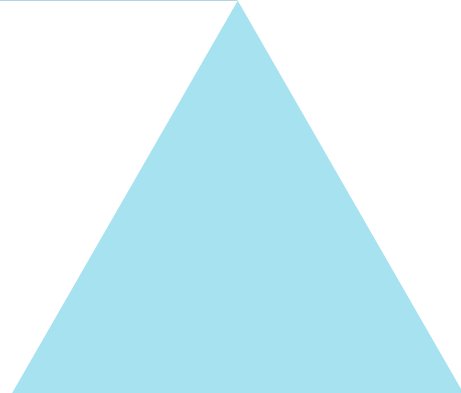
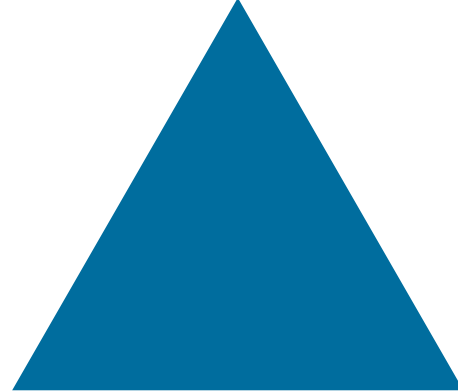
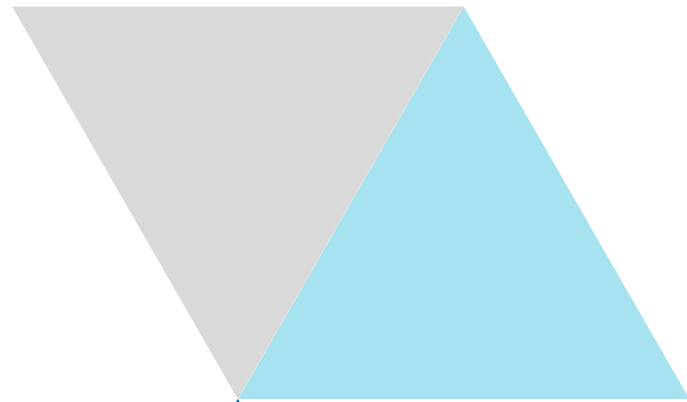
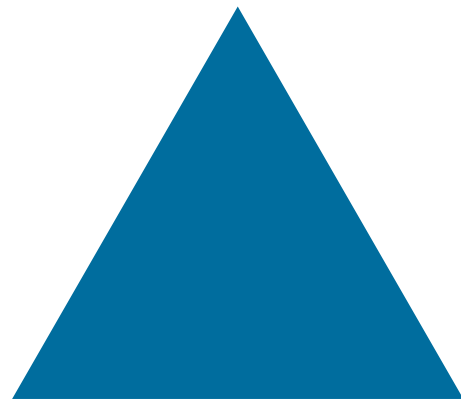


HEALTH WEALTH CAREER

# STATE OF CONNECTICUT MEDICAID LONG TERM CARE DEMAND PROJECTIONS

JULY 22, 2019

State of Connecticut



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# 1

## PROJECT OVERVIEW

As part of an on-going effort, the State of Connecticut (CT or the State) has been actively engaged in rebalancing their Medicaid long-term care (LTC) services from institutional nursing facility (NF) settings, toward more emphasis on home- and community-based services (HCBS) settings. In support of the State's Rebalancing Plan, the State has contracted with Mercer Government Human Services Consulting (Mercer) to assist in the development of projections by town of the supply and demand of LTC services between 2020 and 2040. The State's goal is to enhance the awareness of setting choice amongst LTC consumers and LTC service providers by providing these stakeholders with relevant information as they navigate through the myriad of options available to them. The analysis presented in this report is expected to be updated periodically as more current information becomes available.

Success in rebalancing LTC services is commonly measured by the proportion of HCBS users out of all recipients eligible for either NF services or HCBS, the higher the proportion, the more successful the state.

