

Constraints on New Hampshire's Workforce Recovery

Impacts from COVID-19, Child Care and Benefit Program Design on Household Labor Market Decisions

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FINAL REPORT



About Econsult Solutions, Inc. (ESI)



Econsult Solutions, Inc. (ESI) provides businesses and public policy makers with consulting services in urban economics, real estate economics, transportation, public infrastructure, development, public policy and finance, community and neighborhood development, planning, as well as expert witness services for litigation support. Staff members have outstanding professional and academic credentials, including active positions at the university level, wide experience at the highest levels of the public policy process and extensive consulting experience. Based in Philadelphia, ESI support clients nationwide.

ESI's government and public policy practice combines rigorous analytical capabilities with a depth of experience to help evaluate and design effective public policies and benchmark and recommend sound governance practices. ESI has assisted policy makers at multiple levels of government to design and evaluate programs that help citizens increase their economic security.

Ethan Conner-Ross, Rebecca DeJoseph, and Alix Sullivan were the primary ESI researchers on this study.

About the National Center for Children in Poverty (NCCP)



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Seth Hartig and Suma Setty were the primary NCCP researchers on this study.

Executive Summary

Study Background

The COVID-19 pandemic created a range of health, economic, and social policy challenges for New Hampshire. Changes in economic conditions have deepened existing challenges for vulnerable populations and communities, while other households have faced new challenges around decisions regarding employment and child care that they had never anticipated. As New Hampshire seeks to accelerate its economic recovery, this study focuses on key factors that impact the decision-making of households and may serve as constraints to returning to the workforce or expanding their participation.

This study began in December 2019 pursuant to a legislative requirement to understand the economic implications of benefit cliffs. These “cliffs” result from situations in which increases in earned income lead to decreases in net resources for households due to a loss of program benefits, disincentivizing workforce participation. These cliffs can lead to either short-term losses for these households or long-term losses if households opt for (rational) short-term choices to forgo potential wage increases that lower their long-term earnings trajectory and economic mobility, which thereby also limits economic growth, particularly important in a state like New Hampshire with an aging workforce and historically low (at the time) unemployment levels.

The onset of the COVID-19 pandemic in March 2020 changed the economic landscape of New Hampshire and the employment decisions faced by its households. Accordingly, this study has been expanded to analyze a broader range of factors that represent constraints on New Hampshire's workforce recovery:

Unemployment: The availability of employment has shifted with the pandemic, as industries and communities have been differentially impacted by temporary and permanent business closures. While overall unemployment rates have declined, disparities persist in the impacted populations, communities, and sectors, as well as reasons for unemployment.

Child Care: The disruption in patterns of living have also created or exacerbated household challenges around managing child care and employment. The affordability, availability, and quality of child care all impact parents' and caregivers' decisions to participate in the workforce, which in turn limits economic productivity and exacerbates disparities.

Benefit Cliffs: Program designs in which additional earned income can result in a net loss of resources through the loss of benefits continue to factor into the employment choices that households make. Key benefit programs administered by state or local agencies, including Medicaid, TANF, SNAP, LIHEAP, housing, and child care subsidies, can produce these situations, creating employment disincentives for participating families.

Research Framework

This study employs as its core research framework the choices and constraints faced by New Hampshire's households as they make decisions about returning to or expanding their participation in the labor force. The labor market is an aggregation of individual decisions by households and employers, and under optimal conditions, households enhance both their short-term resources and their long-term earning potential by maximizing their participation in the labor market. The constraints reviewed in this study are factors that disrupt this relationship, creating short-term conditions where households may be unable to participate in the workforce, or may benefit from not maximizing their participation.

This study uses a mix of datasets and methods to gain insight into these issues and their implications for New Hampshire's workforce recovery:

Anonymized "microdata" on individual households, drawn from benefits program data and unemployment claim records, are analyzed at a granular level, including, for the benefit cliffs analysis, microsimulation analysis estimating projected family resources and expenses to understand the circumstances of individual households across New Hampshire;

Administrative data is used to understand conditions and trends for key inputs like unemployment, child care availability, and public benefit program rules and regulations for eligibility;

Longitudinal analysis is used to understand the evolution of conditions prior to COVID-19, during the initial wave of the pandemic and associated business closures, and the initial recovery to current conditions as of fall 2020; and

Geographic analysis is used to understand variation in conditions across different regions and community types in New Hampshire.

