Connecticut Healthcare Affordability Index

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CT Healthcare
Affordability Index

Preface

The Connecticut Office of Health Strategy and Connecticut Office of the State Comptroller supported the development of the **Self-Sufficiency Standard for Connecticut 2019** to create a baseline understanding of the economic needs of families across the state. The Self Sufficiency Standard determines an adequate wage level needed to support families to meet their basic needs for necessities such as child care, housing, transportation, and healthcare.

As the next step, Connecticut enhanced the Self-Sufficiency Standard to measure the burden of healthcare costs for families throughout the state with the development of the Connecticut Healthcare Affordability Index (CHAI). This index examines how healthcare costs vary for families across the state. CHAI captures Connecticut-specific healthcare data to provide policymakers digestible data and a tool for policy considerations.

The Connecticut Healthcare Affordability Index has been prepared through the cooperative efforts of Annie Kucklick, Joana Dizon, Li Tan, and Devon Bushnell at the University of Washington, Center for Women's Welfare; the University of Connecticut Analytics and Information Management Solutions (AIMS) team; and the Connecticut Office of Health Strategy and Office of the State Comptroller.

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The conclusions and opinions contained within this document do not necessarily reflect the opinions of those listed above. Any mistakes are the authors' responsibility.

Introduction

Before the COVID-19 pandemic hit, access to affordable healthcare coverage was already a challenge for many households. Kaiser Family Foundation estimates that 72% of households with at least one full-time worker, and 63% of all nonelderly households overall, were covered by employer-sponsored health insurance in 2018.[1] As a result of the pandemic and related economic impact, unemployment in Connecticut reached a historic high of 10.2% in July of 2020.[2] With over 300,000 workers receiving or applying for unemployment[3], the pandemic has put a spotlight on the challenges that households face in securing health insurance and urgently needed healthcare in the midst of a public health crisis.

This report is the third in a series examining economic self-sufficiency in Connecticut and builds upon the previous research findings of the first two reports:

1. **The Self-Sufficiency Standard for Connecticut 2019** calculates the bare minimum of expenses for families in each Connecticut town. By calculating the cost of each basic expense for working families—housing, food, healthcare, transportation, child care, and taxes—the Standard defines what it really takes for families to meet basic needs.

2. **The Demographic Characteristics of Households Below Economic Self-Sufficiency in Connecticut 2019** builds on the Self-Sufficiency Standard Report for Connecticut to illuminate the situations and characteristics of the **one in four households** that struggle with the everyday crisis of inadequate earnings to meet basic needs.

This report introduces the **Connecticut Healthcare Affordability Index (CHAI)**. The Connecticut Office of Health Strategy and Connecticut Office of the State Comptroller define healthcare as affordable in Connecticut if a family can reliably secure it to maintain good health and treat illnesses and injuries when they occur without sacrificing the ability to meet all other basic needs including housing, food, transportation, child care, taxes, and personal expenses or without sinking into debilitating debt.

CHAI is a new measure that examines the impact that a family's healthcare costs, including premiums and out of pocket expenses, has on their ability to afford all basic needs, including housing transportation, child care, and groceries. CHAI starts with the Self-Sufficiency Standard for Connecticut but expands the healthcare costs to account for factors that will impact affordability including differences in (1) type of insurance coverage, (2) age-related premiums, and (3) health risk scores, used to calculate out-of-pocket costs. In total, CHAI is calculated for a variety of family types across 19 different variables that allow deeper analysis of factors impacting the affordability of healthcare (see Table A).

In Part I we provide an overview of CHAI, including how costs differ by county and family type, and how CHAI defines how much income is enough for families in Connecticut. Part II examines how work supports (public assistance) can help families afford all of their basic needs, including healthcare costs, while earning wages less than adequate as defined by CHAI. And finally, in Part III we examine which

1. Kaiser Family Foundation, "Employer-Sponsored Coverage Rates for the Nonelderly by Family Work Status," Estimates based on the Census Bureau's 2018 American Community Survey, **https://www.kff.org/private-insurance/state-indicator/rate-by-employment-status-2/?currentTimeframe=0&selectedRows=%7B%22states%22:%7B%22connecticut%22:%7B%7D%7D%7D&sortModel=%7B%22colId%22:%22Location%22,%22sort%22:%22asc%22%7D** (accessed July 24, 2020).
2. U.S. Bureau of Labor Statistics, Local Area Unemployment Statistics, LAU Program Links, Current Unemployment Rates for States and Historical Highs/Lows, Seasonally Adjusted, **https://www.bls.gov/web/laus/lauhsthl.htm** (accessed October 11, 2020).
3. Economic Policy Institute, Updated state unemployment numbers, **https://www.epi.org/blog/updated-state-unemployment-numbers-in-10-states-more-than-one-in-six-workers-are-receiving-or-have-filed-for-regular-unemployment/** (accessed July 24, 2020).

Glossary of Key Terms

AFFORDABILITY: Healthcare is affordable in Connecticut if a family can reliably secure it to maintain good health and treat illnesses and injuries when they occur without sacrificing the ability to meet all other basic needs, including housing, food, transportation, child care, taxes and personal expenses or without sinking into debilitating debt.

AMERICAN COMMUNITY SURVEY (ACS): The ACS is a sample survey of over three million households administered annually by the Census Bureau. The ACS publishes social, housing, and economic characteristics for demographic groups covering a broad spectrum of geographic areas with populations of 65,000 or more in the United States.

CONNECTICUT HEALTHCARE AFFORDABILITY INDEX (CHAI): CHAI defines what Connecticut households need in order to meet their healthcare costs without sacrificing other basic needs including housing, food, transportation, child care, and taxes. CHAI is a new measure that varies healthcare costs by factors that impact affordability including differences in insurance coverage, age, and increased out-of-pocket costs based on health risk scores.

HEALTH INSURANCE COVERAGE TYPE: CHAI is calculated for three types of health insurance coverage including (1) employer sponsored, fully insured; (2) individual marketplace (individuals covered through the Choice Silver Standard POS plan, the most common plan purchased through ACCESS Health CT, the individual marketplace in Connecticut under the Affordable Care Act; or (3) Medicaid (individuals covered through the Medicaid Program, known in Connecticut as HUSKY).

HEALTH RISK SCORE: This is an indicator that compares populations exhibiting similar clinical health characteristics. This report groups individuals into three risk categories: A health risk score of low indicates good health; a health risk score of medium signifies chronic diseases that are controlled; and a health risk score of high indicates chronic diseases that are uncontrolled or have related complications. The 3M™ Health Information Systems statistical scoring methodology was utilized to stratify patients into these three categories and allows for the examination of costs such as out-of-pocket-costs for predictive modeling.

HOUSEHOLD: The sample unit used in the ACS coded dataset is the household, including any unrelated individuals living in the household. When appropriate, the characteristics of the householder are reported (e.g., race/ethnicity, citizenship, educational attainment). When a variable is reported based on the householder, it may not reflect the entire household. For example, in a household with a non-citizen householder, other members of the household may be citizens. The householder is the person (or one of the persons) in whose name the housing unit is owned or rented or, if there is no such person, any adult member, excluding roomers, boarders, or paid employees.

INCOME INADEQUACY: The term income inadequacy refers to an income that is too low to meet basic needs as measured by the Connecticut Healthcare Affordability Index.

PREMIUM TAX CREDIT: Created by the Affordable Care Act, the premium tax credit (PTC) caps the percentage of income spent on the individual marketplace premium to between 2.08% - 9.86% of household income. The PTC is calculated for individual marketplace households, if the total income defined by CHAI is between 100% and 400% of the federal poverty guidelines.

SELF-SUFFICIENCY STANDARD (SSS). The SSS measures how much income is needed for a family of a certain composition, in a given place, to adequately meet their basic needs without public or private assistance.

Summary of Healthcare Cost Variables in Connecticut Healthcare Affordability Index
Note: Each CHAI is calculated across a variety of family types for all towns in Connecticut

CHAI	Insurance Coverage	Age Category	Health Risk Score	Total Households (N)*	Total Households (%)
1	**Employer-Sponsored** *Includes insurance premium and out-of-pocket costs*	18–34	Low	122,295	12.9%
2			Medium	4,307	0.5%
3			High	578	0.1%
4		35–49	Low	213,992	22.6%
5			Medium	12,270	1.3%
6			High	2,637	0.3%
7		50–64	Low	255,758	27.0%
8			Medium	23,929	2.5%
9			High	8,383	0.9%
10	**Individual-Marketplace** *Includes insurance premium, Premium Tax Credit, and out-of-pocket costs* *(based on the Choice Silver Standard POS, the most common plan purchased through ACCESS Health CT, the individual marketplace in Connecticut under the Affordable Care Act)*	18–34	Low	30,126	3.2%
11			Medium	996	0.1%
12			High	50	0.0%
13		35–49	Low	46,276	4.9%
14			Medium	1,760	0.2%
15			High	706	0.1%
16		50–64	Low	57,811	6.1%
17			Medium	5,122	0.5%
18			High	1,174	0.1%
19	**Medicaid** *No Health Care Cost*			158,255	16.7%

* Count total households estimated by cross walking CHAI with household income in the U.S. Census Bureau, 2017 ACS 1-Year Public Use Microdata Sample.

demographic groups are projected to experience the most impact on their ability to be self-sufficient based on their health insurance category and health risk. We analyze the results by using data from the American Community Survey produced annually by the U.S. Census Bureau to project how affordable healthcare and other basic expenses are to Connecticut residents and how income adequacy differs by race, ethnicity, gender, immigration status, and other demographic characteristics in Connecticut.

Methodology Overview

Please see technical appendix for more details regarding assumptions and data sources.

STEP 1. CALCULATE THE CONNECTICUT HEALTHCARE AFFORDABILITY INDEX

The Connecticut Healthcare Affordability Index (CHAI) defines how much income is necessary to meet the basic needs of Connecticut families by using healthcare cost models designed and analyzed by University of Connecticut (UConn) Analytics and Information Management Solutions (AIMS).

The data from UConn AIMS specifies insurance premium costs for **employer-sponsored** plans and insurance purchased through the **individual marketplace** (Access Health CT). AIMS also calculated out-of-pocket costs for families with employer-sponsored and individual marketplace insurance from the Connecticut All-Payer Claims Database (APCD) by town, county, age group, gender, and health risk score (low, medium, high). Additionally, CHAI is calculated for households with **Medicaid** health insurance, which was calculated with no healthcare expenses, as those on Medicaid are not charged premiums or out-of-pocket fees.

The detailed healthcare cost models are adjusted to 2019 and added to the Self-Sufficiency Standard expenses for housing, child care, food, transportation, and miscellaneous items. This subtotal is used to calculate the cost of taxes and tax credits (including the Affordable Care Act's premium tax credit for the individual marketplace). The resulting CHAI is calculated by town for numerous family types and varies by adult age category and health risk score.

STEP 2. CODE CENSUS DATA WITH THE CONNECTICUT HEALTHCARE AFFORDABILITY INDEX

To estimate the number of households unable to meet their basic expenses including the cost of healthcare, this study crosswalks CHAI with the 2017 American Community Survey (ACS) Public Use Microdata Sample (PUMS). The ACS is a demographic survey conducted by the U.S. Census Bureau that provides detailed population and housing information such as occupation, jobs, education, housing, and other social characteristics.

Sample Unit. The sample unit for the demographic analysis is the household, not the individual or the family. The ACS includes incomes of all persons residing in households, including not only the householder and their relatives, but also non-relatives such as unmarried partners, foster children, and boarders. The ACS coded dataset excludes household members not expected to work and their income including adults over 65 and adults with a work-limiting disability. Households defined as "group quarters," such as individuals living in shelters or institutions, are also not included. In total, the ACS coded dataset includes 946,425 households and represents 67% of all Connecticut households.

CHAI. Each household in the ACS dataset is assigned an income level defined by CHAI based on the following variables:

- **Geography** *(a populated weighted CHAI is calculated for each Public Use Microdata Area – statistical geographic areas containing at least 100,000 people)*

- **Family Type** *(number of adults, infants, preschoolers, school-age children, and teenagers in household)*

- **Age Category of Householder** *(18-34, 35-49, or 50-64)*

- **Health Insurance Category** *(employer sponsored, individual marketplace, or Medicaid)*

- **Health Risk Score** *(assigned to low, medium, or high based on distributions derived from UCONN AIMS claims data by county, sex, gender, and age category)*

STEP 3. IDENTIFY HOUSEHOLDS THAT CANNOT AFFORD THEIR BASIC NEEDS -- INCLUDING HEALTHCARE

Earnings for each household member are summed and adjusted to 2019 dollars to determine total household income. Total household income is then compared to the calculated CHAI to determine if a household has adequate income to cover the basic needs of a family including healthcare costs.

Part I

CHAI: How Much is Enough to Afford Healthcare in Connecticut?

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Based on our definition of affordable healthcare, how affordable is healthcare in Connecticut, given the cost of other basic needs, and how does it vary between different groups? To answer that question, we provide an overview of how the healthcare cost models in CHAI vary by family type, place, insurance type, householder age, and health risk score. We then examine the overall impact on the amount of income families need to meet basic needs, plus their healthcare costs. CHAI is a new measure that expands upon the Self-Sufficiency Standard for Connecticut by varying the healthcare costs by factors including differences in insurance coverage, age, and increased out-of-pocket cost based on health risk scores.

VARIATION BY HEALTH RISK SCORE

UConn AIMS used the Connecticut All-Payer Claims Database (APCD) to capture out-of-pocket costs based on the health risk of patients. Overall, 93% of patients in the APCD had a health risk score of low (good health), 5% scored as medium risk (controlled chronic diseases), and 2% of patients scored as high risk (uncontrolled chronic diseases or complications). As the majority of patients in Connecticut have low health risk scores, several of the figures in this report will use CHAI examples with *low* health risk score for illustrative purposes. However, keep in mind that the total amount needed to afford all basic needs will increase with higher health risk scores.

- For example, a 35-49-year-old living in Bridgeport with a low health risk score and employer-sponsored insurance requires $24,919 to afford the basic expenses defined by CHAI.

- If the person has a moderate health risk score, the amount needed as calculated by CHAI is $27,277 annually.

- Finally, if the person has an uncontrolled chronic disease and scores as having a *high* health risk, the annual cost of basic needs increases to $28,975 according to CHAI—over $4,000 more annually for the same adult with a low health risk score.

VARIATION BY FAMILY TYPE

One factor that is varied in CHAI is family composition—the number and ages of both adults and children. The tables in this section illustrate how substantially CHAI varies by family type by showing CHAI for four different family configurations in New Britain, for each insurance category (while controlling for the adult's age and health risk score).

Table 1A illustrates **employer-sponsored** health insurance costs for adults in the 18-34 age category with a low health risk score. For the sample family types in Table 1A, CHAI for New Britain has healthcare costs that range from $160 to $557 per month, with the total index varying substantially by family type.

- For example, a single adult needs to earn $12.19 per hour working full time to be able to meet their basic needs with employer-sponsored healthcare costs. On the other hand, one parent with two children—a preschooler and a school-age child—needs $30.79 per hour to meet their family's basic needs with employer-sponsored healthcare costs. This is the equivalent of nearly three full-time minimum wage jobs in Connecticut.

Individual marketplace health insurance costs are shown in Table 1B for the same New Britain family types and assumptions. The premiums and the out-of-pocket costs for these family types are *higher* for

those in the individual marketplace than the average employer-sponsored premium. While these families are eligible for the premium tax credit (PTC) created by the Affordable Care Act the tax credits only *partially offset* these higher costs.

> ## *One parent with two children—a preschooler and a school-age child—needs $30.79 per hour to meet their family's basic needs with employer-sponsored healthcare costs. This is the equivalent of nearly three full-time minimum wage jobs in Connecticut.*

- For example, two parents with one preschooler and one school-age child each need to earn a minimum of $18.94 per hour to meet their family's basic needs (compared to $17.19 per hour with employer-sponsored health insurance). *When this family gets health coverage through Access Health CT, the healthcare cost is over $1,000 per month and is 15% of the family's budget.* However, without the PTC, healthcare costs would be over $600 more per month and much more than the cost of housing.

Table 1C highlights CHAI for New Britain with **Medicaid** covering all healthcare costs. It is important to note that CHAI is a cost model and that these families **would not** be income eligible for Medicaid under current eligibility rules *(see text box)*. That is, the income eligibility threshold for Medicaid is well below what a family needs to meet their basic expenses. Even with healthcare costs set

to zero, in order to have enough to meet the cost of their other basic needs, the total CHAI is above the income eligibility threshold for Medicaid. Additional supports such as housing, child care, or food are needed to close the gap between expenses and the Medicaid income eligibility threshold (see Part II of this report for examples of how work supports can help families afford basic needs).

Adults without minor children are eligible for Medicaid (HUSKY D) with income up to 138% of the federal poverty guidelines, while parents/caregivers are eligible for Medicaid (HUSKY A) with incomes up to 160% of the federal poverty guidelines—$17,236 for a single adult or $34,128 for a family of three in 2019 ($17,609 and $34,752, respectively, in 2020). Children are eligible for free or low-cost health insurance through Connecticut's HUSKY B program with household incomes up to 338% of the poverty guideline.

- A single adult in New Britain needs to earn $11.05 per hour working full time to be able to meet his or her basic needs with no healthcare costs, which is nearly equivalent to the Connecticut minimum wage rate ($11.00 per hour in 2019) but around 180% of the poverty guideline—well above the HUSKY D income eligibility threshold.

Overall, healthcare costs are a smaller proportion of the household budget than housing and child care in New Britain. But there is significant variation when insurance type and eligibility for premium tax credits are factored in.

- The net healthcare costs for a single adult is 7% of total household budget with employer-sponsored health insurance but 11% of the total budget with individual marketplace insurance.

- For a family with two adults and two children, net healthcare costs are 9% with employer-sponsored health insurance. If they are getting health

coverage through Access Health CT, the cost of healthcare rises to 15% of the family's budget. However, without the PTC healthcare costs would be 24% of the total family budget. That is, in the four-person family, **healthcare costs would be a higher proportion than housing costs without accounting for the premium tax credit.**

Addressing healthcare affordability in Connecticut involves looking beyond just the costs of accessing healthcare itself. As highlighted in Table 1C, for many families, healthcare affordability can only be achieved by addressing the high cost of other basic needs such as housing and child care. Across all three insurance categories, housing and child care costs account for the largest percentage of budget costs for New Britain families with children.

- The proportion of the monthly basic needs budget spent on housing for the single adult ranges from 42%, with the individual marketplace cost assumption, to 49% when healthcare costs are set to zero under Medicaid. Housing costs for the four-person family with two adults, one preschooler, and one school-age child range from 18% to 22% of the family budget across the three insurance categories.

- For families with two children, *child care alone* typically accounts for the single largest part of the household budget. Depending on the insurance category, child care costs range from 29% to 36% of the family budget for one-adult families with two children and 25% to 32% of the family budget for two-adult families with two children.

Without the PTC healthcare costs would be 24% of the total family budget. That is, in the four-person family, healthcare costs would be a higher proportion than housing costs without accounting for the premium tax credit.