### PROGRESS SINCE AUGUST 2014 REPORT

The State has invested a significant amount of resources toward creating an environment where Medicaid recipients with a nursing facility level of care (NFLOC) designation are aware of their options, including the option of receiving HCBS. The State aspires to be a leader at the national level in terms of providing LTC services in the home. Since the previous report (August 2014), the State has seen an increase in the ratio of HCBS users to all long-term services and supports (LTSS) users of 11.0% across the State (56.6% to 67.6%). Details are illustrated in Appendix A of the Long Term Care Demand Projections Appendices (Appendices).

The August 2014 report contained statewide HCBS ratio targets through 2025, which were separately determined by demographic category (age, gender, Labor Market Area), and based on levels demonstrated to be achievable by the experience in other states. The August 2014 statewide HCBS ratio target for 2025 was 75.1%, which was calculated using the 2013 aged, blind, and disabled (ABD) Medicaid population prevalence by demographic category. Similar methods were used to develop HCBS ratio targets through 2040 using the 2017 ABD Medicaid population prevalence by demographic category. The new projections result in a marginally lower 2025 target of 74.7%. The projected statewide HCBS ratio target for 2040 is 82.3%. Details are illustrated on page three of Appendix C in the Appendices.

The previous version of this report included the JEN Frailty Index. Frailty risk scores for the 2017 NF populations were not available at the time of this report and are therefore not included.

## LIMITATIONS

The projections in this report have been prepared for the Connecticut Department of Social Services (DSS). Mercer understands that DSS will be making this report publicly available. To the extent that information in this report is made available to third parties, the entire report should be made available. Users of the data and projections in this report must, in order to avoid misinterpretation of the information, have a sufficient level of understanding and expertise in LTC services and health care modeling.

Town-level projections necessarily involve projections with low numbers of persons in certain projection age/gender cells. Any projection involving such low numbers is subject to significant statistical fluctuation. Towns with no NFs will generally have data showing no, or very few, persons residing in NFs; such persons who were previously residents of the town will have necessarily migrated to other towns. When such a person moves to a NF, his or her address becomes the address of the NF, thereby making that person a resident of the town with the NF. The totality of such movements gives the impression of little to no apparent demand in towns with few or no NF's.

The information presented in this report includes projections of future contingent events. All possible contingencies are not considered. For example, changes to Medicaid eligibility due to legislation or economic circumstance could have a significant effect on the number of persons who use NF or HCBS. Also, changes in types of medical services available could alter the portion of recipients who would be eligible for NF or HCBS. Improvements in mortality beyond that anticipated in the census projections could lead to different proportions of recipients of advanced ages.

All estimates are based upon the information available at a point in time and are subject to unforeseen and random events. Therefore, any projection must be interpreted as having a likely range of variability from the estimate. Any estimate or projection may not be used or relied upon by any other party or for any other purpose than for which it was issued by Mercer. Mercer is not responsible for the consequences of any unauthorized use.

Mercer is available to answer any questions on this material contained in this report, or to provide explanations or further details, as may be appropriate. Mercer is not aware of any direct or indirect financial interest or relationship, including investments or other services that could create a conflict of interest that would impair the objectivity of Mercer's work.

# 2

## DATA

Mercer relied on several data sources in the development of these projections. Mercer reviewed the data for reasonability and consistency, but Mercer did not audit it. Data elements include the following listed in the table below:

DATA	SOURCE	USE
Population projections (August 31, 2017 edition)	CT State Data Center at the Map and Geographic Information Center	Town-level State population projections by age group and gender. Starting from the 2010 Census, projections are shown for 2020, 2025, 2030, 2035, and 2040.
Labor Market Areas	CT Department of Labor	Aggregation of towns for projections.
NF Cost Reports	DSS	Information from the NFs on utilization and staffing.
NF 15-Mile Town Radius	DSS	For each town, MSSQL's Geography functions were used to determine all towns within a 15-mile radius. In addition to the NFs located in that town, the count of NFs and available beds for up to 10 "nearby towns" are listed in descending order by number of available beds.
CT Claims and Eligibility Data	HP, CT's Medicaid data vendor	Classification of Medicaid recipients in the ABD aid category, NFLOC, waiver eligibility and claims.
ZIP Code to Town Crosswalk	CT Economic Resource Center	Translate eligibility and claimant information, which did not have town of the recipient (but did have ZIP code) to town.