Granular analysis of household-level decisions is paired with aggregate analysis of impacts across communities and populations to help policymakers understand these constraints, and to target and prioritize solutions that can accelerate New Hampshire's recovery.

Typology by Town and Interactive Appendix

Workforce constraints and social vulnerabilities vary by community type across New Hampshire. To help understand differential issues in communities across the state, analyses of unemployment, child care, and benefit programs are undertaken on a town-by-town basis.

To understand patterns and benchmarks, each town in New Hampshire is categorized by descriptive factors based on its county, population density, median household income level, social vulnerability index score, and industry composition. Analyses are undertaken by typology to assess which constraints are most relevant across different community types.

The [Interactive Appendix](#) to this report represents an online interface that enables the user to see results for the key measures reviewed in this report for each town in New Hampshire, and to benchmark each town against others of similar typology.

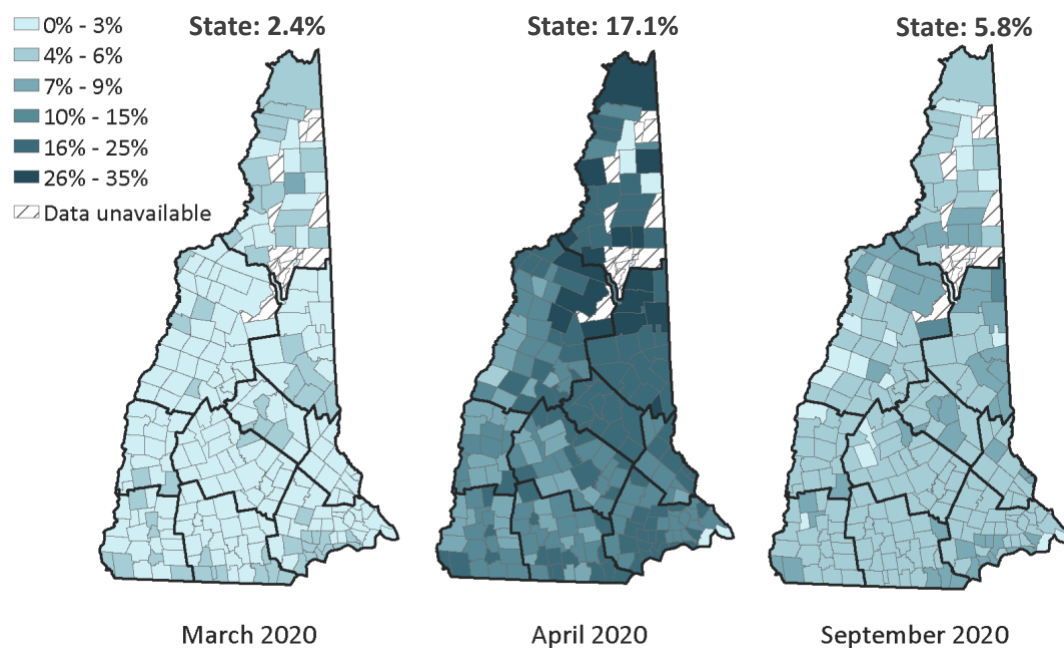
Unemployment

New Hampshire entered 2020 with a tight labor market, with one of the lowest unemployment rates in the nation, and concerns about whether the state's demographics would support the growing workforce needs of its businesses. These circumstances changed as an initial wave of business shutdowns and unemployment from the pandemic hit workers across all sectors and regions of the state and created newly vulnerable households and communities.

While the initial surge of unemployment was broadly shared across industries, communities, and populations, differential patterns began to emerge as the initial recovery began. While New Hampshire has recovered a large portion of the job losses realized at the peak of the crisis, with a December 2020 unemployment rate of 4.0 percent, significant disparities exist in the recovery between industries, workers, and communities.

- Consumer-serving sectors like **Leisure and Hospitality, Retail Trade, and Health Care and Social Assistance** have suffered the largest and most enduring job losses;
- Communities with **lower median incomes and higher levels of social vulnerability** pre-COVID have seen more durable increases in unemployment.
- **Job losses have been most enduring in the communities with the lowest density (most rural) and highest density (most urban).** Towns in Grafton, Carroll, and Coos Counties reliant on the Leisure and Hospitality economy continue to see some of the highest levels of unemployment, while communities in Rockingham and Hillsborough counties have seen some of the largest percentage increases compared to pre-COVID levels.