The Connecticut Healthcare Affordability Index for Select Family Types
Employer-Sponsored Health Insurance in New Britain, CT
Adults = 18–34, Low Health Risk Score

Monthly Costs	One Adult		One Adult One Preschooler		One Adult One Preschooler One School-Age		Two Adults One Preschooler One School-Age	
	Costs	% of Total Costs	Costs	% of Total Costs	Costs	% of Total Costs	Costs	% of Total Costs
Housing	$955	45%	$1,185	27%	$1,185	22%	$1,185	20%
Child Care	$0	0%	$1,186	27%	$1,680	31%	$1,680	28%
Food	$270	13%	$409	9%	$618	11%	$830	14%
Healthcare (NET)	**$160**	**7%**	**$349**	**8%**	**$533**	**10%**	**$557**	**9%**
Premium + Out-of-Pocket	$160	7%	$349	8%	$533	10%	$557	9%
Premium Tax Credit (-)	–		–		–		–	
Transportation	$276	13%	$284	6%	$284	5%	$544	9%
Miscellaneous	$168	8%	$355	8%	$427	8%	$480	8%
Taxes	$316	15%	$855	19%	$1,126	21%	$1,207	20%
Earned Income Tax Credit (-)	$0	0%	$0	0%	$0	0%	$0	0%
Child Care Tax Credit (-)	$0	0%	($50)	(1%)	($100)	(2%)	($100)	(2%)
Child Tax Credit (-)	$0	0%	($167)	(4%)	($333)	(6%)	($333)	(6%)
Connecticut CHAI								
Hourly	$12.19		$25.04		$30.79		$17.19	per adult
Monthly	$2,145		$4,408		$5,420		$6,051	
Annual	$25,737		$52,893		$65,036		$72,612	

Table 1B

The Connecticut Healthcare Affordability Index for Select Family Types								
Individual Marketplace Insurance in New Britain, CT Adults = 18–34, Low Health Risk Score								
	One Adult		One Adult One Preschooler		One Adult One Preschooler One School-Age		Two Adults One Preschooler One School-Age	
Monthly Costs	Costs	% of Total Costs	Costs	% of Total Costs	Costs	% of Total Costs	Costs	% of Total Costs
Housing	$955	42%	$1,185	24%	$1,185	20%	$1,185	18%
Child Care	$0	0%	$1,186	24%	$1,680	29%	$1,680	25%
Food	$270	12%	$409	8%	$618	11%	$830	12%
Healthcare (NET)	**$245**	**11%**	**$668**	**14%**	**$842**	**14%**	**$1,022**	**15%**
Premium + Out-of-Pocket	$474	21%	$820	17%	$1,151	20%	$1,626	24%
Premium Tax Credit (-)	($229)	(10%)	($152)	(3%)	($309)	(5%)	($604)	(9%)
Transportation	$276	12%	$284	6%	$284	5%	$544	8%
Miscellaneous	$168	7%	$355	7%	$427	7%	$480	7%
Taxes	$347	15%	$982	20%	$1,230	21%	$1,360	20%
Earned Income Tax Credit (-)	$0	0%	$0	0%	$0	0%	$0	0%
Child Care Tax Credit (-)	$0	0%	($50)	(1%)	($100)	(2%)	($100)	(1%)
Child Tax Credit (-)	$0	0%	($167)	(3%)	($333)	(6%)	($333)	(5%)
Connecticut CHAI								
Hourly	$12.85		$27.57		$33.15		$18.94	per adult
Monthly	$2,262		$4,853		$5,834		$6,668	
Annual	$27,147		$58,234		$70,003		$80,017	

Table 1C

The Connecticut Healthcare Affordability Index for Select Family Types
Medicaid Insurance in New Britain, CT

Monthly Costs	One Adult		One Adult One Preschooler		One Adult One Preschooler One School-Age		Two Adults One Preschooler One School-Age	
	Costs	% of Total Costs	Costs	% of Total Costs	Costs	% of Total Costs	Costs	% of Total Costs
Housing	$955	49%	$1,185	30%	$1,185	25%	$1,185	22%
Child Care	$0	0%	$1,186	30%	$1,680	36%	$1,680	32%
Food	$270	14%	$409	10%	$618	13%	$830	16%
Healthcare (NET)	**$0**	**0%**	**$0**	**0%**	**$0**	**0%**	**$0**	**0%**
Transportation	$276	14%	$284	7%	$284	6%	$544	10%
Miscellaneous	$168	9%	$355	9%	$427	9%	$480	9%
Taxes	$275	14%	$713	18%	$952	20%	$981	19%
Earned Income Tax Credit (-)	$0	0%	$0	0%	$0	0%	$0	0%
Child Care Tax Credit (-)	$0	0%	($50)	(1%)	($100)	(2%)	($100)	(2%)
Child Tax Credit (-)	$0	0%	($167)	(4%)	($333)	(7%)	($333)	(6%)
Connecticut CHAI								
Hourly	$11.05		$22.26		$26.78		$14.96	*per adult*
Monthly	$1,944		$3,917		$4,713		$5,267	
Annual	$23,334		$47,003		$56,554		$63,209	
CHAI Compared to Medicaid Eligibility								
Medicaid Income Eligibility	$17,236		$27,056		$34,128		$41,200	
Shortfall/ Income Gap (CHAI –Medicaid Threshold)	$6,098		$19,947		$22,426		$22,009	

* Eligibility for HUSKY D (adults without minor children) is 138% of the poverty guideline while HUSKY A (parents/caregivers) are eligible with incomes up to 160% of the poverty guideline. Children qualify for Medicaid and Children's Health Insurance Program.
Source: U.S. Department of Health and Human Services, "2019 Poverty Guidelines," **https://aspe.hhs.gov/2019-poverty-guidelines**; HUSKY Health, "Connecticut HUSKY Health Program Annual Income Guidelines," **https://portal.ct.gov/-/media/HH/PDF/HUSKYAnnualIncomeChart.pdf**.

CHAI also uses geographic location to show variation in costs of basic needs and health care expenses. The maps in Figure 1D display the geographic variation in the cost of meeting basic needs across Connecticut for families with two adults, one preschooler, and one school-age child by health insurance category. The adult age category and health risk score are held constant across the maps for comparison purposes. Note that while the healthcare cost models vary primarily by county, CHAI is *calculated by town* like the Self-Sufficiency Standard to reflect the variation in other basic needs costs.

- The **employer-sponsored** health insurance CHAI shows that the income necessary to meet basic expenses range from $63,220 to $100,102 annually for this family type, depending on the town.

- The **individual-marketplace** health insurance CHAI for this family type is higher and has even greater variation, ranging from $69,808 to $124,753 annually.

- With healthcare costs set to zero, the **Medicaid** health insurance CHAI is the most affordable and ranges across towns from $54,018 to $89,232 annually.

> **When health insurance is obtained through the employer, the associated healthcare cost for this family is 8% to 17% of the total household budget depending upon the town, age, and health risk score of the adults.**

Comparing across the maps, it is evident that healthcare costs can make a drastic difference in how much income is necessary for families to be able to afford all of their basic needs. Depending on where this sample family type is located and what type of health insurance they have, CHAI varies by more than $70,000 annually—while holding adult age and health risk score constant.

Figure 1E uses the same family type as above—a family with two adults, one preschooler, and one school-age child—in the towns of Stamford, Hartford, New Haven, and Groton. This time the figure contrasts how the proportions spent on healthcare costs vary for employer-sponsored health insurance and insurance purchased from the individual marketplace across adult age and health risk score categories. As shown below, when health insurance is purchased through the individual marketplace, the cost of health is typically a larger proportion of the household budget than the average costs faced by households with employer-sponsored health insurance.

When health insurance is obtained through the **employer**, the associated healthcare cost for this family is 8% to 17% of the total household budget depending upon the town, age, and health risk score of the adults.

- For example, in Stamford, healthcare costs are 8-9% of the household budget, depending upon age category, when the adults have a low health risk score. If the adults have a *high* health risk score, the healthcare costs increase to 13% of the household budget across all three age categories.

- In contrast, housing and child care costs combined are between 45% and 50% of the total household budget for this family type in Stamford depending on adults' age category and the health risk score.

On the other hand, health insurance purchased through the **individual marketplace** is a larger proportion of the household budget than the average costs faced by households with employer-sponsored health insurance, and the amount can vary drastically depending on the health care costs associated with the adults' age category and health risk score of adults.

- For a two adult household, with adults between the ages of 18 and 35 and a low risk score, in Groton, CHAI estimates that healthcare costs will be 18% of the total household basic needs budget. If the same adults score as having *high* health risk, out-of-pocket costs are higher. If they earned enough to cover the higher expenses, they would be eligible for a lower premium tax credit (PTC). With a smaller PTC, healthcare costs would increase to nearly a quarter (24%) of the household budget.

- If the adults are in the oldest age bracket, the individual marketplace premium will be higher as insurers are allowed to apply a premium ratio by age.[4] As a result, regardless of health risk score, the insurance premium would increase the total amount of earnings needed to meet basic needs beyond the income threshold for the PTC. With no PTC to offset the cost of the higher health insurance premium, healthcare expenses would become a *third or more* (33% - 35%), depending on health risk score, of the household budget for this example family in Groton.

With no PTC to offset the cost of the higher health insurance premium, healthcare expenses would become a third or more (33% - 35%), depending on health risk score, of the household budget for this example family in Groton.

Overall, the proportion of the household budget spent on healthcare increases under individual marketplace cost assumptions compared to employer-sponsored insurance. At the same time, the costs for housing and child care remain the same and their proportion of the overall budget decreases when a family buys insurance through the individual marketplace.

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4. The Affordable Care Act (ACA) included a rating rule that limits the ratio of the premium charge for the oldest adults at 3:1 the premium of a 21-year-old. Thus, 1.0 is the default premium ratio for 21-year-olds and increases up to 3.00 for adults 64 and older. The default premium ratio is 0.765 for 0-14-year-olds and then increases incrementally up to 21-year-olds. See **cms.gov/CCIIO/Programs-and-Initiatives/Health-Insurance-Market-Reforms/state-rating**.
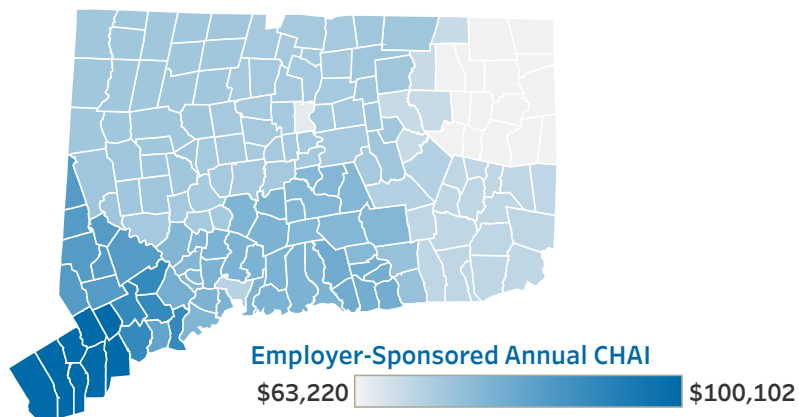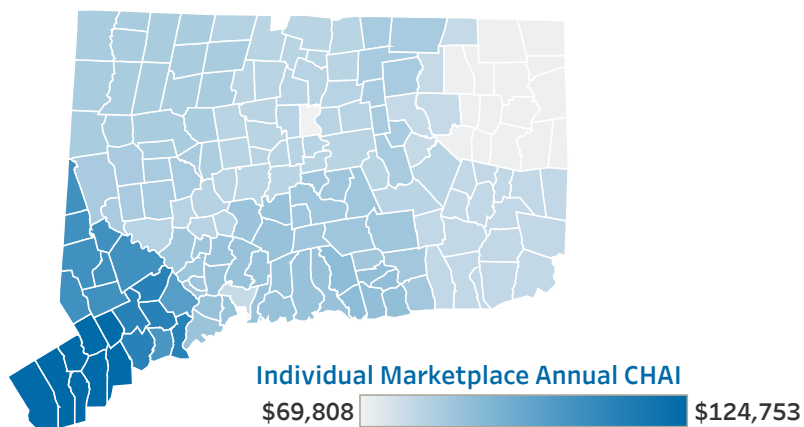
Comparison of Annual Connecticut Healthcare Index by Health Insurance Category
Two Adults, One Preschooler, and One School-age Child: CT
Adult Age = 18–34 | Low Health Risk Score

Employer Sponsored

Employer-Sponsored Annual CHAI

$63,220 $100,102

Individual Marketplace

Individual Marketplace Annual CHAI

$69,808 $124,753

Medicaid

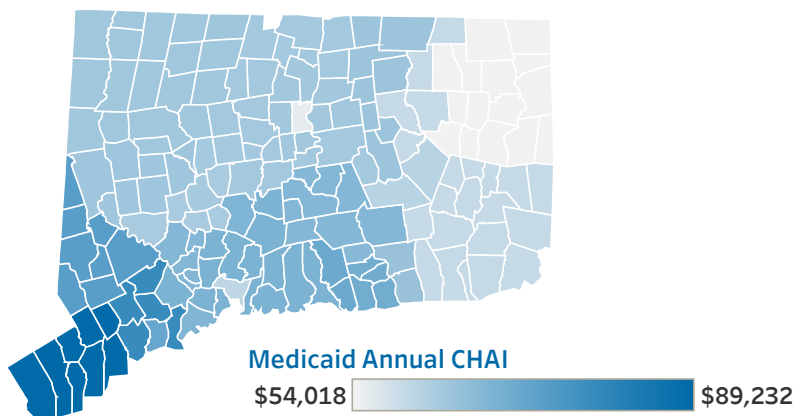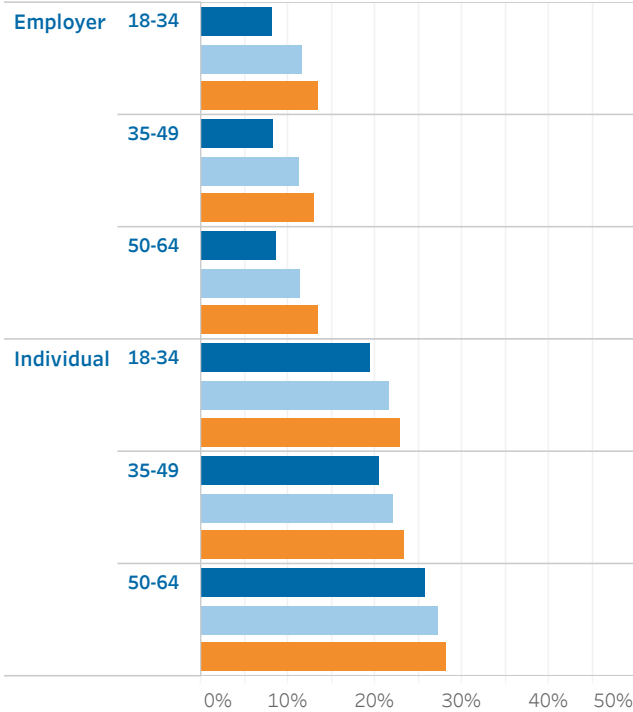**Medicaid Annual CHAI**

$54,018 $89,232

Figure 1E

CHAI Healthcare Costs as a Percentage of Total Basic Needs: Employer Sponsored and Individual Marketplace
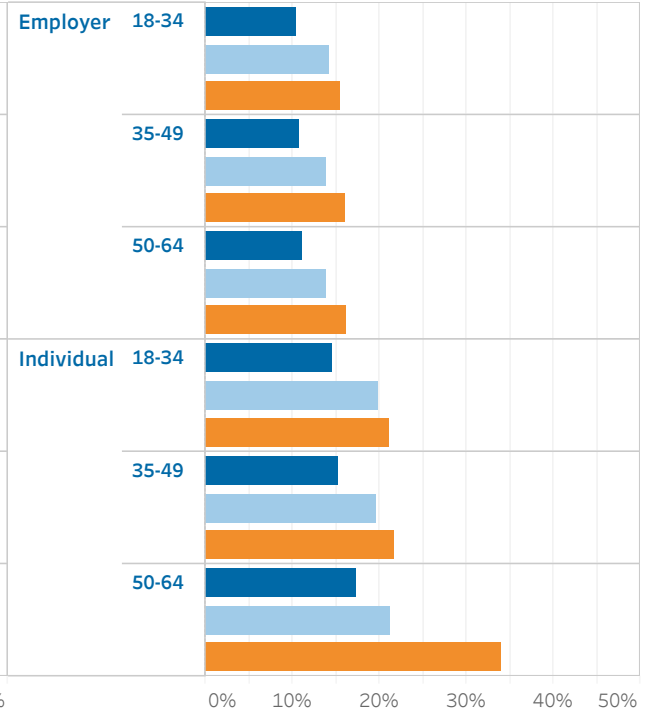#### Two Adults, One Preschooler, and One School-age Child: Select towns, CT
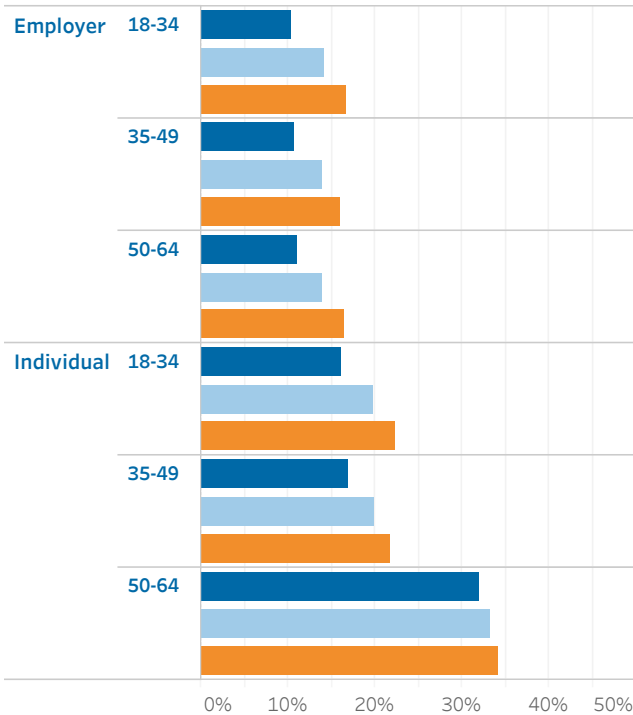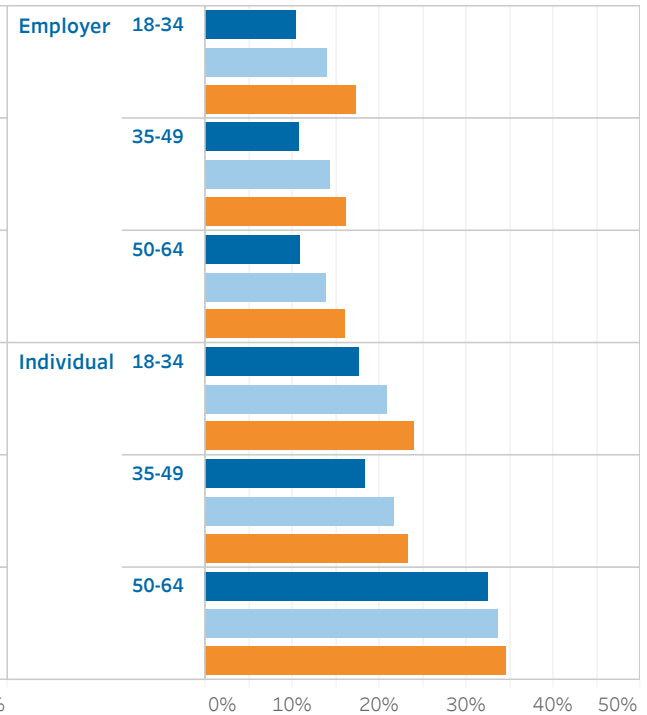
Health Risk Score
■ Low ■ Medium ■ High

Note: Individual marketplace percentage includes the premium tax credit.

VARIATION BY ADULT AGES & HEALTH RISK SCORE

While the amount of income necessary to cover healthcare expenses and other basic needs varies by family type and town, the adult's age category and health risk score also have a large impact. While premiums in employer sponsored insurance are not adjusted for a person's age, health risk scores will still increase out-of-pocket costs. In contrast, premiums are adjusted for age on the individual marketplace, causing even more variation in the definition of how much a household needs to afford basic needs.

Example Family with two adults and two school-age children, Bridgeport and Hartford. Figure 1F highlights the monthly CHAI for Hartford and Bridgeport by health risk score across the 19 different health cost variables (insurance type, adult age category, and health risk score).

The income needed to meet all basic expenses as projected by CHAI can vary drastically based on the insurance type coverage and adult age category. For example, for a family with two adults and two school-age children:

- When variations in adult ages and insurance type are taken into account, CHAI for this family type in Hartford varies by over $2,000 per month—from $3,425 per month with Medicaid to $5,602 per month for the oldest adult age category and high health risk score with individual marketplace insurance.

- Even greater variation can be seen in the Bridgeport CHAI for the same family type where there is a difference of over $5,000 per month—from $4,626 per month with Medicaid to $9,721 per month with individual marketplace insurance for the oldest adult age category and high health risk score.