NF cost report data is as-reported for cost year 2017 (October 1, 2016 through September 30, 2017). If a NF was open in 2017 but a cost report for 2017 was not available for that NF, then the 2016 cost year report was used instead and "(2016)" was appended to the end of the facility name in the Appendices. If neither a 2016 or 2017 cost year report was available, or if a NF did not report any certified beds, then that NF was excluded from the Appendices. The NF cost report data is available at:

<https://portal.ct.gov/DSS/Health-And-Home-Care/Medicaid-Nursing-Home-Reimbursement/Nursing-Facility-Cost-Reports/Documents>

The available beds in the NF 15-mile town radius data are based on the last available census for each provider. The census dates reflected in the data in this report range from August 6, 2014 to March 5, 2019, with over 96% of the NFs having a census date more recent than January 1, 2019.

The ZIP code to town crosswalk could not distinguish all 169 towns from one another. Accordingly, the following towns are paired in Mercer’s analysis: Cornwall and Warren, Griswold and Lisbon, Stafford and Union.

Additionally, the following towns in the NF 15-mile town radius data are mapped to larger geographic areas in the population projections. To ensure consistency throughout this report, towns as defined in population projections are used in the Appendices.

15-MILE RADIUS TOWN	POPULATION PROJECTION TOWN
• Cobalt	• East Hampton
• Danielson	• Killingly
• Dayville	• Killingly
• Forestville	• Bristol
• Kensington	• Berlin
• Moodus	• East Haddam
• Mystic	• Stonington
• Niantic	• East Lyme
• Norwichtown	• Norwich
• Plantsville	• Southington
• Rockville	• Vernon
• Southport	• Farifield
• Stafford Springs	• Stafford-Union
• Storrs	• Mansfield
• Uncasville	• Montville
• Willmantic	• Windham

# 3

## NURSING FACILITY AND HOME- AND COMMUNITY-BASED SERVICES DEFINITIONS

Another common point of necessary clarification when examining statistics nationally or between states is how NF and HCBS are defined. Typically, NF and HCBS together make up what is known as NFLOC. This designation for a Medicaid recipient means that the person in question has, according to the specific State assessments, met the conditions necessary to receive NF services. NF and HCBS together combine to NFLOC because people can choose to receive LTC services either in an institution or HCBS setting.

Setting of Care (either NF or HCBS) is defined in the analysis for each recipient on a month-by-month basis according to the following definitions:

SETTING OF CARE	DEFINITION
NF	If the Assignment Plan Code in the State’s eligibility file is populated with ‘NHOME’ and the enrollee used some form of NF or waiver services during the month, then the person was counted as being NF for that particular month.
HCBS	For all remaining enrollees, Mercer has included unique monthly participant counts of all individuals with utilization of HCBS home health services — including adult day care, personal care assistant, or targeted case management (TCM), regardless of their level of utilization. Traditionally, the State has included TCM recipients with their HCBS participant counts, even though TCM is a State Plan service, not a waiver service.

# 4

## LABOR MARKET AREAS

There are 169 towns in Connecticut, many with relatively small populations and no NFs. Accordingly, the analysis of NFs by town needs to be augmented by analysis on aggregations of towns. Based on discussions with the Connecticut Department of Labor, Mercer decided to include analyses of each of the nine Connecticut Labor Market Areas. The towns that comprise the Connecticut Labor Market Areas are shown in the table in this section.

The Connecticut Labor Market Areas are based on towns that share a high degree of social and economic integration, as based on employment and related commuting. The Labor Market Area shares many characteristics with the New England City and Town Area (NECTA), which is a geographic and statistical entity defined by the United States Office of Management and Budget. The NECTA is used only for the states in the New England area of the United States; areas based on aggregations of counties are used in the other states. Each NECTA has a core urban area with at least 10,000 persons, as well as adjacent towns that have a high degree of social and economic integration with the core urban area as measured by commuting and employment. NECTAs are classified as either metropolitan NECTAs (urban core of at least 50,000 persons) or micropolitan NECTAs (urban core of at least 10,000 but less than 50,000 persons). Individual NECTAs may be comprised of towns from more than one state, but the Connecticut Labor Market Areas consist only of towns in CT.

