which primary care entities demonstrated efforts to improve the quality of care, compared to national benchmarks and other entities providing care in the state.

The state performs well in the outpatient coordination of mental health illnesses. Short-term outpatient follow-up (seven days) for patients with a mental health hospitalization in Connecticut is higher than national benchmarks or equal to national benchmarks in the case of longer-term follow-up (30 days.) While this is true regardless of insurance type, Medicare patients having a regular source of care exceeds the national benchmarks.

However, other metrics of care delivery demonstrate gaps and opportunities for improvement. For example, medical care coordination between hospital discharge and outpatient care is an area of improvement, as shown by the hospital readmission rates. Of note, participation in quality improvement programs regardless of the type of insurance coverage is shown to make an important difference. Breast cancer, cervical cancer, and chlamydia screenings in the state are below national benchmark standards. Nevertheless, this standard of care performs better among patients with a regular source of care, especially if the primary care provider participates in quality improvement and other incentives programs regardless of their type of insurance coverage.

Connecticut identified several areas of improvement in healthcare service delivery, which were susceptible to change with improvements in quality and access to primary care. Measurements took place between 2015 and 2017. Unfortunately, data is still insufficient to make a similar evaluation for 2018-2020. Changes in practice outcomes showed variation between insurance types. For example, differences occurred in the availability of a regular source of care and follow-ups after hospitalization for a mental health illness among commercially (decreased) and Medicare (increased) insured patients. These differences in insurance coverage were consistent among age and gender groups.

Management of acute and chronic ambulatory sensitive conditions is assessed by measurements of preventable hospital admissions and readmissions. Hospital admissions and readmissions have decreased at a slow pace with the introduction of primary care reforms. Although the rates declined, Medicaid patients were 8-9 times more likely to have preventable hospital admissions for chronic conditions than those commercially covered. In addition, admissions for chronic conditions demonstrated profound disparities between 2012 and 2018, with Black patients admitted at rates almost twice as high as White and Hispanic patients.

Primary care practices have sought to improve diabetes control and antidepressant medication management. As a result, there have been levels of improvements that are consistent across age and gender groups. Similarly, breast cancer screening and follow-ups after ED visits due to mental illness demonstrated improvements attributed to improved quality of care. Overall rates of obesity increased and diabetes level off, but there is insufficient data to identify differences between demographic groups. Unfortunately, the systems for tracking health disparities are not always sensitive enough to identify demographic differences.

**E. Primary Care Capabilities Needed:** Connecticut has been working for the last four years on a cross-sector partnership to transform primary care practice in the state. Multiple agencies have participated in this effort, including employers, payers, providers, consumers, and state agencies. This collaboration's primary goal is to identify gaps and areas of improvement to advance healthcare quality and reduce cost. Stakeholders evaluated primary care capabilities and possible reforms that would support expanding such capabilities financially.<sup>121</sup>

Specifically, primary care reforms in Connecticut have focused on supporting effective and efficient patient-centered care delivery. That goal demands that primary care providers engage with patients in the clinical setting and at home and in other community settings. Similarly, providers and payers recognized that creating the conditions to enhance relationships and share data with other practitioners and community-placed providers is essential to improving care quality. The state encourages policies that support addressing behavioral and social determinants of health in the primary care setting, mainly through well-coordinated connections with other primary care practices and community-based resources.

The state engaged patients and families, providers and care teams, community organizations, and advocates to discuss improvements in primary care delivery. A multi-stakeholder perspective enabled the state to identify a five-goal vision for a new system that included better access, better patient experience, better quality, revitalization of primary care, and lower cost.

From mid-2018, the state has engaged providers, including primary care physicians, other care team members, clinical and administrative leaders from Advanced Networks and FQHCs, other health systems, consumers, employers, payers, and medical schools and residency programs. These discussions led to defining stakeholders' priorities for primary care, which strongly support diversifying care teams, integrating behavioral health into primary care, and connecting patients and providers more effectively by phone, text, e-mail, and video technology.