Employer Sponsored

While the employer-sponsored health insurance premium does not vary by age of household members, out-of-pocket costs do vary based on age. Therefore, when the health risk score is low

(and thus low out-of-pocket costs), the employer-sponsored CHAI ranges, depending upon age, from $4,424 per month to $4,483 per month for this family type in Hartford and from $5,596 to $5,683 per month in Bridgeport. However, if the parents have uncontrolled chronic health conditions and experience high out-of-pocket expenditures, the employer-sponsored CHAI ranges from $4,939 to $5,008 per month in Hartford and from $6,301 to $6,357 per month in Bridgeport. In this example, health risk status can increase costs by approximately $500 to $700 per month.

Individual Marketplace

While only out-of-pocket costs vary by age with employer-sponsored health insurance, insurance

However, if the adults are in the 50-64 age category, out-of-pocket costs increase slightly but there is a large increase in the health insurance premium—resulting in a higher income needed to cover all basic needs. Paradoxically, however, if members of the household were able to earn that amount, the household would become ineligible for the Affordable Care Act's premium tax credit (PTC) as their income would be above the PTC income eligibility threshold of 400% of the federal poverty guideline. As a result, CHAI estimates this family in Bridgeport would need nearly $9,000 per month to meet basic needs in the upper adult age category.

purchased through the marketplace *also* includes a premium charge[5] based on each household member's age which results in larger differences across age categories. For example, in Bridgeport, CHAI defines the amount needed to meet all basic needs as $6,025 per month when the adult's age category is 18-34 with a low health risk. However, if the adults are in the 50-64 age category, out-of-pocket costs increase slightly but there is a large increase in the health insurance premium—resulting in a higher income needed to cover all basic needs. Paradoxically, however, if members of the household were able to earn that amount, the household would become ineligible for the Affordable Care Act's premium tax credit (PTC) as their income would be above the PTC income eligibility threshold of 400% of the federal poverty guideline. As a result, CHAI estimates this family in Bridgeport would need

nearly $9,000 per month to meet basic needs in the upper adult age category.

Medicaid

Without healthcare costs, the Medicaid CHAI for this family type in Hartford is $3,425 per month—$1,000 per month less than what is required under employer-sponsored health insurance in the lowest age and health risk categories. In Bridgeport, the Medicaid CHAI is $4,626 per month. This means that even with all healthcare costs covered, with both parents working full time, they would each need to earn at least $13.14 per hour to afford housing, child care, food, transportation, miscellaneous expenses, and taxes in Bridgeport.

---

5. The Affordable Care Act (ACA) included a rating rule that limits the ratio of the premium charge for the oldest adults at 3:1 the premium of a 21-year-old. Thus, 1.0 is the default premium ratio for 21-year-olds and increases up to 3.00 for 64 and older. The default premium ratio is 0.765 for 0-14-year-olds and then increases incrementally up to 21-year-olds. See **cms.gov/CCIIO/Programs-and-Initiatives/Health-Insurance-Market-Reforms/state-rating**.

Monthly Connecticut Healthcare Affordability Index
Two Adults and Two School-age Children: Hartford and Bridgeport, CT

Hartford
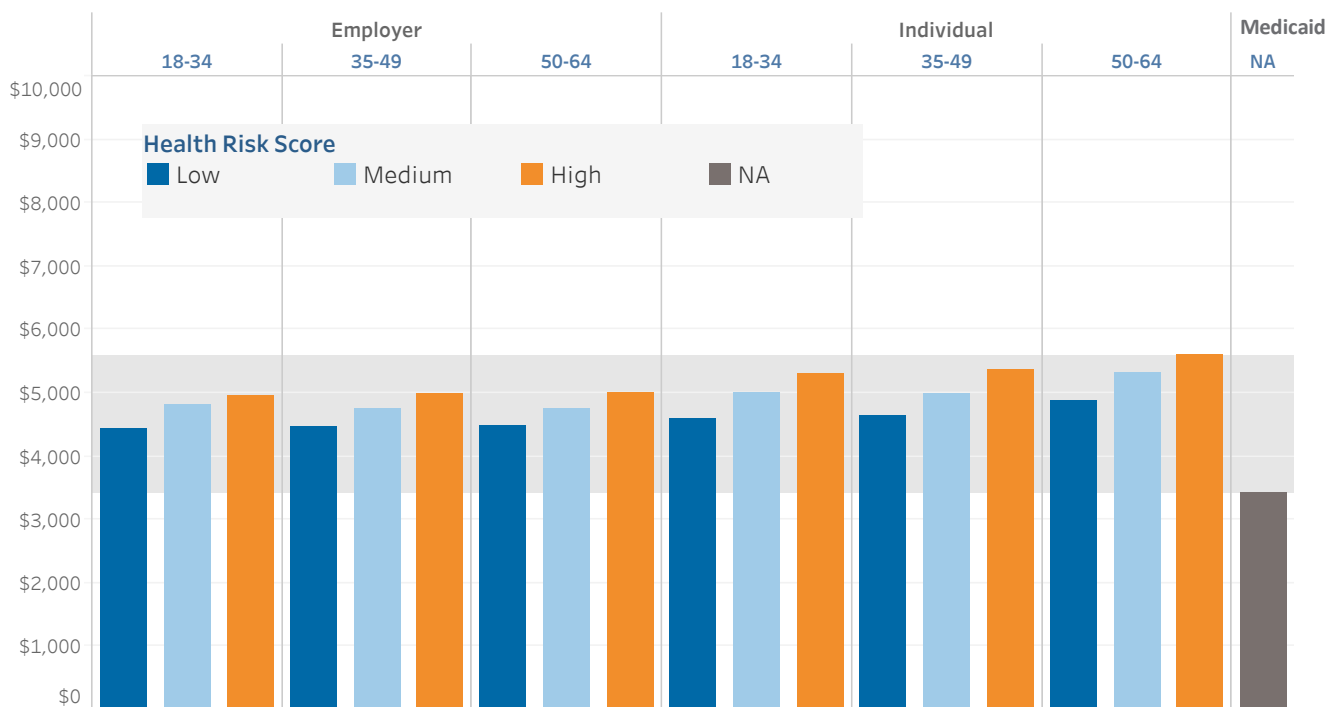
Bridgeport
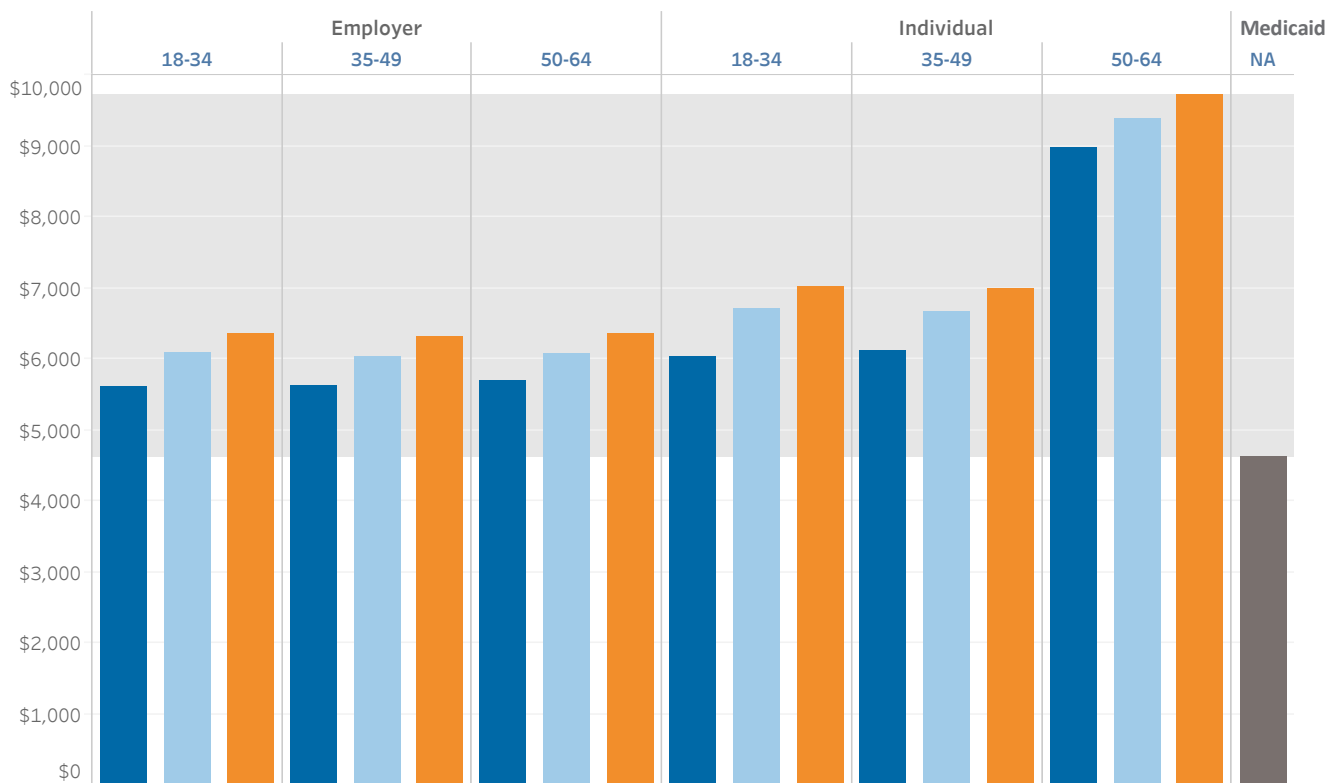
Part II
Impact of Public Assistance on Income Adequacy and Healthcare Affordability

Part II
Impact of Public Assistance on Income Adequacy and Healthcare Affordability

For many working parents in Connecticut, wages are not enough to afford the cost of healthcare and other basic needs included in CHAI. Government supports such as food and child care assistance, together with premium tax credits under the ACA and Medicaid assistance, can help close the gap between actual wages and expenses. With work supports (subsidies or assistance), families struggling economically do not need to choose from among their basic needs, such as foregoing healthcare, scrimping on nutrition, living in overcrowded or substandard housing, or leaving children in unsafe or non-stimulating environments.

While Part I highlighted the total earnings families need to afford healthcare and other basic needs, not all workers will be able to earn the necessary wage defined by CHAI. This section models how work supports can reduce a family's expenses until they are able to earn adequate wages, thus closing the gap between actual wages and what it really takes to make ends meet according to CHAI. Table 2A provides a summary of the work supports modeled in this section.

To test how work supports can help close the gap between earnings and expenses, we start with specific wages and ask: "How adequate are these wages in meeting a family's needs, with and without various combinations of work supports?" Wage adequacy is defined as the degree to which a given wage is adequate to meet basic needs, considering the financial impact of various work supports, or lack thereof.

- If wage adequacy is at or above 100%, the wage is enough or more than enough to meet all of the family's basic needs.

- If it is below 100%, it is only adequate to cover that percentage of the family's basic needs.

- For example, if wage adequacy is at 60%, then the wage (along with any work supports) only covers 60% of the cost of meeting that family's basic needs.

To explore this question, we are analyzing one sample family type: a single parent (18-34 age category, low

health risk score) with a preschooler and school-age child living in the town of New Haven. While keeping the family type and town constant, Figures 2B, 2C, and 2D, highlight the affordability of different healthcare cost models with the addition of work supports. By reducing the costs related to housing, child care, and food, accounting for the impact of these work supports provides an additional lens for assessing the affordability of different healthcare cost models.

In all three charts, the dashed line provides the baseline, showing the adequacy of various wages **without** any work supports. Each solid line represents a different work support package and shows how much wage adequacy increases above the dashed baseline as a result of the addition of one or more work supports. Note that without any work supports, the wage must reach about $31.50 per hour (employer-sponsored insurance) or $33.50 per hour (individual marketplace) to meet basic expenses. Full wage adequacy can be reached at lower wage rates depending on the type of insurance coverage and combination of work supports for which the family is eligible. Note that the income cliffs shown in the following charts are represented for just one family type—other family types will face different income cliffs depending upon health insurance category, family composition, and the combination of support packages.

Additionally, this family is eligible for annual refundable tax credits that are not shown in the charts (see Text

Box "Refundable Tax Credits"). The amounts of tax credits vary significantly, depending upon income. A single parent with two children in New Haven would be eligible for around $7,500 annually in refundable tax credits when earning $11.00 per hour working full time or nearly $6,000 annually at a $15.00 per hour full-time minimum wage.

Refundable Tax Credits

Like the original Self-Sufficiency Standard, CHAI shows both refundable and nonrefundable tax credits as if they are received monthly. However, in the figures here, they are treated differently. The refundable federal Earned Income Tax Credit (EITC), the "additional" refundable portion of the Child Tax Credit (CTC), and the refundable Connecticut EITC are shown as received annually. In contrast, the nonrefundable federal Child Care Tax Credit (CCTC) can only be used to reduce taxes and does not contribute to a tax refund. Therefore, in this modeling, it is a monthly credit against federal taxes.

The tax credits are calculated this way in order to be as realistic as possible. Families receive the EITC as a single payment the following year when they file their tax returns. As such, many families use the EITC as "forced savings" to pay for larger items that are important family needs, such as paying the security deposit for housing, buying a car, or settling debts.[6] Therefore, the total amounts of the refundable tax credits the family would receive annually (when they file their taxes) are calculated separately instead of being available monthly to reduce expenses in the wage adequacy figure.

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6. Research shows that families make financial decisions based on receipt of the EITC (together with tax refunds) when they file their taxes early in the following year. Jennifer Romich and Thomas Weisner, "How Families View and Use the EITC: The Case for Lump-Sum Delivery," National Tax Journal, 53(4) (part 2) (2000): 1107-1134.

Figure 2A

Summary of Connecticut Work Supports		
Program	**Benefit**	**Income Eligibility**
Child Care Assistance (Care 4 Kids)	Child care copayments are calculated on a sliding scale based on income. Parents are responsible for paying costs beyond the regional reimbursement level plus the Family Fee.	Eligibility requires incomes below 50% of the State Median Income (SMI) at initial entry and below 85% for active families. The 2019 SMI for a family of three is $94,542.
Housing Assistance (Section 8 Housing Vouchers & Public Housing)	Housing costs are typically set at 30% of adjusted gross income and the government voucher makes up the balance of the monthly rent.	In general, households may be eligible with incomes that are below 50% of area median income. Due to limited funding, most new program participants must have income below 30% of area median income (or below the FPG).
Food Assistance (Supplemental Nutrition Assistance Program (SNAP))	Maximum benefit for a family of three: $505 per month	Families must earn gross income less than 185% of the FPG to be eligible and must meet net income (gross income minus allowable deductions) limit of 100% of the FPG.
Food Assistance (Special Supplemental Nutrition Program for Women, Infants, and Children (WIC))	Average monthly benefit is $44 in Connecticut for purchasing supplemental nutritious foods. Also includes breastfeeding support and health education.	Pregnant and postpartum women and children up to age 5: at or below 185% FPG.

Note: Eligibility levels and benefits for work supports and tax credits change routinely—typically yearly. The information reported in above represents eligibility and benefit guidelines for 2019. The 2019 federal poverty guidelines (FPG) for a family of three is $21,330 (annual income). See **https://aspe.hhs.gov/2019-poverty-guidelines**.

WAGE ADEQUACY OF EMPLOYER-SPONSORED CHAI
Figure 2B models the adequacy of different wage levels for a single parent with a preschooler and school-age child living in New Haven, with employer-sponsored health insurance. The monthly healthcare cost for this family is estimated to be $579 per month for the employee contribution of a family premium plus out-of-pocket expenditures.

No Work Supports
Starting at the Connecticut 2019 minimum wage of $11.00 per hour, without any work supports, a New

Haven parent with two children who works full time earns only 39% of the income needed to meet her family's basic needs. However, the Connecticut minimum wage is incrementally increasing to $15.00 per hour by 2023. At the future Connecticut minimum wage of $15.00 per hour, the parent would be able to cover 52% of the family's basic needs. This adult needs to earn $31.50 per hour to achieve 100% wage without any work supports.

Child Care Assistance

Child care assistance can have a large impact on wage adequacy. If this parent receives help from Connecticut's Care 4 Kids child care subsidy program (the first solid line from the bottom in Figure 2D), wage adequacy increases from 39% to 55% while earning $11.00 per hour. If the minimum wage was $15.00 per hour, the wage adequacy for this family would be 72%; with the help of child care assistance alone, full wage adequacy can be reached at $23.00 per hour.

Child Care & Food Assistance

If this family also receives food assistance, wage adequacy at the 2019 minimum wage would increase from 55% with only child care assistance to 62% with child care and food assistance. If the minimum wage was $15.00 per hour, wage adequacy would increase from 72% with child care alone to 77% when food assistance is added as well. As eligibility for food assistance ends prior to reaching 100% wage adequacy, 100% wage adequacy is still reached at $23.00 per hour as when child care assistance was modeled alone.

Housing, Child Care & Food Assistance

Housing assistance has a substantial impact on helping families meet their basic needs, as evident by viewing the top line in Figure 2B. If the family was able to receive housing, child care, and food assistance, wage adequacy would reach 84% at $11.00 per hour full time. However, if the parent was earning $15.00 per hour wage adequacy would reach 93%—close to 100% wage adequacy, but still $162 per month short to cover the cost of healthcare and other basic needs. The parent reaches full wage adequacy at $20.50 per hour, but then experiences a slight wage adequacy decrease to 95% when the parent earns $21.50 per hour as the family is no longer eligible for housing assistance.

Figure 2B

Impact of Work Supports on Wage Adequacy of Employer-Sponsored CHAI as Wages Increase
One Adult with One Preschooler, and One School-age Child: New Haven, CT
Insurance = Employer-Sponsored, Adult Age = 18–34, Health Risk Score = Low

Adequacy of Health Care Policy
100% indicates that wage and supports covers all of the household expenses

Legend:
— Housing, child care & food assistance
— Child care & food assistance
— Child care assistance
- - - No Work Supports

Hourly Wage (Full Time, Year Round)
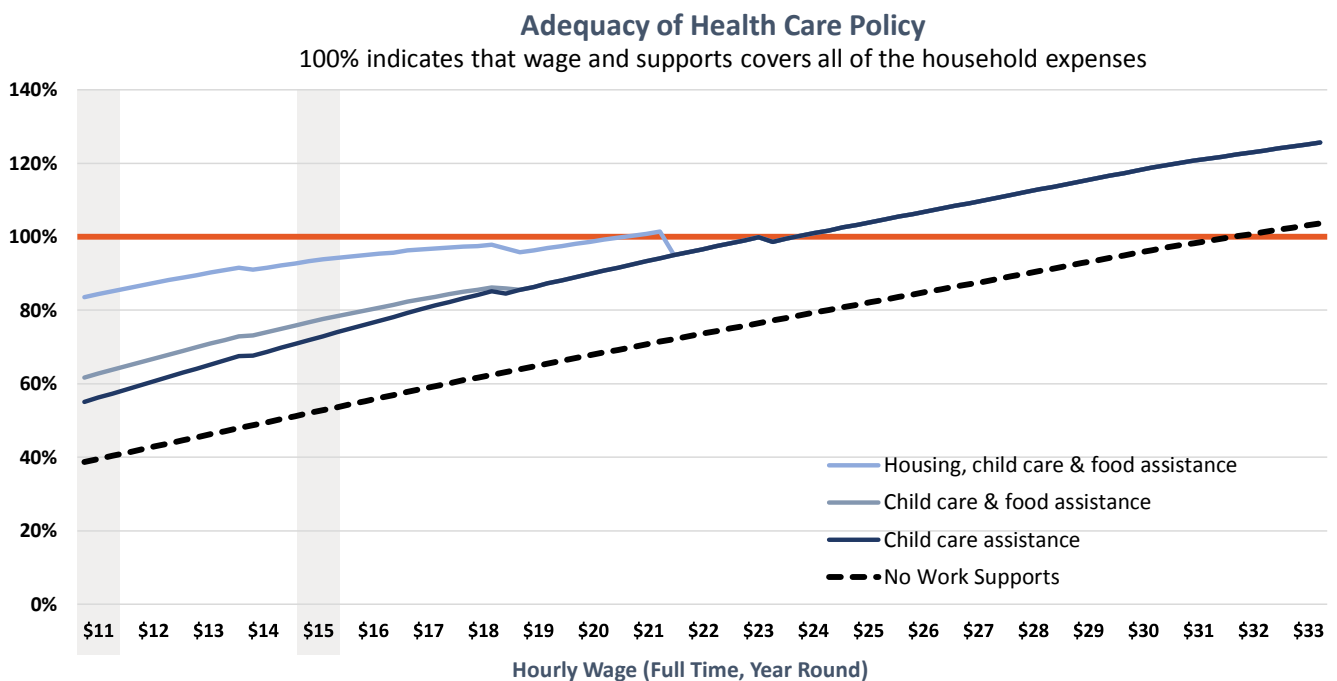
WAGE ADEQUACY OF INDIVIDUAL MARKETPLACE CHAI

Matching the pattern above, Figure 2C models the same single parent with a low health risk score with a preschooler and school-age child living in New Haven. In Figure 2C, the healthcare costs assume the family purchases the 2019 most common plan in the individual marketplace (Choice Silver Standard POS) and is eligible for the premium tax credit (PTC). Without the PTC this family's total health insurance costs would be $1,296 per month for the health insurance premium and out-of-pocket expenditures. However, assuming the parent works full time and earns $11.00 per hour, the PTC reduces the net healthcare costs to $340 per month. At a full-time wage of $15.00 per hour, the PTC is lower and net healthcare costs increase to $412 per month.