Unemployment Rates by Town, March, April, September 2020



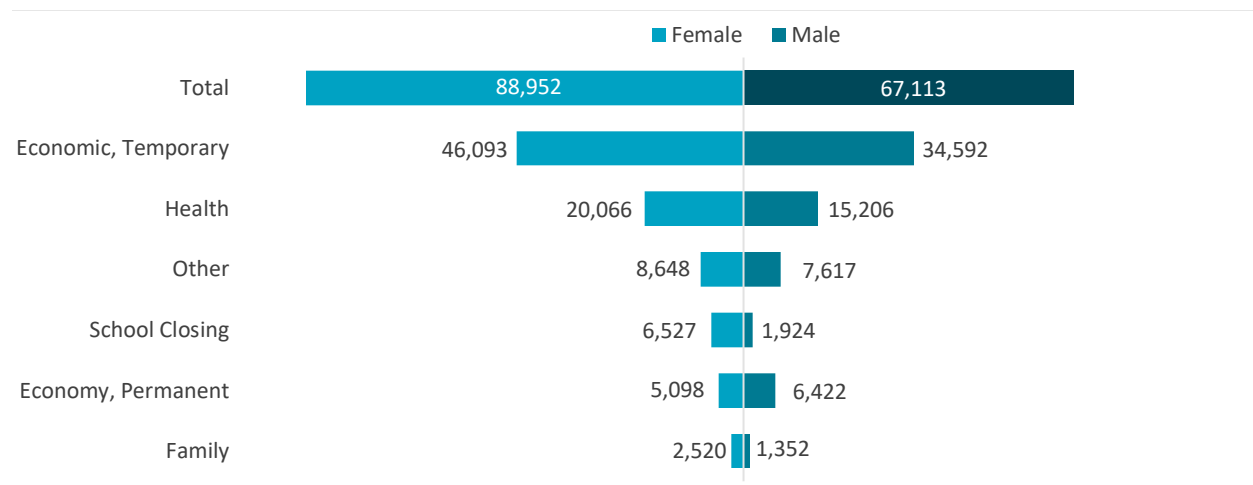
Source: Bureau of Labor Statistics LAUS (2020)

While a resolution to the health crisis may help to alleviate the immediate conditions driving unemployment in the most impacted sectors, the length and depth is likely to permanently shutter a large number of businesses, creating an enduring employment gap. While demand should rebound over the long-term, the regions and industries most impacted may experience a “new normal” that differs from the historically tight labor market that was prevalent across the state prior to the pandemic.

The nature of the COVID-19 crisis has produced differential effects from prior economic downturns. Service-oriented, consumer-facing business were disproportionately impacted by health concerns and limited tourism and travel activity, in contrast to the previous recession which struck hardest in sectors like construction and manufacturing. Additionally, the disruptions caused by the pandemic have elevated household care responsibilities, often making them a barrier to workforce participation.

Women have suffered the majority of unemployment and detachment from the workplace, due to both the impacted sectors and to their disproportionate share of care responsibilities.

Reason for Unemployment, by Gender, April through September 2020



Source: Analysis of Unemployment Claims data from New Hampshire Economic Security (2020)