As part of the consumer engagement process, discussions emerged around specific populations' needs, such as parents of children with behavioral health and other complex medical conditions. These parents expressed the challenges they face in caring for family members with mental illness. They are mainly concerned about the lack of trained doctors who can prescribe medications to children with complex behavioral health needs and the need for better communication and coordination among behavioral health care teams and pediatricians' offices. They shared that primary care cannot address many of their

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<sup>121</sup> Freedman Healthcare, "[Primary Care Modernization: An Overview of the Design Process and its Findings](#)", OHS. January 2020

children's behavioral health needs and liked the idea of having more ways to connect behavioral health and primary care.

Older adults are another population with specific primary care needs. This constituency includes both patients and caregivers. They expressed concern about the inability of providers to either communicate well with each other or misunderstand medication interactions.

Similarly, adults with disabilities share frustrations with physically inaccessible examination equipment and an apparent lack of providers' compassion regarding their disabilities and understanding of the impact their disabilities have on other aspects of their health. As transportation for individuals with disabilities can be logistically complex, it gets even more complicated when coordination with providers is often not adequate.

In addressing the issues raised by providers and consumers, the state identified capabilities needed to improve access to quality primary care. For that purpose, several stakeholder groups explored those needs in workgroups around diversifying care teams, integrating behavioral health, and enhancing community-based linkages. The process also included defining specific capabilities to address the needs of older adults and other patients with complex conditions such as disabilities or chronic pain.

Diverse Care Teams must bring together professionals with different skills and training to ensure that patients with complex needs benefit from their combined expertise and receive appropriate help throughout their care experience. This goal requires a careful understanding of the different providers' patient panels to build care teams that fit their medical needs. The stakeholders' recommendations include hiring care coordinators, community health workers, pharmacists, and nutritionists. These examples indicate the importance of providing preventive and continuity of care for the care of chronic conditions.

Adult Behavioral Health Integration emerged as an essential requirement to improve primary care. This recommendation results from gaps in the assessment and screening of patients. Frequently, patients need brief interventions to cope with life events that are likely to impact their care negatively. The purpose of enhancing primary care through behavioral health support is to prevent worsening medical conditions, disruptions in medication schedules, missing appointments, etc. Another function of improving behavioral health capabilities is connecting patients to specialty care and other community-based supports.

Recommendations favor strongly improved communication technology because access to smartphones, text, e-mail, and video visits brings more convenient access to providers. Virtual communications create an opportunity to maintain regular contact and periodic check-ins. Technology also offers primary care providers a chance to work with specialists and make coordinated care plans for patients. Primary care providers would benefit from electronic consults with specialists and co-managed patients' conditions. Similarly, remote patient monitoring uses digital services and technology to transfer patient health information between providers' locations.

Care for Older Adults with Complex Needs is an area that needs improvement, especially for patients older than 75. Practices require equipment and medical expertise to serve patients with multiple chronic conditions, functional challenges, and travel limitations. Care teams specialized in the care of older

patients should include assistance outside of the clinical setting and visit the patient's home, church, or senior centers.

Pain Management and Medication-Assisted Treatment for opioid addiction are primary care capabilities sorely needed to enhance the care of patients with severe dysfunctions due to chronic pain and addiction. Primary care practices with pain management expertise provide patients relief from their lives' medical and social impact. That includes giving patients access to providers trained to treat their conditions' complex medical, behavioral, and social components. In addition, access to pain management expertise brings patients meaningful improvements in function and reduces time off work.

Primary Care Services for Adults and Children with Disabilities is manifestly an aspect of primary care that needs improvement. Enhancing primary care for patients with disabilities requires experienced care teams, preventive screenings, accessible services, and home- and community-based services.

Oral Health Integration provides oral prevention services in primary care offices during regular checkups, including screenings, fluoride varnish, oral hygiene education, and, when necessary, referrals to oral health providers. Oral health is an essential contributor to overall health. Improved access to preventive oral healthcare in the primary care setting will offer more Connecticut residents access to certain essential dental services.