No Work Supports

At $11.00 per hour, without any work supports, this New Haven parent with two children earns only 41% of the income needed to meet her family's basic needs. However, if this parent earned $15.00 per hour, she would be able to cover 54% of the family's basic needs. In order to reach 100% wage adequacy, the parent needs to earn $33.50 per hour.

Child Care Assistance

With Connecticut Care 4 Kids child care assistance, wage adequacy increases from 41% to 59% while earning $11.00 per hour. At the future minimum wage of $15.00 per hour, the wage adequacy for this family would be 76%. Full wage adequacy with child care assistance is met at the hourly rate of $24.00.

Child Care & Food Assistance

If this family also receives food assistance in addition to child care assistance, wage adequacy at the 2019 minimum wage would increase to 67%. If the minimum wage was currently $15.00 per hour, wage adequacy for this family would increase to 81%. Due to loss of food assistance at the hourly wage of $18.50, the family would still need to earn $24.00 per hour in order to reach 100% wage adequacy.

Housing, Child Care & Food Assistance

If the family was able to receive housing, child care, and food assistance, wage adequacy would reach 94% at $11.00 per hour full time. However, *if the parent was earning $15.00 per hour, wage adequacy would reach 100% and the parent would earn just enough to cover the cost of healthcare and other basic needs.*

Figure 2C

Impact of Work Supports on Wage Adequacy of Individual Marketplace CHAI as Wages Increase
One Adult with One Preschooler, and One School-age Child: New Haven, CT
Insurance = Individual Marketplace, Adult Age = 18–34, Health Risk Score = Low

Adequacy of Healthcare Policy
100% indicates that wage and supports covers all of the household expenses

Legend:
- Housing, child care & food assistance
- Child care & food assistance
- Child care assistance
- No Work Supports

Hourly Wage (Full Time, Year Round)
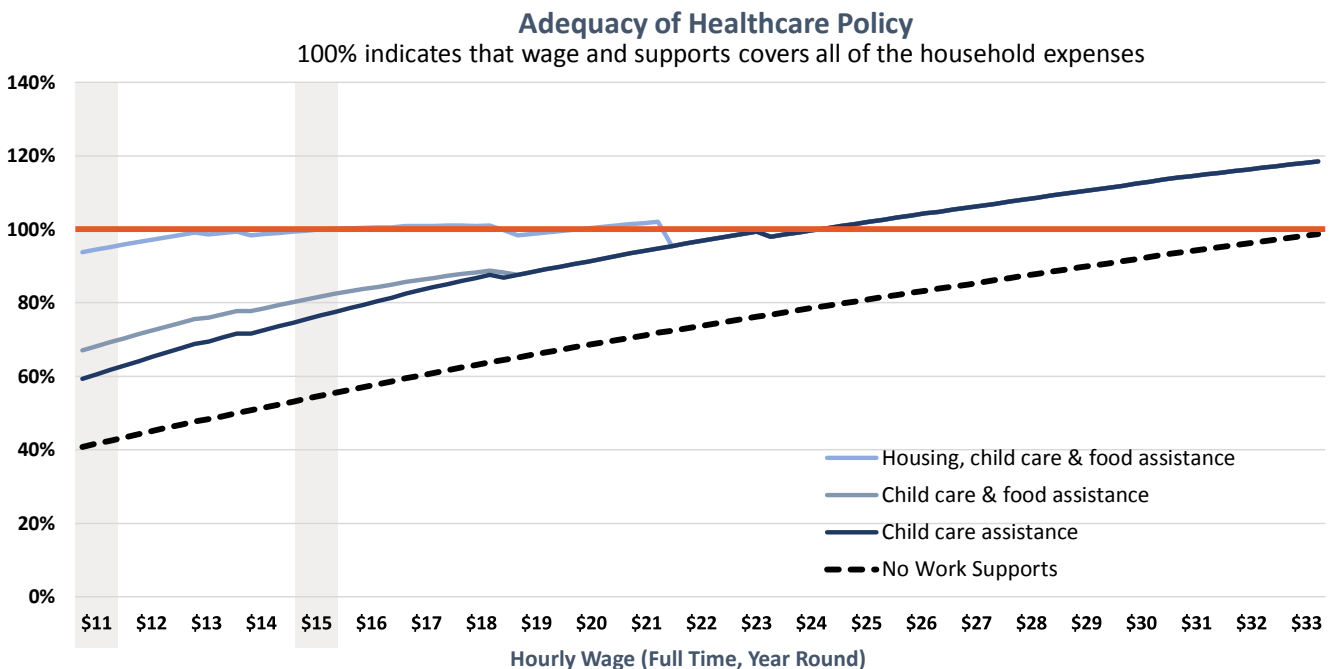
WAGE ADEQUACY OF MEDICAID CHAI

Modeling a family with healthcare expenses covered by Medicaid, Figure 2D shows the impact of work supports on wage adequacy as the parent's earnings increase, starting with the Connecticut minimum wage in 2019.

Child Care & Food Assistance

If this family also receives food assistance through SNAP and WIC, food costs decrease from $608 per month to $231 at $11.00 per hour. With child care assistance, wage adequacy at the minimum wage is 76%. If the minimum wage was currently $15.00 per hour, wage

NOTE: While the children could be eligible for Husky B up to 338% of the federal poverty guideline, the parent *would no longer be eligible for Medicaid* at 160% of the federal poverty guidelines which translates to about $16.00 per hour working full time. The chart continues to show wage adequacy levels above $16.00 per hour for comparison purposes but for many families an increase in income above $16.00 per hour, and the resulting loss of Medicaid, would lead to greater income inadequacy as other healthcare cost options are less affordable.

No Work Supports

Without any work supports, a New Haven parent with two children working full time at the Connecticut 2019 minimum wage of $11.00 per hour only earns 44% of the income needed to meet her family's basic needs. That is, even with Medicaid covering all healthcare expenses, a minimum wage job would still cover less than half of what this parent needs. If this parent earned $15.00 per hour, she would be able to cover 59% of the family's basic needs. She needs to earn an hourly wage of $27.50 to be able to afford 100% of their basic needs.

Child Care Assistance

If this parent receives help from Connecticut's child care subsidy program, the monthly cost of child care decreases from $1,715 per month to $229 per month and wage adequacy increases from 44% to 66% while earning $11.00 per hour. If the minimum wage was $15.00 per hour, the wage adequacy for this family would be 86%. With child care assistance, this parent can reach 100% wage adequacy with earnings of $18.00 per hour.

adequacy for this family would increase to 93%. If the parent earns $17.25 per hour, they can afford to meet all of their basic needs.

Housing, Child Care & Food Assistance

By reducing the cost of housing to 30% of income, through a housing voucher or other assistance, housing costs drop from $1,403 to $581 per month and with the other supports the family is able to afford all their basic needs.

Impact of Work Supports on Wage Adequacy of Medicaid CHAI as Wages Increase
One Adult with One Preschooler, and One School-age Child: New Haven, CT
Insurance = Medicaid

Adequacy of Healthcare Policy
100% indicates that wage and supports covers all of the household expenses

Legend:
— Housing, child care & food assistance
— Child care & food assistance
— Child care assistance
- - - No Work Supports

Medicaid eligibility ends

Hourly Wage (Full Time, Year Round)
per adult (if married)
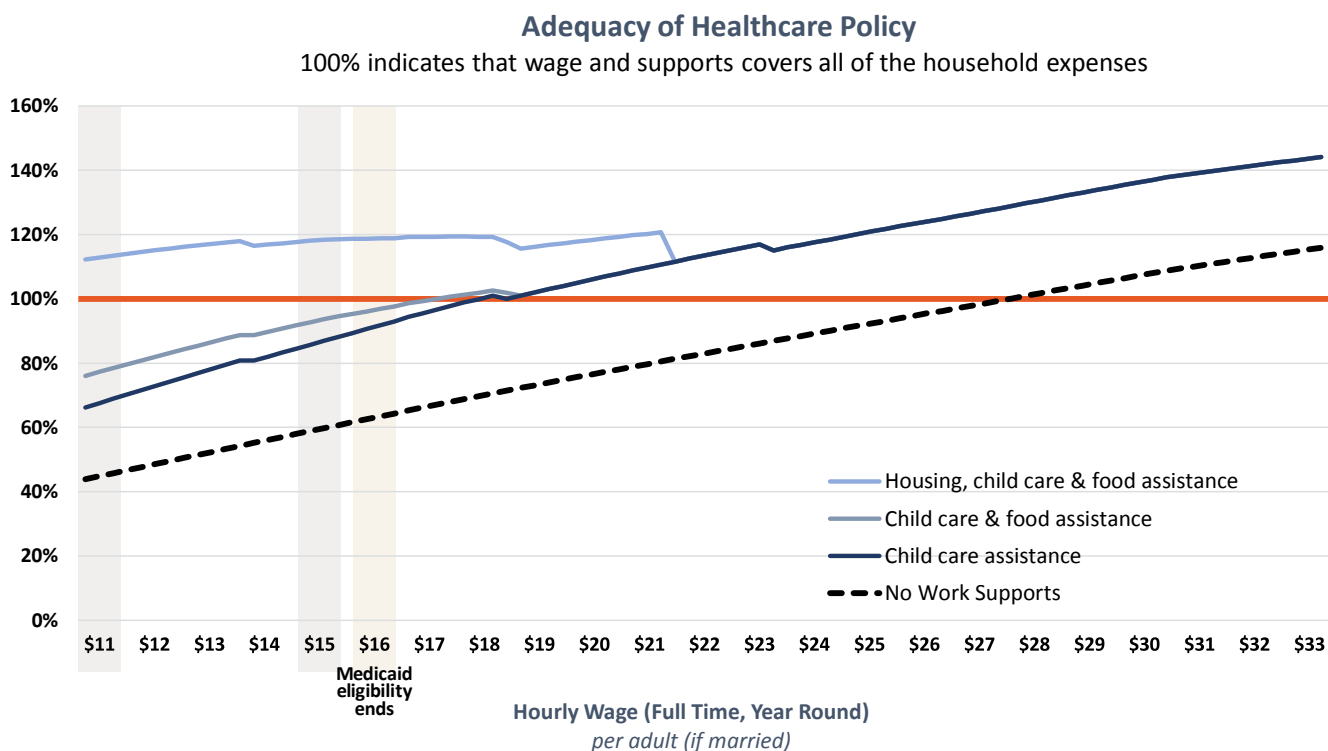
Overall, regardless of health insurance category, public benefits that reduce expenses can help families get closer to affording all their basic needs when wage levels are inadequate. Furthermore, the cost of basic needs is more affordable for a minimum-wage earner when health insurance also includes government support: Medicaid with no cost health insurance or the individual marketplace premium tax credit. While the individual marketplace CHAI is higher than the employer sponsored CHAI, the PTC reduces healthcare costs for a minimum wage earner. With the full work support package modeled, the family in the model above was able to afford all their basic needs at the future minimum wage of $15.00 per hour with the

PTC while the same family with employer-sponsored insurance was short of fully affording all basic needs until over $20.00 per hour.

Very few families receive all of these benefits – barriers include eligibility criteria, lack of sufficient funding to help all who are eligible, waiting lists, administrative barriers, lack of knowledge of available benefits, lack of legal enforcement of rights, and the perceived stigma of receiving assistance.[7] Yet, when families do receive them, work supports play a critical role in helping families meet their basic needs when their income alone does not allow them to be self-sufficient.

7. Chi-Fang Wu, Mary Keegan Eamon. "Need for and Barriers to Accessing Public Benefits Among Low-Income Families With Children." Children and Youth Services Review, Iss. 32 (2010), (accessed March 10, 2016).

Part III
Demographic Characteristics of Households with Inadequate Income

Part III
Demographic Characteristics of Households with Inadequate Income

How Many Households Do Not Have Enough Income to Meet Their Basic Expenses?

This new calculation of more detailed healthcare costs does not alter the main finding of the previous Connecticut Self-Sufficiency Standard research basic needs are unaffordable to nearly **one out of four** (23%) of working-age households (excluding the elderly and people with disabilities who are out of the labor force). Connecticut families struggling to make ends meet are neither a small nor a marginal group, but rather represent a substantial proportion of the state. Individuals and married couples with children, households in which adults work full time, and people of all racial and ethnic backgrounds account for substantial portions of those unable to bear the expenses of all their basic needs in Connecticut. Overall, there are over 220,000 households in Connecticut that lack enough income to cover the cost of healthcare and necessities such as food, shelter, transportation, and child care.

However, there are large differences in the income adequacy rates estimated by CHAI *within* each health insurance category, particularly the individual marketplace and Medicaid (see Table 3A).

- As shown in the first part of the report, healthcare costs are generally more affordable for those households with **employer-sponsored** health insurance than they are for households in the individual marketplace. Therefore, it is not surprising that households benchmarked to employer-sponsored insurance experience the lowest income inadequacy rate across the three health insurance categories—with one in ten households (10%) with employer-sponsored health insurance unable to afford their basic needs.

- Households purchasing health insurance through the **individual marketplace** are three times

more likely (33% of households) to be unable to meet their basic expenses than households with employer-sponsored insurance (10% of households). In other words, healthcare is not affordable for one in three households seeking it through the individual marketplace, and it is unaffordable for one in ten households covered by employer-sponsored insurance. And as Part I of the report showed, older adults and households in regions with high housing and child care costs require much higher incomes to meet their basic needs without any assistance.

In other words, healthcare is not affordable for one in three households seeking it through the individual marketplace, and it is unaffordable for one in ten households covered by employer-sponsored insurance.

- While **Medicaid** households have the lowest overall cost of living as estimated by CHAI, over two-thirds (68%) of households with Medicaid have high income inadequacy rates as families must have low incomes to qualify for Medicaid. While receipt of Medicaid *alone* does not lead to adequate income for most households, it is an important safety net that is beneficial to households and the community. When combined with other work supports—as shown in Part II—low-wage workers are more likely to meet all their basic needs.

Connecticut Healthcare Affordability Index Income Inadequacy Rates by Insurance Category						
	Total Households		Inadequate Income		Adequate Income	
	Number	Percent of total households	Number	Percent	Number	Percent
Connecticut Healthcare Affordability Index (CHAI)						
Total	946,425	100.00%	220,195	23.27%	726,230	76.73%
Employer-sponsored	644,149	68.06%	65,612	10.19%	578,537	89.81%
Individual marketplace	144,021	15.22%	47,140	32.73%	96,881	67.27%
Medicaid	158,255	16.72%	107,443	67.89%	50,812	32.11%

Source: U.S. Census Bureau, 2017 ACS 1-Year Public Use Microdata Sample.

With almost one out of four Connecticut households lacking enough income to meet their basic needs, the problem of inadequate income is extensive, affecting families throughout the state, in every racial/ethnic group, among men, women, and children, in all counties. Nevertheless, inadequate income is concentrated disproportionately in some places and among some groups. The remainder of this report delves deeper into these numbers to answer the questions of which households are unable to afford healthcare along with all other basic needs, and what are their characteristics. We will examine demographic characteristics such as geography, race/ethnicity, citizenship, family composition, and educational attainment to see which groups bear disproportionate burdens of inadequate income.

GEOGRAPHIC DISTRIBUTION

Families struggle to make ends meet in every town in Connecticut (see Figure 3B). Over a quarter (25%) of households with incomes less than the CHAI estimate, live in Waterbury, Bridgeport, New Haven, and Hartford, although together their population is about 14% of the total state population. Combined, these cities have nearly 55,000 households with inadequate income according to CHAI (see Appendix Table 3.1 for detailed counts by town of the numbers of households with inadequate income).

Income Inadequacy Rate by Town, All Insurance Types
Connecticut Healthcare Affordability Index
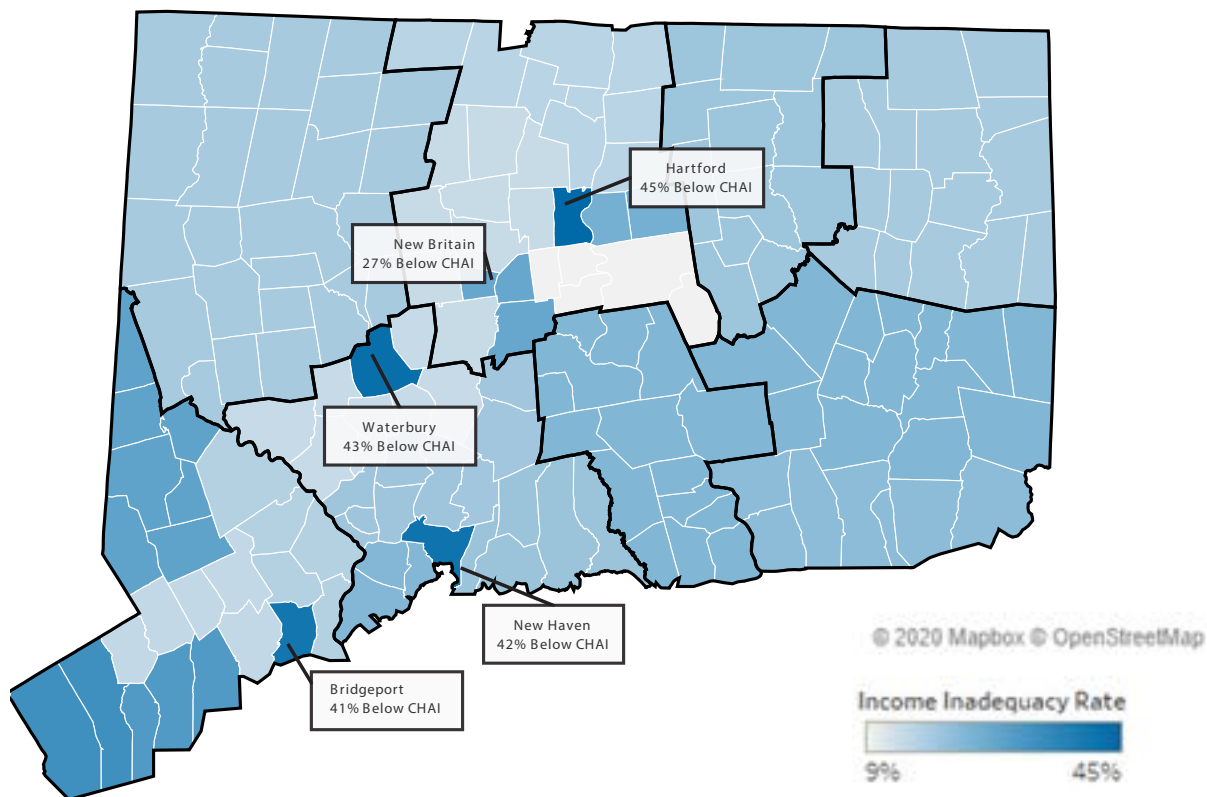
Source: U.S. Census Bureau, 2017 ACS 1-Year Public Use Microdata Sample.

In order to analyze differences in income inadequacy rates by insurance category it is necessary to do this analysis at the county level rather than individual towns due to sample size (see Figure 3C).

- For households in the **employer-sponsored** category, income inadequacy rates range from a low of 4% in Windham County to a high of 11% in Fairfield, Middlesex, New London, and Tolland.