LABOR MARKET AREA	TOWN	
Bridgeport-Stamford-Norwalk	<ul style="list-style-type: none"> <li>• Ansonia</li> <li>• Bridgeport</li> <li>• Darien</li> <li>• Derby</li> <li>• Easton</li> <li>• Fairfield</li> <li>• Greenwich</li> <li>• Milford</li> <li>• Monroe</li> <li>• New Canaan</li> <li>• Newtown</li> <li>• Norwalk</li> <li>• Oxford</li> </ul>	<ul style="list-style-type: none"> <li>• Redding</li> <li>• Ridgefield</li> <li>• Seymour</li> <li>• Shelton</li> <li>• Southbury</li> <li>• Stamford</li> <li>• Stratford</li> <li>• Trumbull</li> <li>• Weston</li> <li>• Westport</li> <li>• Wilton</li> <li>• Woodbridge</li> <li>• Danbury</li> </ul>
Danbury	<ul style="list-style-type: none"> <li>• Bethel</li> <li>• Bridgewater</li> <li>• Brookfield</li> </ul>	<ul style="list-style-type: none"> <li>• New Fairfield</li> <li>• New Milford</li> <li>• Sherman</li> </ul>



LABOR MARKET AREA	TOWN	
Enfield	<ul style="list-style-type: none"> <li>• East Windsor</li> <li>• Enfield</li> <li>• Somers</li> </ul>	<ul style="list-style-type: none"> <li>• Suffield</li> <li>• Windsor Locks</li> </ul>
Hartford-West Hartford-East Hartford	<ul style="list-style-type: none"> <li>• Andover</li> <li>• Ashford</li> <li>• Avon</li> <li>• Barkhamsted</li> <li>• Berlin</li> <li>• Bloomfield</li> <li>• Bolton</li> <li>• Bristol</li> <li>• Burlington</li> <li>• Canton</li> <li>• Colchester</li> <li>• Columbia</li> <li>• Coventry</li> <li>• Cromwell</li> <li>• East Granby</li> <li>• East Haddam</li> <li>• East Hampton</li> <li>• East Hartford</li> <li>• Ellington</li> <li>• Farmington</li> <li>• Glastonbury</li> <li>• Granby</li> <li>• Haddam</li> <li>• Hartford</li> <li>• Hartland</li> <li>• Harwinton</li> </ul>	<ul style="list-style-type: none"> <li>• Hebron</li> <li>• Lebanon</li> <li>• Manchester</li> <li>• Mansfield</li> <li>• Marlborough</li> <li>• Middlefield</li> <li>• Middletown</li> <li>• New Britain</li> <li>• New Hartford</li> <li>• Newington</li> <li>• Plainville</li> <li>• Plymouth</li> <li>• Portland</li> <li>• Rocky Hill</li> <li>• Simsbury</li> <li>• South Windsor</li> <li>• Southington</li> <li>• Stafford-Union</li> <li>• Thomaston</li> <li>• Tolland</li> <li>• Vernon</li> <li>• West Hartford</li> <li>• Wethersfield</li> <li>• Willington</li> <li>• Windsor</li> </ul>
New Haven	<ul style="list-style-type: none"> <li>• Bethany</li> <li>• Branford</li> <li>• Cheshire</li> <li>• Chester</li> <li>• Clinton</li> <li>• Deep River</li> <li>• Durham</li> <li>• East Haven</li> <li>• Essex</li> <li>• Guilford</li> <li>• Hamden</li> </ul>	<ul style="list-style-type: none"> <li>• Killingworth</li> <li>• Madison</li> <li>• Meriden</li> <li>• New Haven</li> <li>• North Branford</li> <li>• North Haven</li> <li>• Old Saybrook</li> <li>• Orange</li> <li>• Wallingford</li> <li>• West Haven</li> <li>• Westbrook</li> </ul>