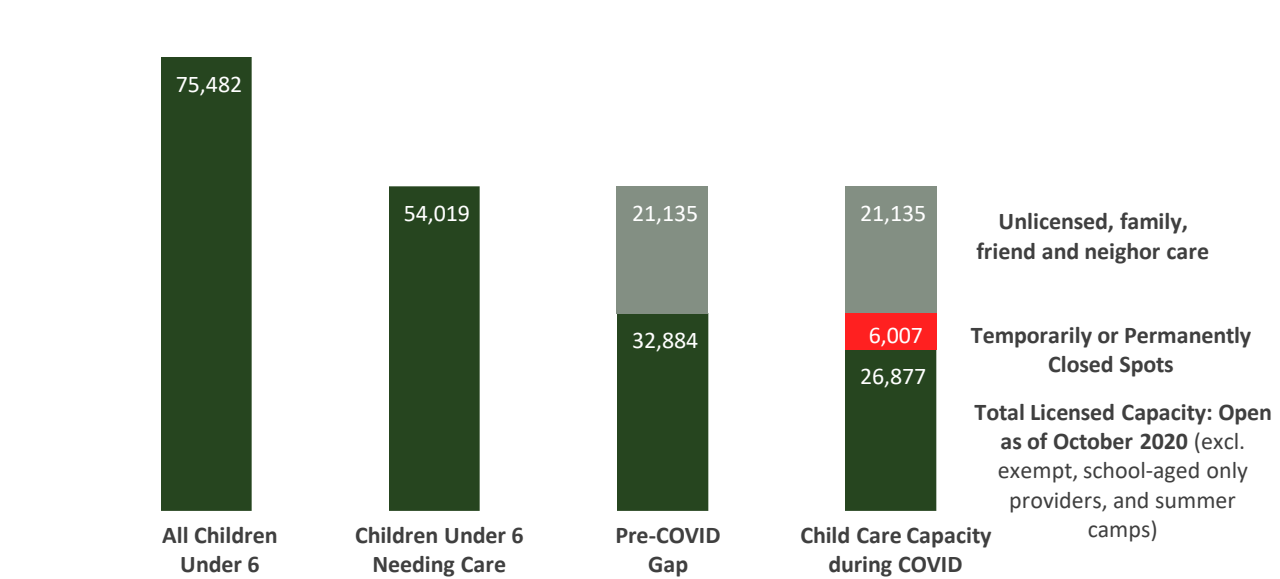
This analysis highlights disparities that, while worsened by the pandemic, are related to more long-lasting, structural components of the economy. Unemployment stemming from school closings, family, and health needs resulted in a lengthy duration of unemployment and disproportionately affected women. **These extended detachments from the labor force may have enduring effects on the labor force participation and career trajectories of these women once the health situation is controlled.** Further, these circumstances underscore the barriers that women, in particular low-income women, face when balancing child care responsibilities and family needs with labor force participation opportunities.

Child Care

Findings from the unemployment analysis are supported by a detailed analysis of child care constraints on New Hampshire's workforce. The child care system is foundational to ensuring workers with children are able to contribute to the labor force. However, the lack of affordable, accessible, and quality care has the potential to create significant barriers to work, especially for women, single-parent households, and low-income families.

- Prior to the pandemic, formalized child care capacity addressed only about 60 percent of the estimated child care need children under the age of 6 in New Hampshire.
- At the height of the pandemic, child care capacity and demand were significantly reduced temporarily, and while the majority of spots have reopened; capacity as of October 2020 met around 50 percent of the estimated need.
- Differentials are also evident by geography. Consistent with national trends in the location of child care deserts, unmet need is highest in rural communities.

Licensed Child Care Capacity in New Hampshire, October 2020



Source: Child Care Aware of America (2020)

Where capacity exists, available options do not always meet the needs of families, and the cost of child care is a significant concern for many. In 2019, the annual cost of center-based child care for an infant in New Hampshire was approximately \$13,000, or \$23,600 for an infant and a four-year old child. This infant cost is roughly 12 percent of median household income with two earners, and 40 percent of annual income for a single-parent household, slightly above the national average of 36 percent.

The issues of affordability, availability, and quality are interrelated. Cost and quality concerns dictate in part the degree to which parents enter the workforce, meaning that the calculated need would be higher without this constraint, and parents also struggle to find care at nonstandard hours associated with employment opportunities.

While caring for young children is a common barrier to labor force participation, pandemic-related school closures expanded the need for care to school age children as well.

As of September 2020, approximately 59 percent of school districts in the state were classified as fully remote or employing a hybrid method of in-person and remote learning.

These conditions create potential constraints for an **estimated 34,000 New Hampshire families where all parents were participating in the workforce** while supervising remote or hybrid school for their children.

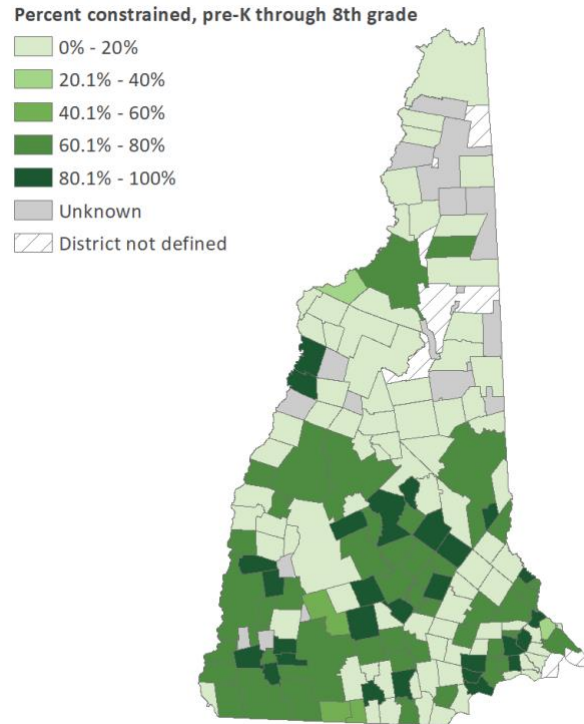
Concentrations of these families are highest among school districts in the southern portion of the state, which had high rates of hybrid or remote learning for students.