- Income inadequacy rates for households in the **individual marketplace** are higher than the rates for households in employer-sponsored health insurance plans. With an income inadequacy rate of 46%, Fairfield County is home to the highest income inadequacy rates among individual marketplace households, while the lowest income inadequacy rate is 17% in Hartford County

- As households must have low incomes to qualify for **Medicaid**, the income inadequacy rates among Medicaid households are high across all counties

and range from 55% in Litchfield County to 77% in Middlesex County.

Overall, households living in high cost Fairfield County disproportionately have incomes below the individual marketplace CHAI (see Figure 3D).

- Higher cost areas are less likely to benefit from the ACA's premium tax credit; without the tax credit to reduce the premium costs, CHAI is higher. While Fairfield County contains 25% of Connecticut households overall and 30% of all households with inadequacy income, CHAI estimates for the individual marketplace that 44% of households with inadequate income are located in Fairfield County.

- On the other hand, with a lower overall cost of living, Hartford County represents 26% of all Connecticut households and 22% of all households with inadequate income, but only 12% of individual marketplace households with inadequate income.

Income Inadequacy Rate by County
Connecticut Healthcare Affordability Index

County

		Income Inadequacy Rate
Total	Fairfield County	
	Hartford County	
	Litchfield County	
	Middlesex County	
	New Haven County	
	New London County	
	Tolland County	
	Windham County	
Employer sponsored	Fairfield County	
	Hartford County	
	Litchfield County	
	Middlesex County	
	New Haven County	
	New London County	
	Tolland County	
	Windham County	
Individual marketplace	Fairfield County	
	Hartford County	
	Litchfield County	
	Middlesex County	
	New Haven County	
	New London County	
	Tolland County	
	Windham County	
Medicaid	Fairfield County	
	Hartford County	
	Litchfield County	
	Middlesex County	
	New Haven County	
	New London County	
	Tolland County	
	Windham County	

Income Inadequacy Rate

Proportion of Households with Income Inadequacy Compared to Overall Population by County
Connecticut Healthcare Affordability Index by Insurance Category
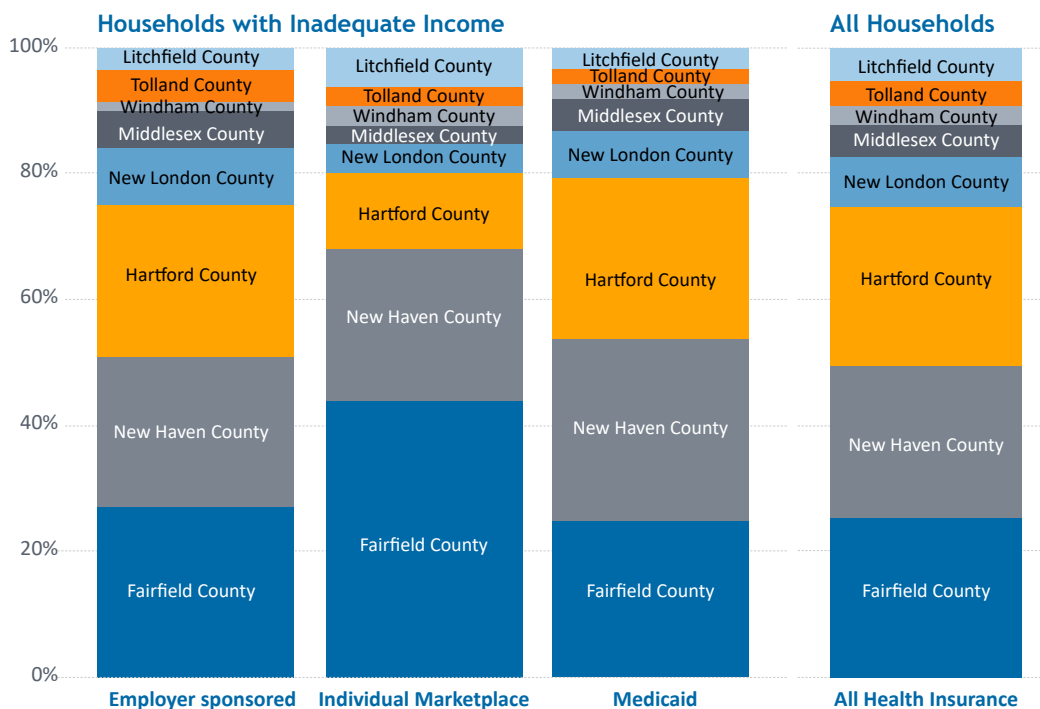
Source: U.S. Census Bureau, 2017 ACS 1-Year Public Use Microdata Sample.

RACE/ETHNICITY AND CITIZENSHIP

Because of historical and systemic discrimination, Black, Indigenous, People of Color (BIPOC) communities are more likely to have inadequate incomes and struggle to afford healthcare costs regardless of type of health insurance category. In addition, nativity/citizenship further divides the state: foreign-born householders have higher income inadequacy rates than U.S.-born householders, especially if they are not citizens. Citizenship and fluency in English tend to increase income for immigrant households, yet these characteristics are not enough to bring income adequacy rates to the same level as native-born citizens.

Race/Ethnicity Definitions: The dataset for this research combines the Census Bureau's separate racial and ethnic classifications into a single set of categories. The American Community Survey questionnaire asks individuals to identify if they are ethnically of Hispanic, Latin, or Spanish origin and separately identify their race/races (they can indicate more than one race). Those who indicate they are of Hispanic, Latin, or Spanish origin (regardless of their race category) are coded as Latinx in this research. All others are coded according to their self-identified racial category. Thus, a person who indicates they are Latin and Black is coded as Latinx and not Black. Note that BIPOC is an acronym that means Black, Indigenous, People of Color.

The result is five mutually exclusive (separate and non-overlapping), racial and ethnic groups:

• Latin, Spanish or Hispanic (referred to as Latinx),

• Asian, Native Hawaiian, and Other Pacific Islander (referred to as Asian and Pacific Islander or API),

• Black,

• White, and;

• American Indian, Alaska Native, Some Other Race, and Two or More Races (referred to as All Other). Individuals identifying in these categories are combined due to the small population sizes in the sample.

While inadequate income is an issue facing all racial/ethnic groups, BIPOC groups disproportionately experience income inadequacy, including unaffordable healthcare.[8]

- Latinx households, regardless of race, have the highest income inadequacy rate of all racial/ethnic groups in Connecticut—nearly half (46%) of Latinx households lack sufficient income in Connecticut according to CHAI (see Figure 3E). At the same time, Latinx income inadequacy rates by county vary considerably, ranging from 33% in New London County to a high of 59% in Fairfield County (see Appendix Table 3.2).

- With 36% of Black households in Connecticut experiencing income inadequacy, this community has the second highest income inadequacy rate. Income inadequacy rates for Black households range from 29% in Hartford County to 65% in Middlesex County.

- Over a quarter (28%) of Asian households in Connecticut lack adequate income with the lowest rate of income inadequacy for Asian households in Fairfield County (23%).

- Among white households, there is a much smaller range in income inadequacy rates: income inadequacy rates under CHAI range from a low of 13% in Hartford County to a high of 18% in New Haven County.

CHAI estimates of income inadequacy rates for households in the individual marketplace are greater for all race/ethnic groups than income inadequacy rates for those covered by employer-sponsored insurance, from five percentage points for Black householders to twelve percentage points for all other races. Over half of Latinx-headed households in the individual marketplace are defined as having insufficient income under CHAI.

Within each health insurance category, there are similar patterns of income inadequacy by race/ethnicity:

- While households with **employer-sponsored** health insurance are more likely able to afford their health costs overall, one-fifth (20%) of Latinx-headed households are still income insufficient, as well as 18% of Black and 17% of Asian households. White households with employer-sponsored health insurance have the lowest income inadequacy rate of any group (8%).

- CHAI estimates of income inadequacy rates for households in the **individual marketplace** are greater for all race/ethnic groups than income inadequacy rates for those covered by employer-sponsored insurance, from five percentage points for Black householders to twelve percentage points for all other races. *Over half of Latinx-headed households in the individual marketplace are defined as having insufficient income under CHAI.*

- Income inadequacy rates for households with **Medicaid** are high across all racial/ethnic categories from a low of 61% among white householders to a high of 79% among Asian households. For these households, with the cost of healthcare already addressed by Medicaid, efforts to lower income inadequacy rates will require policy interventions that either lowers the cost of other basic needs or raises incomes.
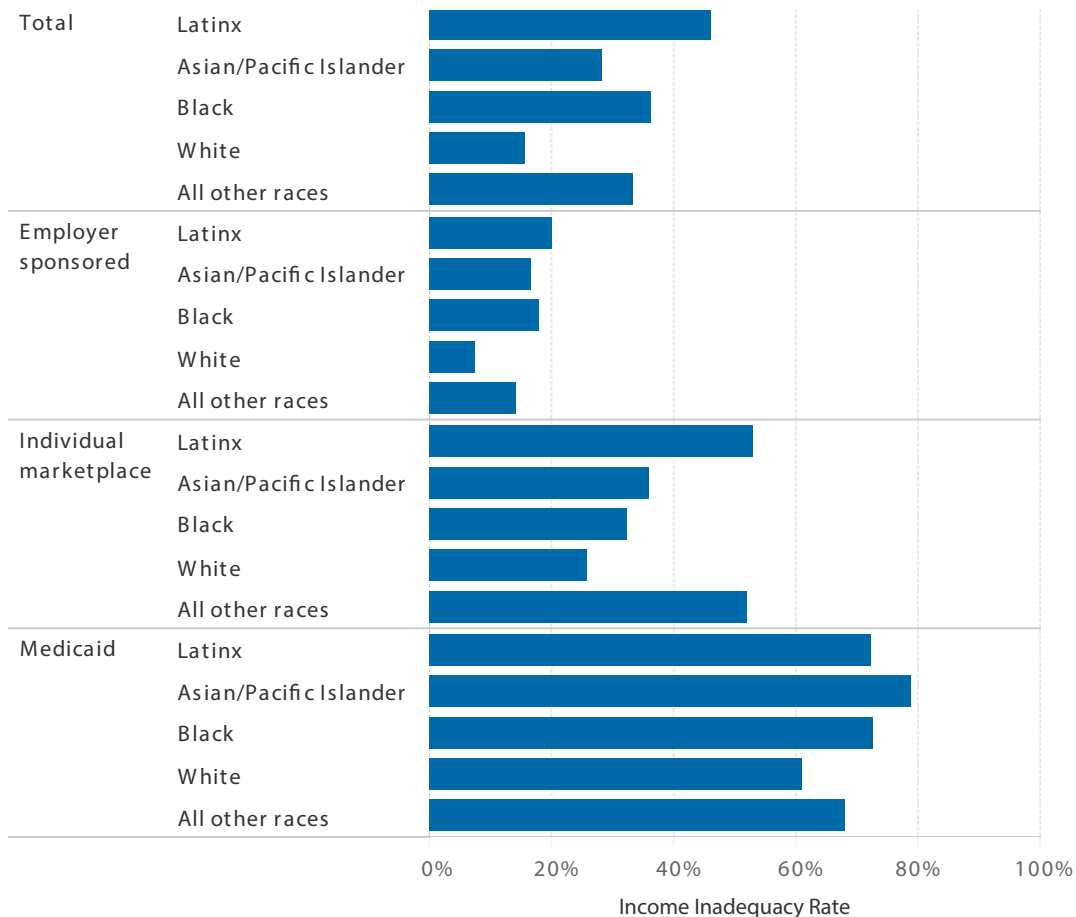
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8. Note that data for race/ethnicity, citizenship status, and language reflect that of the householder and not necessarily that of the entire household.

Inadequacy Rate by Race/Ethnicity of Householder
Connecticut Healthcare Affordability Index by Insurance Category

Source: U.S. Census Bureau, 2017 ACS 1-Year Public Use Microdata Sample.

IMMIGRATION AND CITIZENSHIP STATUS

Affording healthcare costs is a greater hardship for foreign-born householders than native-born householders, especially if they are not citizens (see Figure 3F). As seen above, however, there are substantial differences by health insurance category.

- Overall, one-fifth (20%) of native-born households, over a quarter (28%) of naturalized citizens, and nearly half (46%) of non-citizen headed households have inadequate income according to CHAI.

- The differential in inadequacy rates are similar for households with **employer-sponsored** health insurance by citizenship status, with for example, citizen households' rates of income inadequacy dropping to less than one-tenth (9%) for native-born households with employer-sponsored health insurance.

- Households in the **individual marketplace** have substantially higher rates of income inadequacy by each citizenship status, compared to employer insurance. Over a quarter (27%) of native-born households, 39% of naturalized citizens, and 52% of non-citizen headed households have inadequate income.

- Households in the **Medicaid** category have high rates of income inadequacy, with almost two-thirds of both native born and naturalized citizens estimated to have inadequate income (66% and 65%, respectively). However, income inadequacy rates are quite a bit higher for non-citizen Medicaid households (83%).[9]

9. Uninsured households with income above Medicaid eligibility levels were assigned to the individual marketplace but an unknown percentage will not qualify due to citizenship status. While lawfully present immigrants are eligible for insurance through the individual marketplace, the American Community Survey does not have a measure of whether a non-citizen has legal status or not. For more information on health coverage of immigrants see summary by Kaiser Family Foundation at **https://www.kff.org/disparities-policy/fact-sheet/health-coverage-of-immigrants/ (accessed July 17, 2020).**

Income Inadequacy Rate by Citizenship of Householder
Connecticut Healthcare Affordability Index by Insurance Category
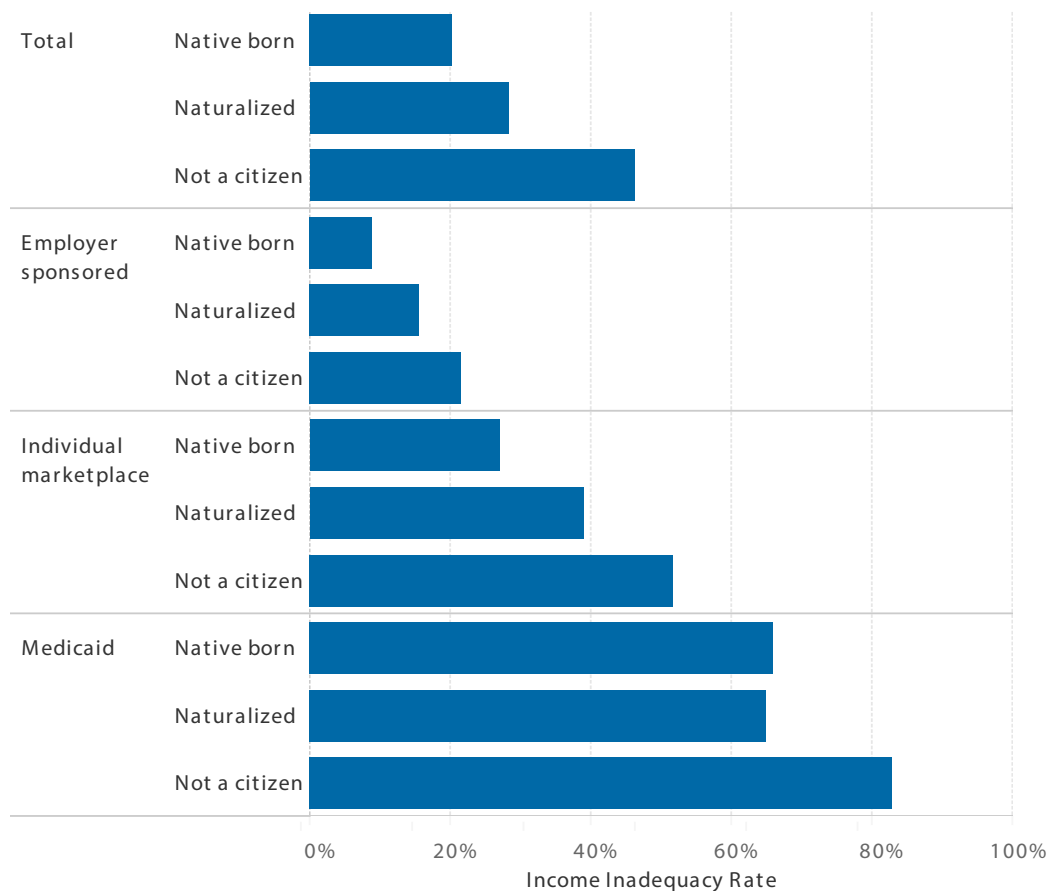
Source: U.S. Census Bureau, 2017 ACS 1-Year Public Use Microdata Sample.

GENDER, CHILDREN, AND HOUSEHOLD TYPE

Households with children, especially if they are young, experience higher rates of inadequate income and are at the highest risk of being unable to afford healthcare costs. Additionally—combining the presence of children, single parent status, gender[10], and low income—single mothers with Medicaid have the highest rates of inadequate income (81%).

Presence of Children

Due to increased costs associated with child care, food, housing, and healthcare, families with children under school-age are disproportionately represented among households with inadequate income. In fact, compared to households without children, the rate of inadequate income according to CHAI almost

doubles for households with children, from 18% to 32% (data not shown).

Households with children, especially if they are young, experience higher rates of inadequate income and are at the highest risk of being unable to afford healthcare costs. Additionally—combining the presence of children, single parent status, gender, and low income—single mothers with Medicaid have the highest rates of inadequate income (81%).

10. The ACS asks respondents to indicate if they are either male or female, thus excluding people who do not identify with either—limiting the analysis to a binary framework due to the nature of the survey question. Additionally, while the survey question asks for a person's sex, this report uses gender for analysis framework with the assumption that inequities in income inadequacy rates are a result of the socially constructed characteristics and norms assigned to men and women, not their biological status.

Moreover, reflecting the need for full-time child care, households with at least one child under the age of six have the highest rate of income inadequacy, regardless of the health insurance category, compared to households with only school-age children (44% compared to 25%) (see Figure 3G). However, this also varies substantially by type of insurance: if the parent has **employer-sponsored** health insurance, the income inadequacy rate (25%) is less than half that of households with **individual marketplace** insurance (59%) and less than a third of **Medicaid** covered households (82%).

Figure 3G

Income Inadequacy Rate by Age of Youngest Child
Connecticut Healthcare Affordability Index by Insurance Category
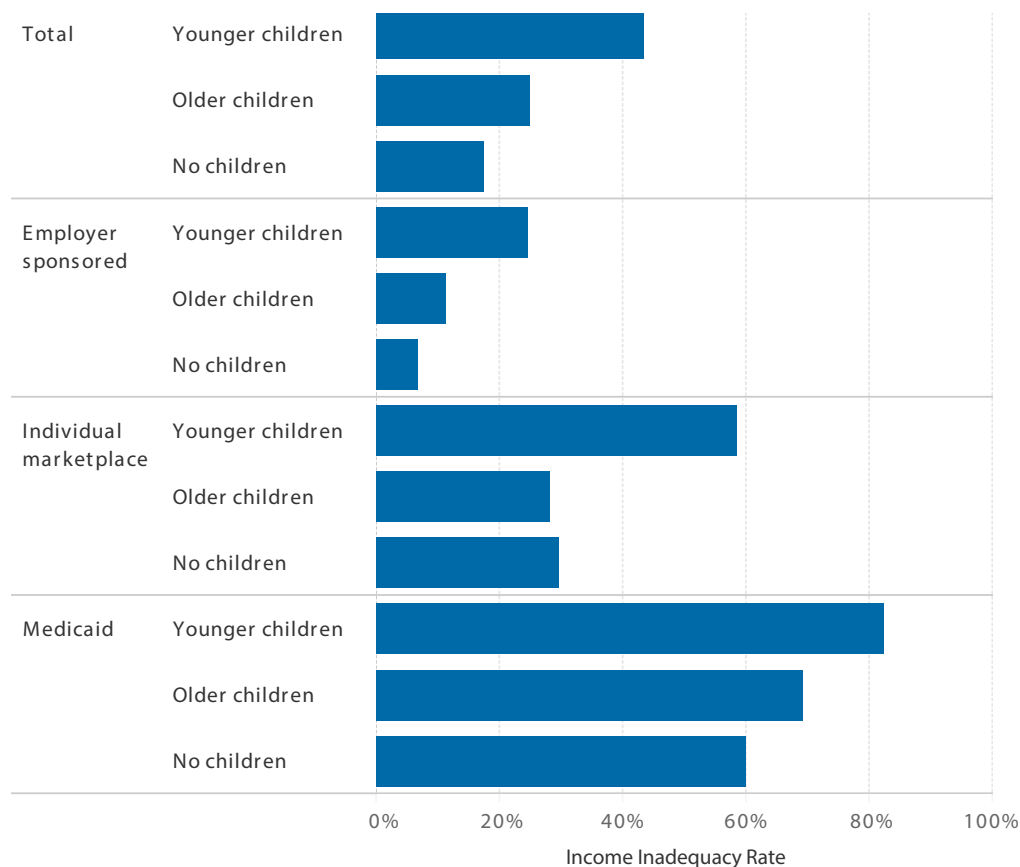
Note: Younger children = youngest child in household is 5-years-old or less, Older children = youngest child between 6 to 17 years of age.
Source: U.S. Census Bureau, 2017 ACS 1-Year Public Use Microdata Sample.