LABOR MARKET AREA	TOWN	
Norwich-New London	<ul style="list-style-type: none"> <li>• Bozrah</li> <li>• Canterbury</li> <li>• East Lyme</li> <li>• Franklin</li> <li>• Griswold-Lisbon</li> <li>• Groton</li> <li>• Ledyard</li> <li>• Lyme</li> <li>• Montville</li> <li>• New London</li> </ul>	<ul style="list-style-type: none"> <li>• North Stonington</li> <li>• Norwich</li> <li>• Old Lyme</li> <li>• Preston</li> <li>• Salem</li> <li>• Sprague</li> <li>• Stonington</li> <li>• Voluntown</li> <li>• Waterford</li> </ul>
Torrington	<ul style="list-style-type: none"> <li>• Bethlehem</li> <li>• Canaan</li> <li>• Colebrook</li> <li>• Cornwall-Warren</li> <li>• Goshen</li> <li>• Kent</li> <li>• Litchfield</li> <li>• Morris</li> <li>• Norfolk</li> </ul>	<ul style="list-style-type: none"> <li>• North Canaan</li> <li>• Roxbury</li> <li>• Salisbury</li> <li>• Sharon</li> <li>• Torrington</li> <li>• Washington</li> <li>• Winchester</li> <li>• Woodbury</li> </ul>
Waterbury	<ul style="list-style-type: none"> <li>• Beacon Falls</li> <li>• Middlebury</li> <li>• Naugatuck</li> <li>• Prospect</li> </ul>	<ul style="list-style-type: none"> <li>• Waterbury</li> <li>• Watertown</li> <li>• Wolcott</li> </ul>
Willimantic-Danielson	<ul style="list-style-type: none"> <li>• Brooklyn</li> <li>• Chaplin</li> <li>• Eastford</li> <li>• Hampton</li> <li>• Killingly</li> <li>• Plainfield</li> <li>• Pomfret</li> </ul>	<ul style="list-style-type: none"> <li>• Putnam</li> <li>• Scotland</li> <li>• Sterling</li> <li>• Thompson</li> <li>• Windham</li> <li>• Woodstock</li> </ul>

# 5

## STATE POPULATION PROJECTIONS

Population projections were developed by the Connecticut State Data Center at the Map and Geographic Information Center. These are town-level projections by age group and gender. Data from the 2010 Census is the starting point, with projections for 2015, 2020, 2025, 2030, 2035 and 2040.

Below are additional details regarding the development of the population projections, including methodology. This information is available at: <https://ctsdc.uconn.edu/2015-to-2040-population-projections-town-level/> (downloadable data and methodology is included below the interactive map/data visualization).

1. The population projections provide general statistical projections of the population by sex and five-year age cohort from 2015 to 2040. The projections are based on birth and mortality data from the Connecticut Department of Public Health, migration data from the U.S. Census Bureau Population Estimates and American Community Survey (ACS), and population data from the U.S. Census Bureau Decennial Census. These projections provide population projections for individuals who are residents, or are projected to become, residents of the state of Connecticut. These projections are intended to guide planning, analysis and decision making in the state and are reviewed on an annual basis to compare projections to the latest administrative and survey data available to identify if there are any significant deviations from the projected population to the observed population for the state of Connecticut.
2. These projections are based on an annual average of the resident population of the state of Connecticut. Resident population is defined as those persons who usually reside in the state of Connecticut (where they live and sleep most of the time). Individuals who reside in another state but either own property or work remotely in the state of Connecticut are not included in these population projections.
3. The projections are based on statistical models which utilize historical birth, mortality and migration data to inform the model and the actual population numbers can be influenced by economic, policy, individual decisions and other aspects which are not accounted for in the model.

# 6

## ANALYSIS

The overarching process for developing this projection is as follows:

1. Project the population of the State by age and gender.
2. Project the proportion of the State population that is Medicaid-eligible ABD.
3. Project the proportion of the ABD population that is NFLOC.
4. Project the proportion of the NFLOC population using HCBS services.