These child care constraints can reduce productivity, decrease hours of work, and diminish career opportunities for parents.

Drawing on national research, this analysis quantifies potential economic effects from child care constraints in New Hampshire exacerbated by the pandemic, as parents either exited the labor market entirely or reduced their workforce participation to balance work and home responsibilities.

The economic loss from individuals citing school closure as reason for unemployment is estimated at \$1.3 million per week, as businesses lose workers and individuals earn and in turn spend less throughout the economy. Economic losses from individuals reducing workforce participation and productivity in response to the need to assist school age children with remote learning are conservatively estimated at \$1 million per week, largely driven by the reduction of work hours. Finally, economic losses for those reducing their workforce participation and productivity due to COVID-related child care constraints for young children are estimated at \$115,000 per week, down from an estimated \$600,000 per week during the height of the pandemic when closures were much more widespread.

Est. School-Aged Children Needing Care
by School District (Sep 2020)



Source: U.S. Census Bureau (2018), New Hampshire Department of Education (2019), Econsult Solutions (2020)

Benefit Cliffs

A benefit cliff occurs when individuals or families who receive public benefits see a reduction or loss of these benefits due to new or increased income, such that the increased income does not fully compensate for the loss of those public benefits. These benefit cliffs interrupt the normal matching process of employers and employees by creating rational short-term disincentives for individuals to seek better employment opportunities and higher wages. These disruptions limit the state's economic activity, limit economic mobility, and sustain generational poverty.

The benefit cliff analysis utilizes anonymized microdata on New Hampshire families participating in benefit programs to conduct a simulation of the potential changes in net resources for each household as their incomes increase. The analysis focuses on six programs that are broadly impactful for the workforce decisions of New Hampshire's households:

Medicaid, which provides recipients with health insurance, supported 178,342 individuals with standard Medicaid and Granite Advantage as of December 31, 2019. Of those, 10,659 are low-income, non-disabled, working-age adults.¹

Child Care and Development Fund (CCDF), called the Child Care Scholarship program in New Hampshire, is supported by funds received from the federal government through a block grant and served 3,236 New Hampshire families in January 2020.²

Supplemental Nutrition Assistance Program (SNAP), a program administered at the state level to distribute federally funded nutrition assistance to low-income families in the form of EBT cards, supported 72,461 New Hampshire residents in December 2019. It and has proved so crucial during the COVID pandemic that the federal government expanded it to accommodate more families.³

Temporary Assistance for Needy Families (TANF) cash assistance programs provided cash assistance to 7,836 individuals, including 5,990 children, as of December 31, 2019.⁴

U.S. HUD's Section 8 Housing Choice Voucher Program (HCVP), Section 8 project-based rental assistance, and Public Housing (collectively referred to as "housing" throughout the cliff analysis) are federally funded and administered by a mix of local and/or statewide public housing authorities. In 2020, approximately 18,600 New Hampshire households received rental subsidies through one of these programs.⁵

Low Income Home Energy Assistance Program (LIHEAP), another program that is federally funded and administered at the state level, assists households with energy costs in various ways, such as bill

¹ New Hampshire Department of Health and Human Services (2020)

² New Hampshire Department of Health and Human Services (2020)

³ United States Department of Agriculture SNAP Data Tables (2020)

⁴ Federal Temporary Assistance for Needy Families (TANF) block grant funds New Hampshire's Financial Assistance to Needy Families (FANF) which encompass programs four programs. The two TANF programs whose program rules are included in this study are the New Hampshire Employment Program (NHEP) and Family Assistance Program (FAP). The remaining two FANF programs are Interim Disabled Parent (IDP) and Families with Older Children (FWOC). Throughout the remainder of this chapter, the TANF-funded programs are referred to collectively as TANF programs.