GENDER, FAMILY TYPE, AND RACE/ETHNICITY
Reflecting the gender wage gap, households headed by women are more likely to have inadequate income (see Figure 3H). While 20% of households headed by men have inadequate income, women-headed household have an income inadequacy rate that is seven points higher (27%). Regardless of insurance category, households headed by women are more likely to be struggling to meet basic needs.

The combination of being a woman, having children, and solo parenting is associated with the highest rates of income inadequacy. Family type, including the number of adults, as well as the presence and age of children all affect rates of income adequacy (see Figure 3I). Single mothers in particular experience higher levels of income inadequacy than non-parents.

- Among households with **employer-sponsored** health insurance, only 7% of households without children have inadequate income. That rate increases to 12% for married-couple households with children, 24% for single fathers, and 33% for single mothers.

The combination of being a woman, having children, and solo parenting is associated with the highest rates of income inadequacy.

- Households in the **individual marketplace** are at a greater risk of being unable to afford basic needs, including healthcare costs, than households with employer-sponsored health insurance. Income inadequacy rates increase to 30% for non-parents, 35% for households headed by married-couples with children, 47% for single mothers, and 57% for single fathers.

- As shown previously, income inadequacy rates for households with **Medicaid** are always high despite demographic groups. Over four out of five (81%) single mothers in the Medicaid category have income insufficient to cover all their basic needs, even with no healthcare costs assumed.

Single parents of color, particularly BIPOC single mothers, are estimated by CHAI to most likely struggle to afford the basic needs of their household (see Figure 3J). Overall, 69% of BIPOC single mothers have inadequate income compared to 43% of white single mothers. Even without the presence of children, CHAI estimates that 28% of BIPOC households have inadequate income compared to 13% of white households without children. While estimates by insurance categories are suppressed due to the underlying sample size of the American Community Survey PUMS data, the overall findings shown here indicate that the differences by insurance categories shown above are likely exacerbated further when detailed by the race/ethnicity of the householder.

Figure 3H

Income Inadequacy Rate by Gender
Connecticut Healthcare Affordability Index by Insurance Category

Source: U.S. Census Bureau, 2017 ACS 1-Year Public Use Microdata Sample.

Income Inadequacy Rate by Family Type
Connecticut Healthcare Affordability Index by Insurance Category

Total
- Single mother
- Single father
- Married couple with children
- No children

Employer sponsored
- Single mother
- Single father
- Married couple with children
- No children

Individual marketplace
- Single mother
- Single father
- Married couple with children
- No children

Medicaid
- Single mother
- Single father
- Married couple with children
- No children

Income Inadequacy Rate (0% – 100%)
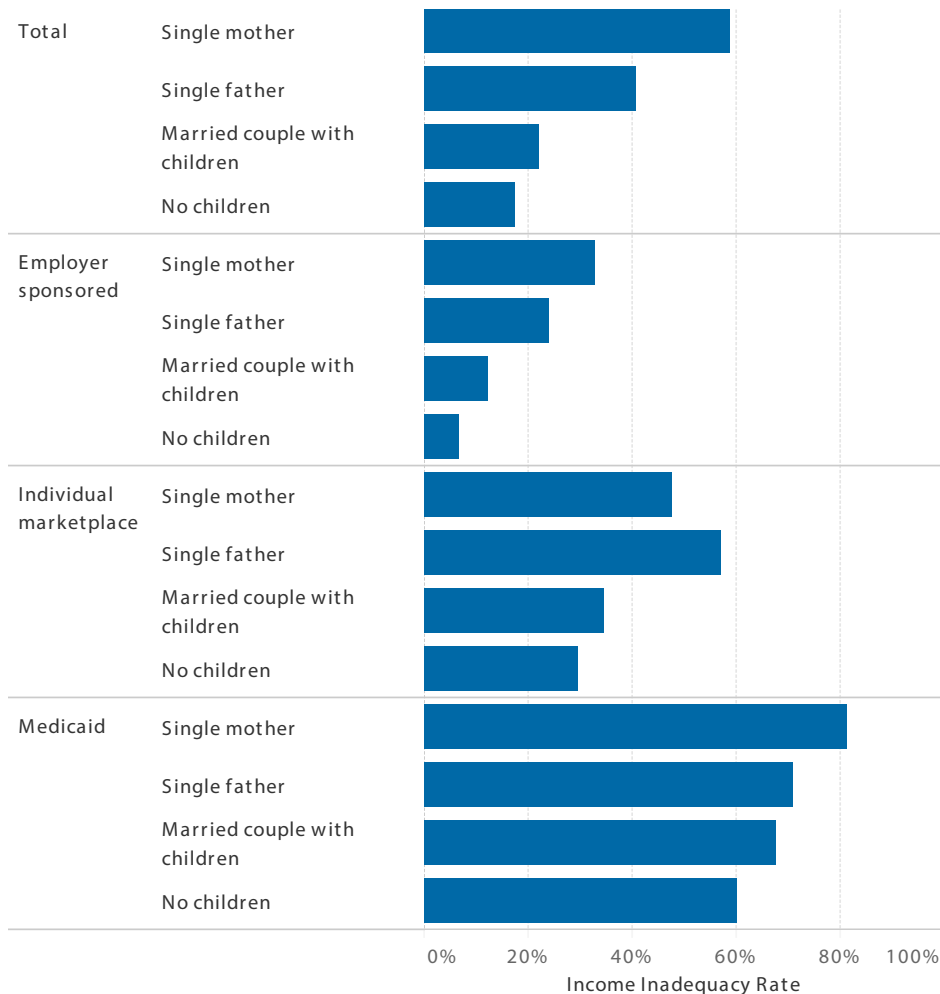
Source: U.S. Census Bureau, 2017 ACS 1-Year Public Use Microdata Sample.

Figure 3J

Income Inadequacy Rate by Family Type and Race/Ethnicity
Connecticut Healthcare Affordability Index

Total
- Single mother — BIPOC / White
- Single father — BIPOC / White
- Married couple with children — BIPOC / White
- No children — BIPOC / White

Income Inadequacy Rate (0% – 100%)

Notes: BIPOC refers to Black, Indigenous and people of color. See sidebar for more details on race/ethnicity definitions.
Source: U.S. Census Bureau, 2017 ACS 1-Year Public Use Microdata Sample.

EDUCATIONAL ATTAINMENT

Householders with higher education levels experience lower rates of inadequate income and are more likely to be able to afford health insurance.

Rates of inadequate income differ substantially by education level. As educational attainment increases, income inadequacy rates decrease dramatically as seen in Figure 3K. Overall, income adequacy rates decrease from 56% for householders with less than a high school diploma to 12% for householders with a college degree or higher. The difference in income inadequacy rates by educational attainment shrinks when examined by the health insurance categories.

- Without a high school diploma, the income inadequacy rate is equivalent to the overall state rate if the householder has **employer-sponsored** health insurance (23%). If the household head has a college degree or more, the income inadequacy rate is only 6% among those with employer-sponsored health insurance.

- Due to the higher healthcare costs in the **individual marketplace** than with employer-sponsored health insurance, CHAI estimates higher income inadequacy rates among individual marketplace households. Among households with insurance through the individual marketplace, 45% of households without a high school diploma have inadequate income compared to 26% when the householder has a college degree or more.

- Regardless of educational attainment, households with **Medicaid** have high income inadequacy rates ranging from 59% for householders with a college degree or more to 78% if the householder does not have a high school diploma.

Figure 3K

Income Inadequacy Rate by Educational Attainment of Householder
Connecticut Healthcare Affordability Index by Insurance Category
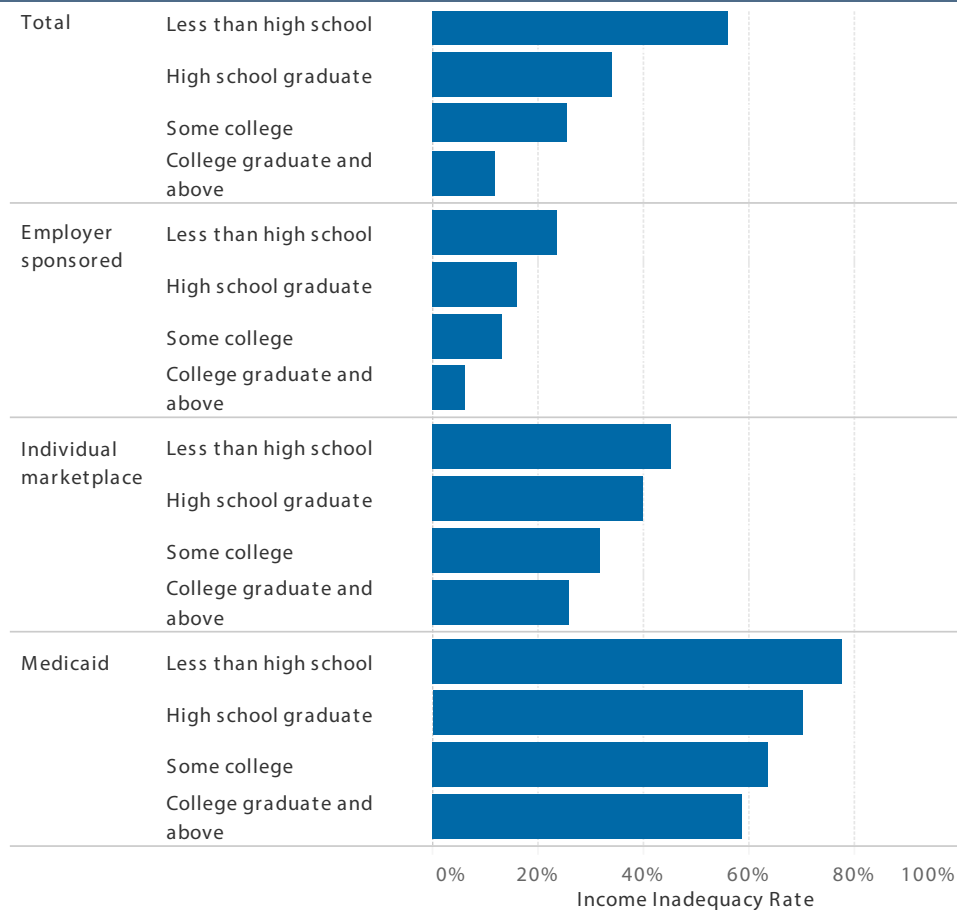
Source: U.S. Census Bureau, 2017 ACS 1-Year Public Use Microdata Sample.

NUMBER OF WORKERS

More than four out of five (84%) households with inadequate income have at least one worker, who is often a full-time, year-round worker. Even with substantial amounts of work hours through full-time employment, income is not always sufficient to meet healthcare costs along with other basic needs.

As with education, more householders with full-time employment translates to families having higher rates of income adequacy . Among householders who work full time, year-round, income inadequacy rates are just 12% compared to 54% for households with no workers. Whether there are one or two adults working in the household, and whether they are able to work full time versus part time or full year versus part year, affects the level of income inadequacy and ability to afford healthcare costs. Of course, these elements interact: working, especially full time or nearly so, is highly correlated with access to employer-sponsored health insurance, which in turn, is associated with lower rates of income inadequacy.

- Households with **employer-sponsored** health insurance are the least likely to experience income inadequacy. Only 6% of households with two or more workers, regardless of full time or part time, have inadequate income. The income inadequacy rate for the household with one full time, year-round worker increases to 12%, but is still less than half the statewide average. Nearly a third of households with one part time worker lack adequate income. While less than 2% of employer-sponsored benchmarked households have no workers, the income inadequacy rate is 45% among employer-sponsored households with no workers (note that the ACS asks if insurance is covered by a current or *former* employer or union).

- Among households with **individual marketplace** insurance, the lowest income inadequacy rate is among households with one full time, year-round worker (21%). Two-worker households have a higher income inadequacy rate of 29%. Of course, two-worker

households are *more* likely to have more adults and as the cost of insurance in the individual marketplace is per person, CHAI income benchmark will typically be higher than households with one worker.

- Regardless of the number of workers, households in the **Medicaid** category have high income inadequacy rates (due in part to low income eligibility limits, limiting access to Medicaid to the lowest income households).

Only 6% of households with two or more workers, regardless of full time or part time, have inadequate income.

While the data above suggests that employer-sponsored insurance provides a protection from income inadequacy, the unprecedented loss of jobs as a result of COVID-19—along with the related employer-sponsored insurance—highlights a weakness of employer-sponsored insurance not yet reflected in the data.

Income Inadequacy Rate by Number of Workers
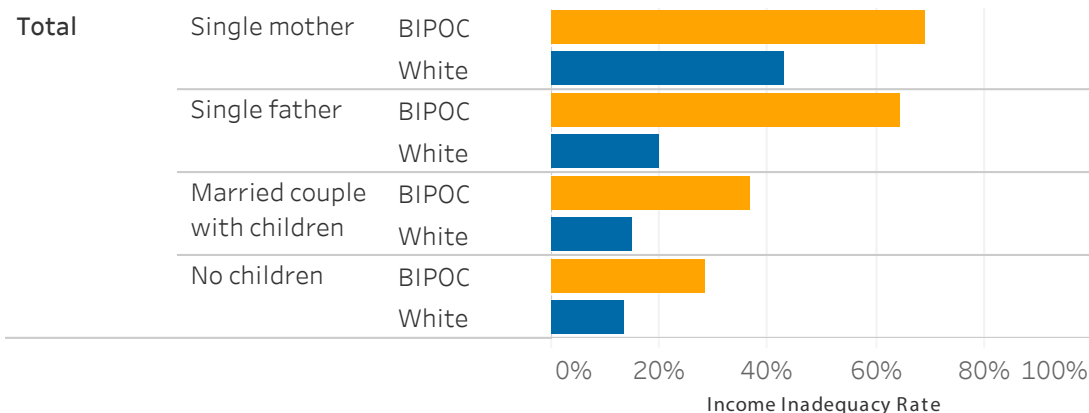### Connecticut Healthcare Affordability Index by Insurance Category

Total
- Two or more workers
- One worker: full time/ full year
- One worker: part time/ part year
- No workers

Employer sponsored
- Two or more workers
- One worker: full time/ full year
- One worker: part time/ part year
- No workers

Individual marketplace
- Two or more workers
- One worker: full time/ full year
- One worker: part time/ part year
- No workers

Medicaid
- Two or more workers
- One worker: full time/ full year
- One worker: part time/ part year
- No workers

0%   20%   40%   60%   80%   100%

Income Inadequacy Rate
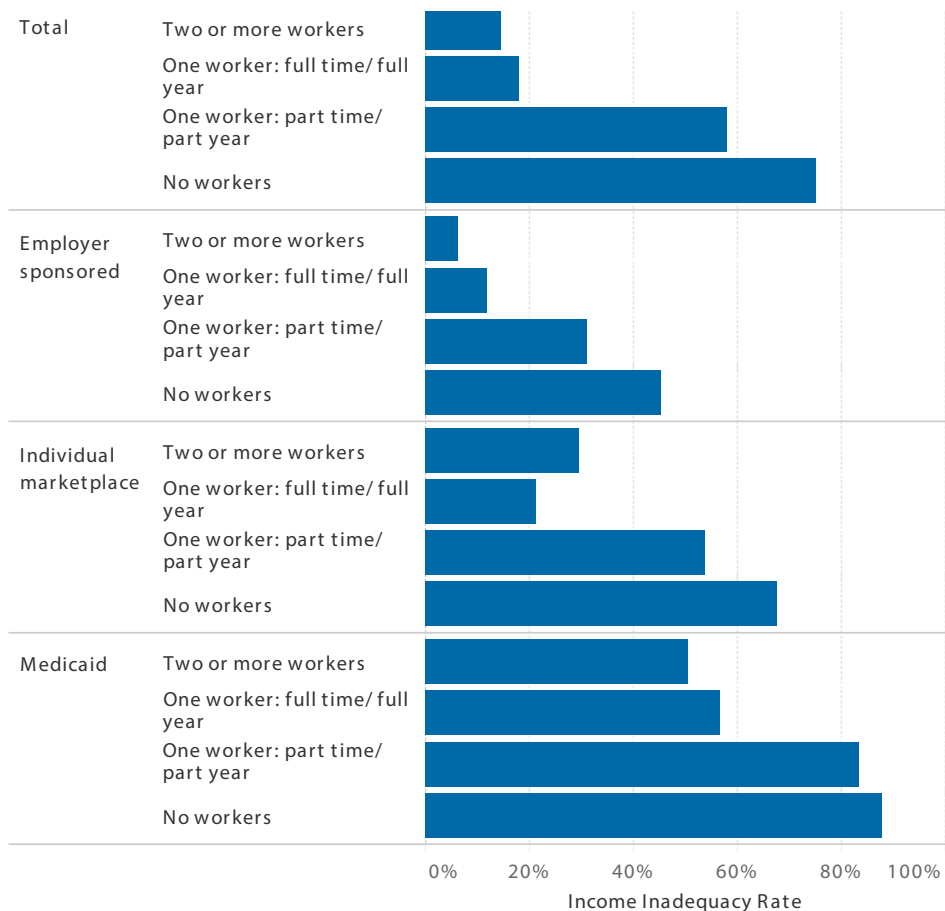
Source: U.S. Census Bureau, 2017 ACS 1-Year Public Use Microdata Sample.

Conclusion

Conclusion

This report introduces the **Connecticut Healthcare Affordability Index**—an important new tool for understanding the numerous factors impacting health affordability. This new data is being released during a pivotal time for understanding what is necessary to reach economic security as financial uncertainties are currently high as a result of the global COVID-19 pandemic. CHAI builds from the Self-Sufficiency Standard which makes it possible to determine what Connecticut households need in order to meet their healthcare costs without at the same time sacrificing meeting the costs of their other basic needs including housing, food, transportation, child care, and taxes.

Part I of this report shows that health affordability is dependent upon family type, geographic area, and the cost of basic needs. Additionally, the new healthcare cost dimensions included with CHAI show that the insurance coverage plus the ages of adults and their health risk score further affect healthcare affordability. In particular, for households purchasing insurance through Access Health CT, Connecticut's the individual marketplace established under the Affordable Care Act, *the premium tax credit (PTC) is essential* for maintaining affordability. When factors such as high housing and child care costs or being an older adult push the total amount needed to meet basic needs beyond the PTC income cap, the full healthcare cost drastically increases what is needed to have adequate income.

Part II showed that for workers with wages below what CHAI estimates is needed to meet basic expenses, work supports for such necessities as child care, food, and housing are critical to meeting basic needs, retaining jobs, and advancing in the workforce. Although CHAI determines an adequate wage level without public benefits, it does *not* imply that public work supports are inappropriate or unnecessary for Connecticut families. Likewise, understanding the help work supports

can provide plays an important role in assessing the affordability of different healthcare cost models.

For households purchasing insurance through the individual marketplace, the premium tax credit (PTC) is essential for maintaining affordability

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In Part III, Census data was coded with CHAI by assigning each household its appropriate CHAI score and showed that nearly one out of four (23%) working-age households—over 220,000 households—lack enough income to cover the cost of basic needs at a minimally adequate level. When this data is examined by insurance category, we find that the income inadequacy rate drops to 10% for households with employer-sponsored health insurance but increases to 33% for households with individual marketplace insurance and 68% for Medicaid-covered households.