This process was conducted at the Labor Market Area Level and projected on the individual towns in the labor markets, then aggregated at the statewide level.

As previously stated, Mercer was able to utilize population projections developed by the Connecticut State Data Center by age, gender and by town, through 2040. These projections include town-by-town, in-migration and out-migration. Mercer assumed, by town, a constant ABD and NFLOC incidence rate by age and gender. As the projection goes toward 2040, the natural aging of the population leads to a higher proportion of the town population expected to be NFLOC.

As stated in the November 2012 report, the historical HCBS/NF mix in the State had been moving toward HCBS at approximately 0.50% to 0.75% per year, absent the impact of State-led initiatives. This shift, combined with the aging of the population and higher NFLOC incidence rates which acts against NF/HCBS mix, leads the State to a projected NF/HCBS mix of 68.0% in 2025, absent the impact of State-led initiatives. This 68.0% figure used the 2017 ABD Medicaid population prevalence. In the 2011 ABD Medicaid population prevalence, this amount was 57.6%.

In Mercer's examination of the historical data, Mercer found that beginning in early 2011, there was a significant acceleration in the HCBS/NF mix as a result of the following State-led initiatives:

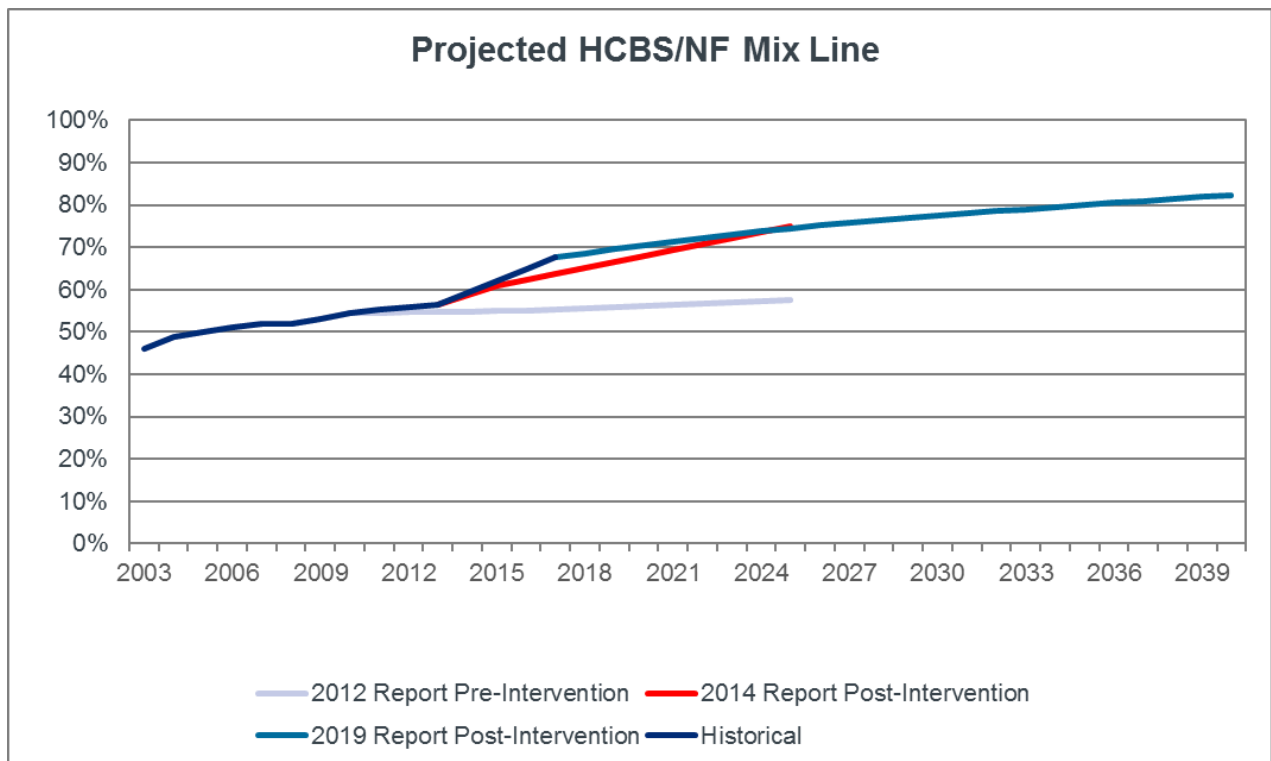
- Community First Choice.
- Money Follows the Person (MFP) Grant.
- Hospital Discharge Planning.
- NF Closure Model.