**F. Healthcare Affordability:** The rising healthcare cost and deficient insurance coverage continue to be a concern in Connecticut and amongst the primary care target populations. For example, gaps in insurance coverage translate to out-of-pocket costs in the form of co-pays and deductibles. Many residents lack dental insurance, and the impact of high-cost dental services for the elderly goes beyond oral health to interrupt daily nutrition intake and to the detriment of their overall health. In rural Connecticut, where those 65+ make up over 20% of the population, it is estimated that 15% of rural residents did not seek care or delayed dental care due to cost. In the coming years, the overall aging of the Connecticut population will make this a widespread concern for many of our residents.<sup>122</sup>

Healthcare expenditures fluctuate remarkably based on insurance type and whether they account for overall cost, expenses on primary care, inpatient care, or total medical claims. Connecticut has experienced some positive but not sufficiently optimistic trends. For example, although total expenditures in the commercially insured population have increased at the expense of medication costs, medical spending alone decreased. Also, commercial and Medicare spending on inpatient care have experienced net increases in the state; however, outpatient care and primary care expenditures showed increases in recent years independent of the insurance coverage. There has also been evidence of decreased hospitalizations and more outpatient preventive care. Costs for children under 18 were generally lower than for other age groups in inpatient care and pharmacy costs but were significantly higher for primary care services. For Medicare services, overall medical costs remained stable, with inpatient costs decreasing, and outpatient costs, including primary care services, increasing significantly.

**G. Adequate and Continuous Insurance:** Since the passage of the Patient Protection and Affordable Care Act, health insurance carriers must ensure that health plan options include comprehensive preventive medical coverage to include pre-existing conditions, chronic diseases, and preventive services. When compared to uninsured residents, those with health insurance coverage are

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<sup>122</sup> Matrix Public Health, "[An Assessment of Connecticut Rural Health](#)", *Connecticut Office of Rural Health*, 2015.

better able to access timely, appropriate, and financially accessible health care — including clinical preventive services and screenings, treatment for illness and injury, and support to manage chronic conditions.

Non-Hispanic White adults in CT have the greatest percentage of commercial insurance coverage (74.6%) and the least percentage of people with no insurance (4.1%); the prevalence of commercial insurance coverage among non-Hispanic White adults is 65% and 116% higher than NH Black and Hispanic adults, respectively. As most commercial insurance in the U.S. is obtained via employment, this measure is also indicative of poverty, one of the most impactful determinants of health.

Since Medicaid is the option available to low-income adults, then it should be no surprise that NH Black and Hispanic adults have a high percentage of Medicaid coverage at 20.3% and 16.4% of their respective population-rates that are respectively 2.2 and 1.8 times higher than for non-Hispanic Whites who receive Medicaid coverage. Additionally, this is highly alarming to see that over 1 in 4 of our Hispanic residents live entirely without health insurance.

Connecticut shows a slightly worsening trend with regards to insurance coverage. The number of uninsured increased by 0.6% between 2018 and 2019.<sup>123</sup> People in low-income households with mental and substance use disorders and the disabled are more sensitive to changing trends in the insurance marketplace, and therefore face the greatest potential for negative impact. Both recent BRFSS data and Kaiser Family Foundation reports substantiate these findings.