This analysis reveals that when the government covers healthcare costs for some low-income households through Medicaid, basic needs become more affordable but *additional measures are still required to either reduce the cost of other basic needs (such as food, child care, housing, etc.) or raise incomes.*

At the same time, for households with individual marketplace insurance, healthcare costs as documented in CHAI are generally higher than those with employer-sponsored healthcare, resulting in a higher rate of families having income inadequate to meet their basic needs. This is in spite of the regulation of this marketplace under the ACA, and for those who qualify, the premium tax credit. These

households may consist of people who have become unemployed or cannot access health insurance through an employer, but are not poor enough for Medicaid nor old enough for Medicare. These conclusions thus challenge policymakers to develop initiatives that address the continuing inequality in costs and coverage between different insurance categories.

Further demographic analysis revealed that these differences overall, and by insurance category, are exacerbated by other sources of inequality in American society. Thus, CHAI found that BIPOC communities, particularly *Latinx and Black households are more likely to have inadequate income than white households.* For example, overall about one fifth of Latinx households have inadequate income according to CHAI:

Further demographic analysis revealed that these differences overall, and by insurance category, are exacerbated by other sources of inequality in American society. Thus, CHAI found that BIPOC communities, particularly Latinx and Black households are more likely to have inadequate income than white households. For example, overall about one fifth of Latinx households have inadequate income according to CHAI.

- However, when examined by insurance category, Latinx households with employer-sponsored insurance had an income inadequacy rate of 20%. At the same time, those in the individual marketplace had a rate of 53% while those in the Medicaid category had an inadequacy rate of 72%.

- By comparison, 8% of white households with employer-sponsored insurance had inadequate income. The income inadequacy rate for white households increases to 26% for individual marketplace insurance and 61% for Medicaid.

Similar findings were found for the other demographic variables, such as citizenship status, presence of children, family type, educational attainment, and number of workers. **Altogether this analysis reveals the important differences in both the incidence and burden of healthcare costs across Connecticut and the**

impact that these burdens have on economic well-being. While it reveals that those with incomes low enough to qualify for Medicaid experience some relief from healthcare cost economic burdens, this is a relatively small portion of those in need. And, as noted above, for the majority of those who receive Medicaid, it is not enough to lift them above the threshold of having enough to meet their other basic needs, even at a minimally adequate level.

This CHAI analysis also revealed that for households in the individual marketplace, their healthcare cost burdens are higher on average than their employer-sponsored counterparts (combined premiums and out-of-pocket costs), even with the help for some of the premium tax credit. This may in part reflect different underlying health conditions, but it also reflects how the premiums are structured in the different insurance categories.

Furthermore, the data shows that households with employer-sponsored health insurance have the lowest income inadequacy rates. The current pandemic highlights, however, the weakness related to tying health insurance to employment—thousands of households are experiencing a loss of health insurance in the midst of a public health crisis. This in turn challenges policymakers to devise approaches that will level the playing field in terms of costs as well as provide for all, the kind of comprehensive healthcare coverage that does not over burden American families so much that they are unable to meet the cost of all their basic needs (housing, food, transportation, child care, and taxes).

Limitations

While this analysis provides a more accurate and nuanced picture of the cost of healthcare for Connecticut families, it is not without its limitations, as with all data analyses.

First, the income inadequacy rates rely on the American Community Survey (ACS) data. While the ACS does provide key information, such as type of health insurance coverage, age, and household composition, it provides no details on health status. Thus, this analysis randomly assigned a health risk status to householders based on the incidence of each status in the population as a whole.

Second, there are several limitations regarding the healthcare cost estimates.

- While most people in Connecticut are covered by private health insurance, approximately half of those privately insured are in self-funded health plans.[11] Self-funded plans are exempt from reporting claims data to the Connecticut All Payer Claims Database, thus, the out-of-pocket estimates scored by health risk do not reflect these costs.

- Another group for which we have no cost data is comprised of the 64,149 households that have no health insurance.[12] While the uninsured do get healthcare it is often on an emergency or very limited basis—sometimes incurring substantial debt. Others do not have healthcare costs because they forgo or are even denied healthcare. Thus, both the need and the costs are underreported and cannot be included or estimated in this data.

- These data do not include unreported costs, especially those that are not paid and become medical debt, suggesting that the estimate here of the cost burden of healthcare is probably an underestimate.

Altogether it should be noted that the data limitations cited work in one direction that is, they underestimate the economic burden of healthcare costs on Connecticut households. This means that the estimates here of the impact of healthcare costs on the extent of income adequacy are more likely to be an underestimate than an overestimate.

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11. https://portal.ct.gov/OHA/ODCO/For-Employers/Self-vs-Fully-Funded

12. While most become uninsured as a result of life changes (divorce, job transition, aged out of dependent coverage, lost HUSKY when income increased, etc.), some believe they do not need health insurance, and in the absence of a mandate, choose not to enroll themselves in health insurance (through an employer or the individual marketplace). Additionally, some simply cannot afford health insurance coverage or face barriers due to immigration status. Access Health CT, "Understanding underlying drivers, barriers and needs of the uninsured in Connecticut," https://agency.accesshealthct.com/wp-content/uploads/2019/10/Uninsured_Research_20191016.pdf (accessed July 16, 2020).

Appendix A:
Technical Documentation

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Technical Documentation

CHAI Assumptions and Data Sources

This appendix explains the methodology, assumptions, and sources used to calculate the Connecticut Healthcare Affordability Index (CHAI). For details on the methodology of the Self-Sufficiency Standard and the non-healthcare cost components[13] of CHAI, see *Appendix A: Methodology, Assumptions, and Sources* of the Self-Sufficiency Standard for Connecticut 2019.[14]

This appendix begins with a brief discussion of our general approach followed by specifics for each healthcare cost factor.

CHAI is a new measure that starts with the Self-Sufficiency Standard for Connecticut but differentiates the healthcare costs to account for factors that impact affordability, including differences in insurance coverage, age premiums, and increased out-of-pocket costs based on health risk scores. In total, CHAI is calculated for 19 different variables that allows for further analysis of factors impacting the affordability of healthcare (see Table A).

The Self-Sufficiency Standard assumes that households have employer-sponsored health insurance, and the expenses associated with this type of coverage.

- Insurance premiums are based on the statewide average paid by workers, for single adults and for families, from the Medical Expenditure Panel Survey. A county index calculated from rates for the second-lowest cost Silver plan via the insurance marketplace adjusts the statewide average.

- Out-of-pocket costs are calculated from the Medical Expenditure Panel Survey Insurance Component for the northeast Census region and vary by age.

As with the original Self-Sufficiency Standard, the healthcare costs in CHAI are a combination of premium and out-of-pocket costs. In addition, CHAI incorporates additional factors impacting healthcare costs for individuals and families. Specifically, premiums are calculated for three types of health insurance coverage (employer sponsored, individual marketplace, Medicaid[15]) and the out-of-pocket costs are calculated for three health risk scores (low, medium, high). For employer-sponsored and individual marketplace coverage, each of these is varied by three age groups (18-34, 35-49, 50-64) and three health risk scores (low, medium, high). Because there are no premium and out-of-pocket costs for Medicaid, the Medicaid CHAI is not varied.

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13. Housing, child care, food, transportation, and miscellaneous costs are the same in the Self-Sufficiency Standard and CHAI. Taxes and tax credits are recalculated to reflect the different income needed to meet basic needs after incorporating the new healthcare costs.

14. See *The Self-Sufficiency Standard for Connecticut 2019* available at https://portal.ct.gov/-/media/OHS/Affordability-Standard-Advisory/Self-Sufficiency-Standard/CT2019_SSS_Web_20191014.pdf.

15. By definition there is no premium for uninsured households, and without coverage, there is no claims data to determine out-of-pocket costs. Therefore, a separate CHAI for uninsured households is not calculated.

Premium and Out-of-Pocket Cost Calculations

EMPLOYER SPONSORED

The HCP-Adjusted Standards based on employer-sponsored health insurance premiums are calculated based on data from the 2018 Medical Expenditure Panel Survey (MEPS)[16] and adjusted geographically based on Anthem territory factors.

The 2018 MEPS premium rates are projected to 2019 based on historical trends from the Kaiser Family Foundation.[17] A four percent inflation factor was applied to the single and employee +1 coverage and a five percent adjustment factor was applied to the family premium (see Table A1).

Table A1

2018 MEPs Annual Premium Rate Projected to 2019			
	Single	Employee +1	Family Premium
2018 MEPs Employee Contribution	$1,672	$3,486	$5,352
Kaiser Adjustment Factor	1.04	1.04	1.05
2019 Projected Annual Employee Contribution	$1,739	$3,625	$5,620
2019 Projected Monthly Employee Contribution	$145	$302	$468

Anthem Health Plans is one of the largest providers of health insurance in the state of Connecticut and has nearly a third of the market share.[18] Anthem sets three rating areas for the state of Connecticut based on county groups with the exception of the town of Waterbury which is assigned to a separate area than the county. The statewide average employee contribution is adjusted geographically based on these three territory factors set by Anthem.[19] The final projected and territory adjusted average employee premium contribution is shown in Table A2.

Table A2

2019 Projected Monthly Employee Premium				
County	Anthem Area	Employee Contribution Adjusted by Territory Factor		
		Single	Employee +1	Family Premium
Fairfield	Area 1	$159	$332	$515
Hartford	Area 2	$135	$282	$438
Litchfield	Area 2	$135	$282	$438
Middlesex	Area 3	$146	$305	$473
New Haven	Area 3	$146	$305	$473
New London	Area 3	$146	$305	$473
Tolland	Area 2	$135	$282	$438
Waterbury Town	Area 2	$135	$282	$438
Windham	Area 2	$135	$282	$438

The three different employee premium amounts are applied to the households as follows:

- Households with one member are assigned the single employee premium value

- Households with two members are assigned the employee +1 premium value

- Households with three or more members are assigned the family premium value

16. U.S. Department of Health and Human Services Agency for Healthcare Research and Quality, Medical Expenditure Panel Survey. "Table II.C.2 Average total employee contribution (in dollars) per enrolled employee for single coverage at private-sector establishments that offer health insurance by firm size and State: United States, 2018," **https://meps.ahrq.gov/data_stats/summ_tables/insr/state/series_2/2018/tiic2.htm**; "Table II.D.2 Average total employee contribution (in dollars) per enrolled employee for family coverage at private-sector establishments that offer health insurance by firm size and State: United States, 2018," **https://meps.ahrq.gov/data_stats/summ_tables/insr/state/series_2/2018/tiid2.htm**; "Table II.E.2 Average total employee contribution (in dollars) per enrolled employee for employee-plus-one coverage at private-sector establishments that offer health insurance by firm size and State: United States, 2018," **https://meps.ahrq.gov/data_stats/summ_tables/insr/state/series_2/2018/tiie2.htm**.

17. 2019 Employer Health Benefits Survey. (9/25/2019), Kaiser Family Foundation: **https://www.kff.org/report-section/ehbs-2019-section-1-cost-of-health-insurance/**

18. Kaiser Family Foundation, "Market Share and Enrollment of Largest Three Insurers – Individual Market," **https://www.kff.org/private-insurance/state-indicator/market-share-and-enrollment-of-largest-three-insurers-individual-market/?currentTimeframe=0&selectedRows=%7B%22states%22:%7B%22connecticut%22:%7B%7D%7D%7D&sortModel=%7B%22colId%22:%22Location%22,%222sort%22:%22asc%22%7D** (accessed August 11, 2020).

19. Source: Personal communication with Miriam Miller (Miriam.Miller@ct.gov) on December 18, 2019.

INDIVIDUAL MARKETPLACE

Individual marketplace data varies by type of plan, participant ages, and rating area plus it includes the premium tax credit that offsets the total premium cost.

Plan Type

The individual marketplace (Access Health CT) in Connecticut is made up of several different plan options with Anthem and CBI as the primary carriers of plans. The marketplace organizes plan types into metal level: Catastrophic, Bronze, Silver, and Gold. Typically, Bronze plans have lower monthly premiums and higher out-of-pocket costs while Gold plans have the highest premiums and lowest out-of-pocket costs. CHAI uses the CBI's Choice Silver Standard as the representative plan from the individual marketplace as it was the most commonly selected plan in 2019 (32,295 subscribers).[20]

Age

In the individual marketplace, the premium for a household is composed of the cost for each member which varies by age. CHAI uses the premium rate for a 30-year-old for the 18-34 age bracket, a 40-year-old for the 35-49 age bracket, and a 55-year-old for the

50-64 age bracket. As the individual marketplace has one premium rate for children under the age of 15, CHAI premium costs have one premium rate for infants, preschoolers, and school-age children, while teenagers are assigned the premium for 17-year-olds.

Rating Area

The ACA provides that each state has a set number of geographic rating areas that all providers must use to set their rates. In Connecticut, there are eight rating areas that correspond to each county.[21]

Premium Tax Credit

If the total CHAI income falls into the eligibility bracket of being between 100% and 400% of the previous year's federal poverty guidelines (FPG), then the premium tax credit (PTC) is calculated (see Table A3). The PTC caps the percentage of income a family spends on the health insurance premium between 2.08% - 9.86%[22] of household income; the calculation of the PTC uses the Second Lowest Cost Silver Plan and a sliding percentage of income. The lower the income (the total CHAI in this case), the higher the credit, and the more the cost of the health insurance premium is reduced.[23]

Table A3

Federal Poverty Guidelines for 2018		
Size of Family Unit	100%	400%
1	$12,140	$48,560
2	$16,460	$65,840
3	$20,780	$83,120
4	$25,100	$100,400
5	$29,420	$117,680
6	$33,740	$134,960
7	$38,060	$152,240
8	$42,380	$169,520
Source: **https://aspe.hhs.gov/2018-poverty-guidelines**		

20. Source: Personal communication with Access Health CT by Sarju Shah at UConn AIMS, December 11, 2019.

21. See **https://www.cms.gov/CCIIO/Programs-and-Initiatives/Health-Insurance-Market-Reforms/ct-gra**

22. See **https://www.irs.gov/pub/irs-drop/rp-18-34.pdf** and **https://www.cms.gov/CCIIO/Programs-and-Initiatives/Health-Insurance-Market-Reforms/ct-gra**

23. Although some families may be eligible for cost sharing, to reduce their out-of-pocket costs, this varies by Individual, and presumably is already reflected in the out-of-pocket costs.

MEDICAID

In Connecticut, Medicaid is administered by the HUSKY Health program and is known as HUSKY A and HUSKY D. As Medicaid charges no costs to participants, the healthcare costs are shown as zero in the Medicaid CHAI.

OUT-OF-POCKET COSTS

Out-of-pocket costs, consisting of medical and prescription drugs costs, were calculated by Analytics and Information Management Solutions at the University of Connecticut using the Connecticut All-Payer Claims Databases (APCD) Limited Data Set. The out-of-pocket costs vary by county, age group (0-17, 18-34, 35-49, 50-64), gender (male or female), and health risk score (low, medium, high).

Out-of-pocket cost data was applied to CHAI family types following the same assumptions of the Self-Sufficiency Standard:[24]

- A single-person household is one adult male

- A single-parent household is one adult female

- A two-adult household is one adult male and one adult female

- A third adult in a household is assigned the average of one adult male and one adult female.

As the Self-Sufficiency Standard does not vary cost data by children's gender, the out-of-pocket cost is calculated without a gender breakdown for children.

CHAI assumes the same risk score per adult and does not vary risk score for children.

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24. Gendered costs in the Standard are typically limited to food costs. All other Self-Sufficiency Standard costs, such as housing, do not vary based on gender. Note that costs for children do not vary by gender.

CHAI Demographic Methodology and Assumptions

DATA AND SAMPLE

This study uses data from the 2017 1-Year American Community Survey by the U.S. Census Bureau. The American Community Survey (ACS) replaced the long form in the 2010 Census. The ACS publishes social, housing, and economic characteristics for demographic groups covering a broad spectrum of geographic areas with populations of 65,000 or more in the United States and Puerto Rico.

The 2017 Public Use Microdata Sample (PUMS) is a set of data files that contains records of a one-percent sample of all housing units surveyed. For determining the PUMS sample size, the size of the housing unit universe is the ACS estimate of the total number of housing units. In Connecticut, the 2017 PUMS data set contains a one-percent sample size 17,338 housing units (representing a housing unit estimate of 1,517,495 Connecticut households).

The most detailed geographic level in the ACS available to the public with records at the household and individual level is the Public Use Microdata Sample Areas (PUMAs), which are special, non-overlapping areas that partition a state. Each PUMA, drawn using the 2010 Census population count, contains a population of about 100,000.

Connecticut has 169 towns partitioned into 26 PUMAs, with 2017 ACS estimates reported for each. In the instances when a single PUMA is in more than one town, each town was weighted by population and a new weighted average was calculated to determine a Self-Sufficiency Standard and CHAI specific to that PUMA. If there are multiple PUMAs in a single town, each PUMA in the town is assigned the town's Self-Sufficiency Standard and CHAI.

Exclusions

Since the Self-Sufficiency Standard assumes that all adult household members work, the population sample in this report includes only those households in which there is at least one adult of age 18-64 without a work-limiting disability.

Adults are identified as having a work-limiting disability if they are disabled and receive Supplemental Security Income or Social Security Income, or if they are disabled and are not in the labor force. Thus, although the ACS sample includes households that have disabled or elderly members, this report excludes elderly adults and adults with work-limiting disabilities and their income when determining household composition and income. Households defined as "group quarters" are also excluded from the analysis.

In total, 946,425 non-disabled, non-elderly households are included in this demographic study of Connecticut.

Table A4	

Summary of Exclusions	
Total Persons in Connecticut ACS PUMS Dataset	3,588,184
Subtract adults over 65	- 600,054
Subtotal	*2,988,130*
Subtract adults with work-limiting disability	- 113,270
Subtotal	*2,874,860*
Subtract group quarters (correctional facilities, college dorms, shelters, etc.)	-75,254
Subtotal	*2,799,606*
Subtract non-reference persons in the household	1,853,181
Total Connecticut households in dataset	**946,425**

MEASURES USED: HOUSEHOLD INCOME AND THE CONNECTICUT HEALTHCARE AFFORDABILITY INDEX

Income

Income is determined by calculating the total income of each person in the household, excluding seniors and disabled adults. Income includes money received during the preceding 12 months by non-disabled/non-elderly adult household members (or children) from: wages or salary; farm and non-farm self-employment; Social Security or railroad payments; interest on savings or bonds, dividends, income from estates or trusts, and net rental income; veterans' payments or unemployment and worker's compensation; public assistance or welfare payments; private pensions or government employee pensions; alimony and child support; regular contributions from people not living in the household; and other periodic income.

It is assumed that all income in a household is equally available to pay all expenses. Not included in income are: capital gains; money received from the sale of property; the value of in-kind income such as food stamps or public housing subsidies; tax refunds; money borrowed; or gifts or lump-sum inheritances. The Employment Cost Index from the United States Department of Labor Bureau of Labor Statistics is used to inflate 2017 income in the American Community Survey.

The Connecticut Healthcare Affordability Index

Each household was coded with a CHAI based on type of insurance, age of householder, and random assignment into a health risk score, as well as household composition and place (town).

Each household was assigned into one of three variables representing the different CHAI insurance costs: individual, employer, or Medicaid. If a household is without any health insurance coverage, they are benchmarked to individual unless income eligible for Medicaid. Parents and caregivers are eligible for Medicaid with incomes under 160% of the Federal Poverty Guidelines and adults without minor children are eligible with incomes under 138% of the federal poverty guidelines.[15] If Indian Health Service (IHS) is the only insurance, the person is coded as having no health insurance as the Census considers coverage provided by IHS to not be comprehensive.[26]

The seven ACS health insurance variables and the uninsured were categorized into CHAI model as follows:

- **Employer**
  - Insurance through a current or former employer or union
  - TRICARE or other military healthcare

- **Individual**
  - Insurance purchased directly from an insurance company
  - Indian Health Service **AND** not eligible for Medicaid
  - Uninsured **AND** not eligible for Medicaid

- **Medicaid/Public**
  - Medicaid, Medical Assistance, or any kind of government-assistance plan for those with low incomes or a disability
  - VA (including those who have ever used or enrolled for VA healthcare)
  - Indian Health Service **AND** income eligible for Medicaid
  - Uninsured **AND** income eligible for Medicaid
  - Medicare under 65

Some householders had more than one type of health insurance. Householders were assigned to a single health insurance category based on the following order: 1) employer, 2) individual, 3) Medicaid.