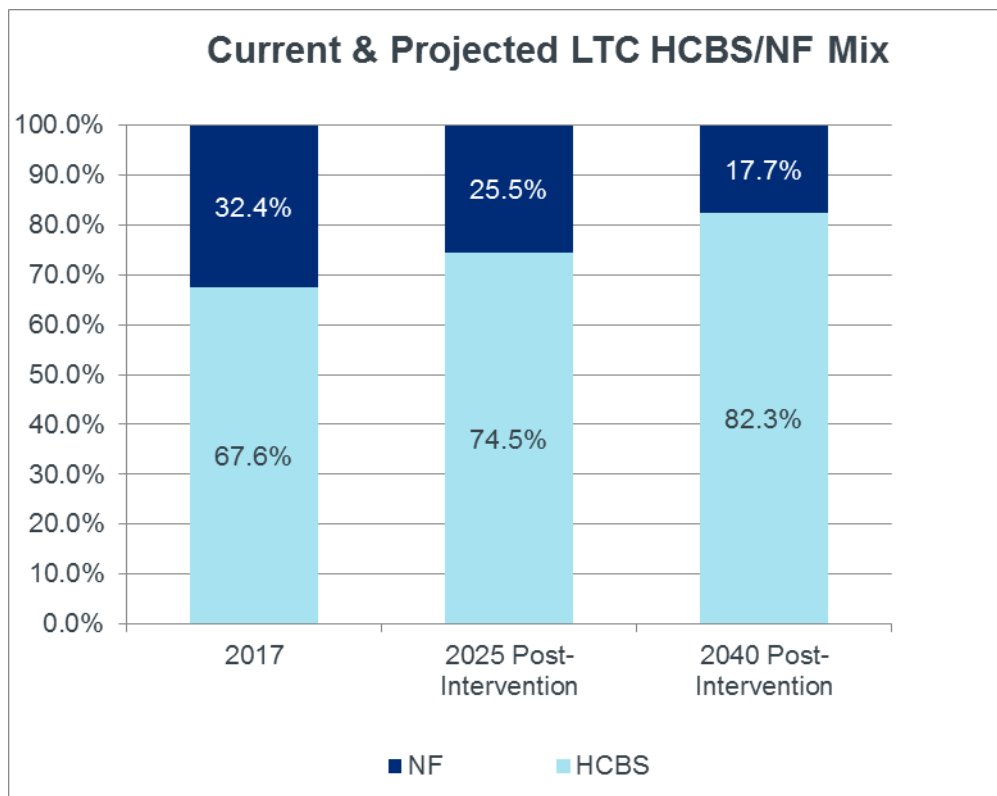
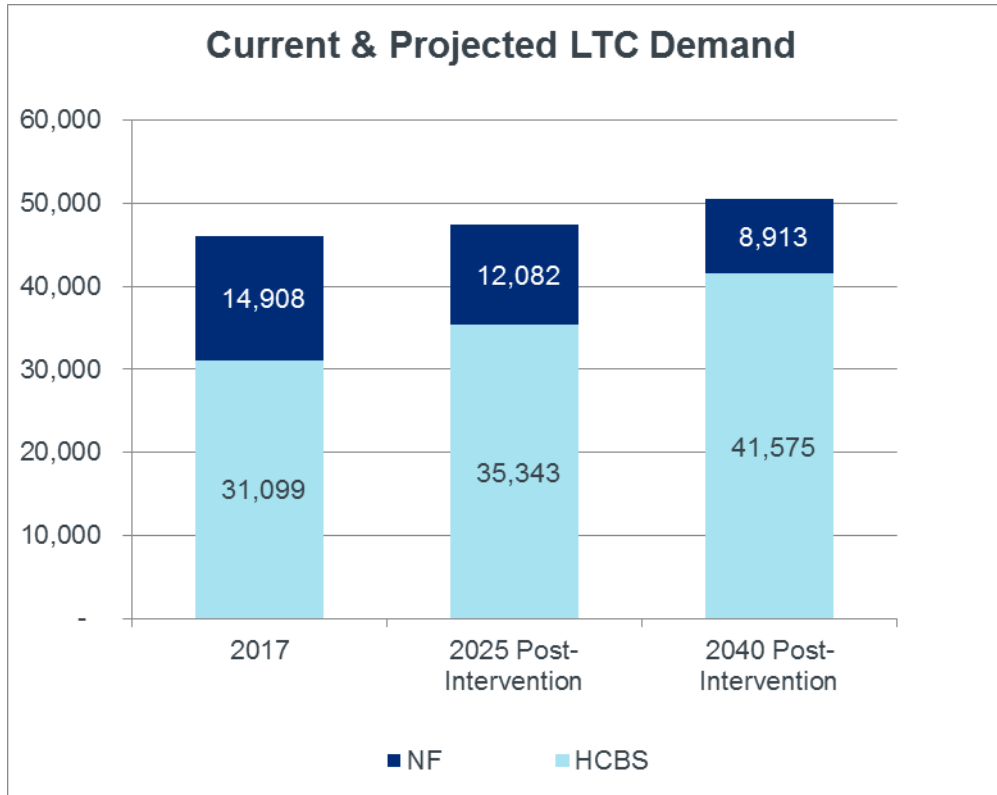
- Long-Term NF Diversion.
- Pre-Admission Screening Resident Review.