⁵ New Hampshire Housing Finance Authority (2020), US Department of Housing and Urban Development (2020)

payment assistance and weatherization efforts. The program certified 28,727 applications in program year 2019-2020.⁶

In order to identify and measure benefit cliffs, this analysis simulated an increase in household earnings for the 61,888 households within New Hampshire's New HEIGHTS integrated data system⁷ assessed as being potentially responsive to higher wage offers or expanded work schedules. For each family, the simulation increased earnings up to \$80,000 above the household's initial earnings in increments of \$1,000, creating approximately 4.95 million iterations in which a cliff could potentially occur. Of these 4.95 million instances, 145,007 cliffs are encountered. In this analysis, a cliff results when the additional \$1,000 in incremental earnings results in greater than \$1,000 in costs due to either a complete loss of public benefit, a decline in the value of a public benefit, an increase in costs, or some combination of these three. Of the 145,007 cliffs identified, a cliff was created, in part or in sum, by the loss or reduction of at least one of the six programs of interest—or in the case of child care, an increase in total expenses based on additional hours worked—for 95 percent of cliffs (138,043).⁸ Out of 61,888 households analyzed, 94 percent experienced at least one benefit cliff during the simulation.

Households Facing Benefit Cliffs by Program and Family Type

	Healthcare	Child Care ⁹	SNAP	TANF	Housing	LIHEAP	Total Families
No children	24,322	0	41	0	41	185	24,338
Single adult with children	16,732	8,010	4,360	620	1,220	1,691	16,867
Two adults with children	14,452	9,711	1,857	52	793	909	14,942
Three or more adults with children	1,907	307	182	8	146	246	1,927
Total Families Facing Cliff	57,413	18,028	6,440	680	2,200	3,031	58,074
Program Enrollment	61,633	25,824	11,786	1,653	7,683	34,301	61,888
Cliff Prevalence by Program	93%	70%	55%	41%	29%	9%	94%

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

The focus programs vary in the degree of cliff risk and most impact household types:

- **Healthcare:** Cliffs related to the loss of health benefits were present for almost all households (93 percent) across the simulation but were often classified as “low risk” because they are not imminent for many families. Healthcare cliffs present the greatest risk for households with no children, in which the loss of Medicaid eligibility for adults at 138 percent of the Federal Poverty Level (FPL) is usually encountered at lower incomes than for families with children.

⁶ New Hampshire Office of Strategic Initiatives (2020)

⁷ The New HEIGHTS system is New Hampshire's Integrated Eligibility System

⁸ The remaining five percent are not analyzed within this framework but potentially occur from a combination of changes in EITC, SSI, or payroll taxes.

⁹ Because this simulation strives to understand barriers to employment, “child care” cliffs include families with and without the CCDF program. For example, a family that is not enrolled in the CCDF program could encounter a cliff when its child care expenses increase as a second parent enters the workforce. Alternatively, CCDF participants can experience a cliff when their income increases, causing their subsidy to decrease.

- **Child care:** Cliffs related to child care are the closest in average proximity (\$16,540) and most significant in average magnitude (\$2,430) of all of the focus programs.¹⁰ These cliffs pose challenges across household types with children as adults are considering joining the workforce. These cliff effects are mitigated for families participating in the CCDF program, though many challenges even among CCDF subsidy recipients stem from the cost of child care relative to potential earnings.
- **SNAP:** Significant potential cliffs in the SNAP program are present for households with children with incomes near the cutoff of 185% of the FPL. SNAP also has significant interactions with other programs contributing to additional healthcare, housing, TANF, and LIHEAP cliffs.
- **TANF:** Due to its graduated design, the TANF program contributes to the smallest number of cliffs and the lowest average magnitude. Seventy-four percent of these cliffs are encountered by single adult families with children currently in the workforce, and interactions exist with programs such as housing and LIHEAP.
- **Housing:** More than a quarter of families receiving housing assistance face benefit cliffs, often due to combined benefit losses with the SNAP or TANF program.
- **LIHEAP:** Cliffs attributed to changes in LIHEAP benefits are relatively small in average magnitude. These cliffs often emerge in combination with changes in healthcare and child care costs.