The out-of-pocket expenditures in CHAI vary based on health risk score (low, medium, high). As the American Community Survey does not collect information that will allow an educated assignment of health risk score, each householder was randomly assigned a **health risk score** based on county, sex of householder, and age of householder per the out-of-pocket cost dataset provided by UCONN AIMS (see Table A4).

An extended CHAI all families file was generated to code the families not included in the initial CHAI. For large families with more than six children, an average cost measure was calculated with the assumption children are 0-12 years of age for purposes of the individual market (lowest cost estimate).

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25. HUSKY Health for Connecticut Children and Adults, Connecticut HUSKY Health Program Annual Income Guidelines, https://portal.ct.gov/-/media/HH/PDF/HUSKYAnnualIncomeChart.pdf.

26. This is consistent with assumptions in the American Community Survey and the Current Population Survey. See https://www.census.gov/programs-surveys/cps/technical-documentation/user-notes/health-insurance-user-notes/health-ins-cov-meas-asec-acs.html

Distribution of Health Risk Score Assignment					
County	Sex	Adult Age Category	Health Risk Score		
			Low	Medium	High
Fairfield	Female	18–34	95%	5%	0%
		35–49	93%	6%	1%
		50–64	91%	7%	3%
	Male	18–34	98%	2%	1%
		35–49	96%	3%	1%
		50–64	91%	7%	3%
Hartford	Female	18–34	94%	5%	0%
		35–49	93%	6%	1%
		50–64	90%	7%	3%
	Male	18–34	98%	2%	0%
		35–49	96%	3%	1%
		50–64	91%	7%	3%
Litchfield	Female	18–34	94%	5%	1%
		35–49	92%	6%	1%
		50–64	89%	8%	3%
	Male	18–34	98%	2%	0%
		35–49	95%	4%	1%
		50–64	89%	8%	4%
Middlesex	Female	18–34	94%	6%	1%
		35–49	92%	7%	1%
		50–64	89%	8%	3%
	Male	18–34	98%	2%	0%
		35–49	95%	4%	1%
		50–64	89%	8%	3%
New Haven	Female	18–34	94%	6%	0%
		35–49	91%	7%	2%
		50–64	88%	8%	3%
	Male	18–34	98%	2%	0%
		35–49	95%	4%	1%
		50–64	88%	8%	4%
New London	Female	18–34	94%	6%	1%
		35–49	92%	7%	1%
		50–64	89%	8%	3%
	Male	18–34	98%	2%	0%
		35–49	95%	4%	1%
			89%	8%	3%

Distribution of Health Risk Score Assignment					
County	**Sex**	**Adult Age Category**	**Health Risk Score**		
			Low	**Medium**	**High**
Tolland	Female	18–34	95%	5%	1%
		35–49	93%	6%	1%
		50–64	90%	7%	3%
	Male	18–34	98%	2%	0%
		35–49	96%	3%	1%
		50–64	90%	7%	3%
Windham	Female	18–34	93%	6%	1%
		35–49	91%	7%	2%
		50–64	89%	8%	3%
	Male	18–34	98%	2%	0%
		35–49	95%	4%	1%
		50–64	88%	9%	3%

Source: Analytics and Information Management Solutions, University of Connecticut, Connecticut All-Payer Claims Databases Limited Data Set

Income Inadequacy Rates by Town Connecticut Healthcare Affordability Index				
	Total Households		Below CHAI	
	(N)	(%)	(N)	(%)
Andover	833	0.1%	158	18.9%
Ansonia	4,819	0.5%	904	18.8%
Ashford	1,073	0.1%	190	17.7%
Avon	4,861	0.5%	666	13.7%
Barkhamsted	981	0.1%	173	17.7%
Beacon Falls	1,481	0.2%	203	13.7%
Berlin	5,591	0.6%	1,486	26.6%
Bethany	1,393	0.1%	261	18.8%
Bethel	4,916	0.5%	1,362	27.7%
Bethlehem	931	0.1%	164	17.7%
Bloomfield	5,503	0.6%	753	13.7%
Bolton	1,256	0.1%	238	18.9%
Bozrah	685	0.1%	155	22.7%
Branford	7,101	0.8%	1,364	19.2%
Bridgeport	33,777	3.6%	13,713	40.6%
Bridgewater	446	0.0%	79	17.7%
Bristol	16,338	1.7%	2,233	13.7%
Brookfield	4,352	0.5%	1,205	27.7%
Brooklyn	2,040	0.2%	361	17.7%
Burlington	2,513	0.3%	343	13.7%
Canaan	319	0.0%	56	17.7%
Canterbury	1,275	0.1%	226	17.7%
Canton	2,764	0.3%	379	13.7%
Chaplin	573	0.1%	101	17.7%
Cheshire	7,162	0.8%	984	13.7%
Chester	1,139	0.1%	259	22.7%
Clinton	3,782	0.4%	860	22.7%
Colchester	4,189	0.4%	950	22.7%
Colebrook	383	0.0%	68	17.7%
Columbia	1,384	0.1%	262	18.9%
Cornwall	367	0.0%	65	17.7%
Coventry	3,137	0.3%	594	18.9%
Cromwell	3,995	0.4%	908	22.7%
Danbury	21,400	2.3%	5,927	27.7%

Income Inadequacy Rates by Town
Connecticut Healthcare Affordability Index

	Total Households		Below CHAI	
	(N)	(%)	(N)	(%)
Darien	5,825	0.6%	1,743	29.9%
Deep River	1,320	0.1%	300	22.7%
Derby	3,230	0.3%	606	18.8%
Durham	2,107	0.2%	479	22.7%
East Granby	1,334	0.1%	204	15.3%
East Haddam	2,603	0.3%	592	22.7%
East Hampton	3,696	0.4%	840	22.7%
East Hartford	14,827	1.6%	3,623	24.4%
East Haven	7,413	0.8%	1,424	19.2%
East Lyme	5,352	0.6%	1,136	21.2%
East Windsor	2,893	0.3%	442	15.3%
Eastford	435	0.0%	77	17.7%
Easton	1,854	0.2%	265	14.3%
Ellington	3,936	0.4%	746	18.9%
Enfield	11,574	1.2%	1,769	15.3%
Essex	1,906	0.2%	433	22.7%
Fairfield	14,708	1.6%	2,102	14.3%
Farmington	6,806	0.7%	932	13.7%
Franklin	501	0.1%	114	22.7%
Glastonbury	9,697	1.0%	840	8.7%
Goshen	768	0.1%	136	17.7%
Granby	2,924	0.3%	447	15.3%
Greenwich	17,611	1.9%	5,791	32.9%
Griswold	3,116	0.3%	707	22.7%
Groton	11,206	1.2%	2,378	21.2%
Guilford	5,669	0.6%	1,089	19.2%
Haddam	2,381	0.3%	541	22.7%
Hamden	15,263	1.6%	2,864	18.8%
Hampton	463	0.0%	82	17.7%
Hartford	30,814	3.3%	13,769	44.7%
Hartland	548	0.1%	84	15.3%
Harwinton	1,456	0.2%	257	17.7%
Hebron	2,443	0.3%	463	18.9%
Kent	769	0.1%	136	17.7%
Killingly	4,316	0.5%	764	17.7%

Income Inadequacy Rates by Town Connecticut Healthcare Affordability Index				
	Total Households		**Below CHAI**	
	(N)	**(%)**	**(N)**	**(%)**
Killingworth	1,861	0.2%	423	22.7%
Lebanon	1,905	0.2%	432	22.7%
Ledyard	3,924	0.4%	890	22.7%
Lisbon	1,131	0.1%	257	22.7%
Litchfield	2,185	0.2%	386	17.7%
Lyme	672	0.1%	143	21.2%
Madison	4,629	0.5%	889	19.2%
Manchester	16,849	1.8%	4,116	24.4%
Mansfield	6,696	0.7%	1,268	18.9%
Marlborough	1,804	0.2%	156	8.7%
Meriden	17,957	1.9%	3,324	18.5%
Middlebury	1,854	0.2%	255	13.7%
Middlefield	1,262	0.1%	287	22.7%
Middletown	13,591	1.4%	3,089	22.7%
Milford	13,741	1.5%	3,089	22.5%
Monroe	4,724	0.5%	755	16.0%
Montville	5,102	0.5%	1,157	22.7%
Morris	616	0.1%	109	17.7%
Naugatuck	7,799	0.8%	1,071	13.7%
New Britain	20,604	2.2%	5,477	26.6%
New Canaan	4,887	0.5%	698	14.3%
New Fairfield	3,672	0.4%	1,017	27.7%
New Hartford	1,799	0.2%	318	17.7%
New Haven	38,057	4.0%	15,865	41.7%
New London	7,716	0.8%	1,637	21.2%
New Milford	7,265	0.8%	1,283	17.7%
Newington	8,608	0.9%	746	8.7%
Newtown	6,684	0.7%	1,068	16.0%
Norfolk	441	0.0%	78	17.7%
North Branford	3,650	0.4%	701	19.2%
North Canaan	856	0.1%	151	17.7%
North Haven	7,108	0.8%	1,316	18.5%
North Stonington	1,381	0.1%	313	22.7%
Norwalk	24,051	2.5%	7,195	29.9%
Norwich	10,557	1.1%	2,395	22.7%

	Total Households		Below CHAI	
	(N)	(%)	(N)	(%)
Old Lyme	2,124	0.2%	451	21.2%
Old Saybrook	2,921	0.3%	664	22.7%
Orange	3,635	0.4%	817	22.5%
Oxford	3,104	0.3%	426	13.7%
Plainfield	3,827	0.4%	677	17.7%
Plainville	4,986	0.5%	1,325	26.6%
Plymouth	3,160	0.3%	558	17.7%
Pomfret	1,055	0.1%	187	17.7%
Portland	2,712	0.3%	616	22.7%
Preston	1,232	0.1%	280	22.7%
Prospect	2,302	0.2%	316	13.7%
Putnam	2,381	0.3%	421	17.7%
Redding	2,423	0.3%	671	27.7%
Ridgefield	6,518	0.7%	1,805	27.7%
Rocky Hill	5,551	0.6%	481	8.7%
Roxbury	584	0.1%	103	17.7%
Salem	1,082	0.1%	246	22.7%
Salisbury	966	0.1%	171	17.7%
Scotland	429	0.0%	76	17.7%
Seymour	4,141	0.4%	777	18.8%
Sharon	718	0.1%	127	17.7%
Shelton	9,594	1.0%	1,533	16.0%
Sherman	947	0.1%	262	27.7%
Simsbury	6,315	0.7%	865	13.7%
Somers	2,887	0.3%	547	18.9%
South Windsor	6,663	0.7%	1,018	15.3%
Southbury	4,872	0.5%	669	13.7%
Southington	11,635	1.2%	1,590	13.7%
Sprague	778	0.1%	176	22.7%
Stafford	3,049	0.3%	578	18.9%
Stamford	35,310	3.7%	11,610	32.9%
Sterling	952	0.1%	168	17.7%
Stonington	5,181	0.5%	1,099	21.2%
Stratford	12,462	1.3%	1,992	16.0%
Suffield	4,078	0.4%	623	15.3%

Income Inadequacy Rates by Town
Connecticut Healthcare Affordability Index

	Total Households		Below CHAI	
	(N)	(%)	(N)	(%)
Thomaston	2,036	0.2%	360	17.7%
Thompson	2,350	0.2%	416	17.7%
Tolland	3,797	0.4%	719	18.9%
Torrington	9,392	1.0%	1,659	17.7%
Trumbull	8,736	0.9%	1,396	16.0%
Union	215	0.0%	41	18.9%
Vernon	7,361	0.8%	1,394	18.9%
Voluntown	679	0.1%	154	22.7%
Wallingford	13,315	1.4%	2,465	18.5%
Warren	377	0.0%	67	17.7%
Washington	924	0.1%	163	17.7%
Waterbury	27,521	2.9%	11,829	43.0%
Waterford	5,452	0.6%	1,157	21.2%
Watertown	5,812	0.6%	1,026	17.7%
West Hartford	16,994	1.8%	2,327	13.7%
West Haven	14,471	1.5%	3,254	22.5%
Westbrook	1,979	0.2%	450	22.7%
Weston	2,520	0.3%	360	14.3%
Westport	7,415	0.8%	2,218	29.9%
Wethersfield	7,512	0.8%	651	8.7%
Willington	1,524	0.2%	289	18.9%
Wilton	4,472	0.5%	639	14.3%
Winchester	2,902	0.3%	513	17.7%
Windham	6,278	0.7%	1,111	17.7%
Windsor Locks	3,239	0.3%	495	15.3%
Windsor	7,528	0.8%	1,150	15.3%
Wolcott	4,083	0.4%	561	13.7%
Woodbridge	2,251	0.2%	422	18.8%
Woodbury	2,575	0.3%	455	17.7%
Woodstock	1,979	0.2%	350	17.7%

Income Inadequacy Rates by Town
Connecticut Healthcare Affordability Index

Source: U.S. Census Bureau, 2017 ACS 1-Year Public Use Microdata Sample.

	Total Households		Inadequate Income		Adequate Income	
Race/ Ethnicity	**Number**	**Percentage of Households**	**Number**	**Percentage of Households**	**Number**	**Percentage of Households**
Connecticut	**946,425**	**100%**	**220,195**	**23%**	**726,230**	**77%**
Fairfield County	**238,859**	**25%**	**65,329**	**27%**	**173,530**	**73%**
Asian	14,050	1%	3,205	23%	10,845	77%
Black	22,489	2%	8,886	40%	13,603	60%
Latinx	42,648	5%	25,081	59%	17,567	41%
White	153,272	16%	25,220	16%	128,052	84%
Other	6,400	1%	2,937	46%	3,463	54%
Hartford County	**241,353**	**26%**	**48,990**	**20%**	**192,363**	**80%**
Asian	14,337	2%	3,408	24%	10,929	76%
Black	28,997	3%	8,380	29%	20,617	71%
Latinx	40,431	4%	16,484	41%	23,947	59%
White	151,537	16%	18,951	13%	132,586	87%
Other	6,051	1%	1,767	29%	4,284	71%
Litchfield County	**49,029**	**5%**	**8,659**	**18%**	**40,370**	**82%**
Asian	*	*	*	*	*	*
Black	*	*	*	*	*	*
Latinx	4,215	0%	1,762	42%	2,453	58%
White	42,512	4%	6,042	14%	36,470	86%
Other	*	*	*	*	*	*
Middlesex County	**47,256**	**5%**	**10,740**	**23%**	**36,516**	**77%**
Asian	2,445	0%	1,274	52%	1,171	48%
Black	2,812	0%	1,818	65%	*	*
Latinx	3,425	0%	1,154	34%	2,271	66%
White	37,684	4%	6,189	16%	31,495	84%
Other	*	*	*	*	*	*
New Haven County	**228,021**	**24%**	**57,746**	**25%**	**170,275**	**75%**
Asian	10,759	1%	2,839	26%	7,920	74%
Black	30,799	3%	10,792	35%	20,007	65%
Latinx	40,972	4%	17,317	42%	23,655	58%

Income Inadequacy Rates by County and Race/Ethnicity
Connecticut Healthcare Affordability Index

Race/Ethnicity	Total Households		Inadequate Income		Adequate Income	
	Number	Percentage of Households	Number	Percentage of Households	Number	Percentage of Households
White	140,383	15%	25,535	18%	114,848	82%
Other	5,108	1%	1,263	25%	3,845	75%
New London County	**73,965**	**8%**	**16,227**	**22%**	**57,738**	**78%**
Asian	2,755	0%	1,151	42%	1,604	58%
Black	3,935	0%	2,227	57%	1,708	43%
Latinx	6,329	1%	2,093	33%	4,236	67%
White	57,646	6%	9,517	17%	48,129	83%
Other	3,300	0%	1,239	38%	2,061	62%
Tolland County	**38,519**	**4%**	**7,296**	**19%**	**31,223**	**81%**
Asian	2,544	0%	1,327	52%	1,217	48%
Black	*	*	*	*	*	*
Latinx	1,781	0%	*	*	1,179	66%
White	33,097	3%	5,104	15%	27,993	85%
Other	*	*	*	*	*	*
Windham County	**29,423**	**3%**	**5,208**	**18%**	**24,215**	**82%**
Asian	*	*	*	*	*	*
Black	*	*	*	*	*	*
Latinx	2,957	0%	1,184	40%	1,773	60%
White	25,069	3%	3,492	14%	21,577	86%
Other	*	*	*	*	*	*

Income Inadequacy Rates by County and Race/Ethnicity
Connecticut Healthcare Affordability Index

* Data suppressed due to small underlying sample size.

Note: Latinx refers to Hispanic/Latino ethnicity, regardless of race. Therefore all other racial/ethnic groups are non-Hispanic/Latino. Latinx is a gender-neutral or non-binary alternative to Latino or Latina for persons of Latin American origin.

Source: U.S. Census Bureau, 2017 ACS 1-Year Public Use Microdata Sample.

Office of Health Strategy and the Office of the State Comptroller

THE OFFICE OF HEALTH STRATEGY

The Office of Health Strategy's (OHS) mission is to implement comprehensive, data-driven strategies that promote equal access to high-quality healthcare, control costs, and improve population health. Created in 2017 and established in 2018 by the CT General Assembly, OHS has statutory and regulatory responsibilities that are critical for consumer access and cost control including Health Systems Planning and the Certificate of Need program, the development of the state's Health Information Exchange, administering the All Payer Claims Database and Consumer Information Website, and initiatives to improve drug pricing transparency. OHS is also required to create Cost growth and quality benchmarks to: monitor the rate of growth of healthcare expenditures across all public and private payers and populations, set targets for increased resources for primary care, and improve healthcare quality.

OHS collaborates with a variety of experts, consumers, and provider stakeholder groups to examine and address the barriers in Connecticut's health system to improve cost, access, and outcomes. A healthy population creates value for employers, is necessary for a strong economy, and is key to a high quality of life.

THE OFFICE OF THE STATE COMPTROLLER

The Office of the State Comptroller serves as the state's chief fiscal guardian, and is one of six statewide elected positions. The state comptroller has a broad array of responsibilities that include providing accounting and financial services, administering employee and retiree benefits, developing accounting policy and exercise accounting oversight, and preparing financial reports for state, federal and municipal governments and the public. The office provides a statewide transparency platform, OpenConnecticut, that allows the public to have immediate access to key state financial data, including checkbook-level data, payroll and pension information.

The state comptroller, in overseeing state employee and retiree benefits, serves as administrator of the state employee and retiree health plan, which provides coverage to approximately 250,000 state and municipal employees, retirees and their dependents. The state plan has achieved significant success in improving member outcomes and stabilizing healthcare costs by emphasizing value-based healthcare that drives members to those services and providers with the best healthcare outcomes, and by implementing initiatives that emphasize preventive care and wellness.

The Center for Women's Welfare and the UConn Analytics and Information Management Solutions

THE CENTER FOR WOMEN'S WELFARE

The Center for Women's Welfare at the University of Washington School of Social Work is devoted to furthering the goal of economic justice for women and their families. The main work of the Center focuses on the development of the Self-Sufficiency Standard and related measures, calculations, and analysis. The Center partners with a range of government, non-profit, women's, children's, and community-based groups to:

- research and evaluate public policy related to income adequacy;

- create tools to assess and establish income adequacy and benefit eligibility;

- develop policies that strengthen public investment in low-income women and families.

Learn more about the Center and the Self-Sufficiency Standard research project at **www.selfsufficiencystandard.org**.

UCONN ANALYTICS AND INFORMATION MANAGEMENT SOLUTIONS

The University of Connecticut Analytics and Information Management Solutions (UConn AIMS) is a leading state resource providing the Core Data Analytics Solution (CDAS) a cutting-edge technology and innovative data analytic suite. CDAS is an open architecture solution designed to capture data across healthcare delivery systems and patient populations to deliver meaningful information through data analytics. Through its CDAS, UConn AIMS led the analysis of commercial data from the All Payers Claims Database (APCD) to calculate the health risk scores utilized in the development of the CT Healthcare Affordability Index.