The Federally Qualified Health Centers provide care to approximately one-third of the uninsured.<sup>124</sup> However, FQHCs do not cover many portions of the state. Although charitable clinics have stepped up in recent years to fill some of the gaps, access to uninsured individuals persists as a serious concern. Lack of health insurance decreases the utilization of preventive and primary care services and is associated with poor health outcomes. For example, individuals without health insurance may delay seeking care when ill or injured. As a result, they are more likely to be hospitalized for chronic conditions such as diabetes or hypertension. In addition, children without health insurance are less likely to get vaccinations, a routine primary care services. Overall, having health insurance increases the use of health services and improves health outcomes.<sup>125</sup>

Continuity of coverage also influences how often individuals seek care. People participating in Medicaid or purchasing health plans in the Health Insurance Exchange are likely to go without insurance for considerable long periods. Connecticut Voices for Children in its 2020 report indicates that 23.4% of children lose their Medicaid coverage at least once a year. However, they were still likely to be eligible to receive coverage. A similar finding by the Medicaid Assistance and Program Oversight Council indicates that as many as 20% of adults and children in Medicaid disenroll and then re-enrolled within 60 days. Non-disabled adults under the age of 65 may have even lower levels of continuous coverage. Up to 80% of monthly dis-enrollment of children is due to the inability to comply with renewal procedures, suggesting administrative barriers.<sup>126</sup> People with mental illness, substance abuse addiction, those who

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<sup>123</sup> American Community Survey, "[Table HI\\_05-ACS](#)", 2018, and American Community Survey, "[Table HI\\_05-ACS](#)", 2019.

<sup>124</sup> Health Center Program, "[Uniform Data System, CT2020 Table 4](#)", *HRSA Website*, last accessed on Dec. 2021.

<sup>125</sup> Healthy People 2020, "[Access to Primary Care](#)". *HHS, ODPHP. Website* last accessed Dec. 2020.

<sup>126</sup> Sheehan, E., "[Pathways to continuous coverage](#)", *CT Voices for Children/HES*, January 2020.



have experienced multiple barriers in accessing health care in the past, or those who only seek care in times of urgent illness and crises usually require assistance with enrollment and re-enrollment.

**H. Transportation Barriers:** A compendium of several national studies indicates that transportation barriers to healthcare are common and mainly affect the low-income and minority populations.<sup>127</sup> For those with chronic conditions, access to reliable transportation is critical. Disease management for chronic conditions requires regular visits to a provider, and missing provider appointments due to lack of access to transportation disrupts timely medical care to manage/improve one's condition.

Many of Connecticut's city residents face unique barriers caused by highways often running right through their cities. Today many Connecticut cities have food and pharmacy "deserts" with limited or no access to grocery stores and prescription medications. City residents tend to be low-income and often lack reliable transportation, even facing barriers to getting a driver's license. Conversely, there is no mass transit infrastructure in rural areas, and residents are extremely car-dependent. An additional issue is the reduced number of providers who practice in rural towns, and the supply of dentists and mental health professionals is a severe concern.

Improving access to transportation would offer people the flexibility to access resources and reliably get to and from work, shopping, healthcare, and school. Many lower-income people living in urban environments look for entry- and mid-level jobs often located in cities' periphery and industrial areas. However, limitations to the public transit system result in longer commute times, making transportation a challenge to those most reliant on this public service.

While providing reliable public transportation to rural communities presents challenges, healthcare-oriented solutions can provide relief for these priority needs of those in most need of assistance.

**I. Poverty:** Connecticut has more highly concentrated wealth and poverty than many large metropolitan areas. And often, those neighborhoods are racially and economically segregated from each other, as it is the case that 15% of Connecticut's poor population lives in a racially concentrated, poor neighborhood. Poor residents of Connecticut's neighborhoods face among the highest levels of segregation in the nation, similar to the experiences of those living in Greater Detroit and Philadelphia. According to a new analysis from Data Haven, from 1980 to 2013, the percentage of Connecticut residents living in neighborhoods of concentrated wealth or poverty grew by 30 percent. Hispanics, Blacks, and children under 18 bear much of the burden of poverty in most states and particularly in the cities.<sup>128</sup>

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<sup>127</sup> Samina, T.S., et.al., "[Traveling Towards Disease: Transportation Barriers to Health Care Access](#)", *J. of Community Health*, October 2013.

<sup>128</sup> Buchanan M., Abraham M., "[Concentrated Wealth and Poverty in Connecticut's Neighborhoods](#)", 2015.