By incorporating the impact of these initiatives into modeling the projected HCBS/NF mix at the statewide level, it is expected to increase proportionately to 82.3% by the year 2040. The final HCBS/NF mix is consistent with HCBS levels currently being achieved in other states. The proportionate increases were developed at the age, gender and Labor Market Area level. Note: these projections of future HCBS/NF levels presume the State will continue to use current initiatives and will utilize additional initiatives in future years in order to achieve the projected 2040 HCBS levels.

Some labor markets, as illustrated in the labor market templates, were either far behind or far ahead of the statewide average. The HCBS ratios in those markets grew faster or slower than the statewide average depending on how much movement was possible, considering the starting points.

Another element of the modeling includes projecting the demand for NF and HCBS workers as this shift in HCBS/NF mix occurs. The worker supply and demand reported assume a constant proportion by town of HCBS/NF highlighted work groups throughout the projection. As the population ages and the number of user's shifts from NF to HCBS, the worker supply and demand shifts accordingly by town based on the number of people expected to need care under the specific settings.





The chart provided above labeled “Projected HCBS/NF Mix Line” demonstrates the initial projections from the August 2014 LTC report, the actual observed mix of HCBS and NF between 2010 and 2017, as well as the updated projections based on progress as of the end of 2017.

The charts labeled “Current & Projected LTC Demand” and “Current & Projected LTC HCBS/NF Mix” highlight the number of LTC users and the corresponding HCBS/NF mix. Both the 2025 and 2040 projections reflect post State-led initiatives HCBS growth assumptions.

# 7

## ACKNOWLEDGEMENTS

On behalf of DSS, Mercer would like to thank the following who provided essential data and policy guidance needed for the completion of this and prior reports.

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Kathleen Shaughnessy, DSS

Barbara Parks Wolf, Office of Policy and Management

Rich Wysocki, DSS



# 8

## FEEDBACK AND COMMENTS

Should you have any questions regarding the content of this report, or have suggestions on how to improve the report during future updates, please contact Dawn Lambert at [Dawn.Lambert@ct.gov](mailto:Dawn.Lambert@ct.gov)

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