Characteristics of Typical Benefit Cliffs by Program

Program/ Category	Enrollment	Unique Families Facing Cliffs	Common Cliffs	Nature of Cliff	Most Impacted Household Types
Healthcare	61,633	57,413	Adults 138% FPL Children 318% FPL	Sudden benefit Loss	ALL
Child Care	25,824	18,028	Single parent joining workforce Second adult w/children joining workforce	HH Cost Increase	All households w/ children
SNAP	11,786	6,440	185% FPL	Gradual decline up to sudden benefit loss	Single Adult w/Children
TANF	1,653	680	Combination w/SNAP, Housing	Gradual decline	Single Adult w/Children (without earnings)
Housing	7,683	2,200	Combination w/SNAP, TANF	Gradual decline	All households w/ children
LIHEAP	34,301	3,031	Stepwise declines, common cliffs at 100% FPL, 200% FPL, Combination w/ Healthcare or Child Care	Step decrease up to sudden benefit loss	Single Adult w/Children

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

¹⁰ In the context of this report, "proximity" refers to the increase in earnings necessary to encounter a cliff, while "magnitude" refers to net loss in resources encountered from a cliff.

Geographic analysis shows that towns with the highest levels of risk for benefit cliffs tended to have lower median household income levels, higher social vulnerability, and more reliance on goods-producing and Education and Health Services industries than the state average.

Policy Considerations

Key policy considerations emerging from this analysis seek to address situations in which constraints disrupt the ability of New Hampshire's families to participate in the workforce and improve their long-term economic prospects.

Where applicable, Section 6 of this report includes analysis of the potential impacts of policy options through use of the benefit cliffs household simulation model detailed in Sections 4 and 5. The incidence and severity of benefit cliffs are analyzed with and without the potential policy change to understand the degree to which it might impact the labor market choices faced by households.

Unemployment

Demand for labor represents a first-order consideration for New Hampshire's potential workforce. Unemployment levels have declined significantly as the recovery has progressed, but certain geographies and industries face continuing challenges. Communities reliant on service-concentrated industries have been particularly impacted, with permanent closures of some businesses leading to a new equilibrium even as health conditions improve. Regulatory and financial policies should assist businesses in these sectors, support start-up businesses, and recognize that some workers may need longer-term support due to these structural changes. In addition, the state could encourage more widespread use of the short-time unemployment program, which allows employers to reduce their employees' total hours of work rather than laying off a portion of their workforce by covering a percentage of the wages lost due to reduction in overall hours.

Child Care

Through each of the analytical lenses used in this report, child care revealed itself to be a significant barrier to labor force participation, particularly for low-income households and women. These issues were significant prior to the pandemic, and have worsened throughout, with increased need and decreased availability. Policy options to reduce child care-related workforce disincentives include:

Expand funding for the CCDF program in terms of expanding eligibility and/or increasing the number of children served.

Adjust the CCDF step options to have more intervals with smaller increments, thereby reducing financial loss due to an increase in earnings that increases one's "step."

Raise State Provider Rates (SPRs) for non-traditional hours, thus increasing supply of evening and weekend providers to meet the current demand, particularly needed by lower-income families.

Continue to pay child care providers based on enrollment, not on attendance as tying provider payment based on enrollment will likely make staff salaries and other fixed costs less burdensome and provide predictable revenue streams for providers to better plan their operations.

Include licensed-exempt providers in next market rate study to help ensure that CCDF state payment rates (SPRs) are adequately close to market rates.

Implement a universal pre-K program to substantially reduce child care subsidy benefit cliffs or associated effective marginal tax rates, as well as the costs of working additional hours among people not enrolled in CCDF.

Expand Head Start and Early Head Start as these programs reduce child care costs substantially or can eliminate them outright among working parents.

Continue funding for full-day kindergarten as the availability of full-day kindergarten can alleviate workforce constraints for numerous New Hampshire families with young children.

Encourage or support employer provision of onsite child care, which could wipe out the increased child care costs otherwise associated with working more or working for higher wages.

Supplemental Nutrition Assistance Program (SNAP) and Food Insecurity

Benefit cliffs caused by the SNAP program are of particular concern to single adult households with children as they approach the program's income limit and also contribute to numerous cliffs that are the result of a combination of other programs. Policy considerations to reduce cliff impacts include:

Increase the SNAP gross income limit from the current limit of 185 percent FPL, at which point many families approach benefit cliffs.

Provide a nominal Heat and Eat payment to SNAP recipients receiving housing subsidies, expanding the ability to remain on SNAP at higher income levels and remain eligible for USDA's free meal programs, which is the most financially damaging aspect of losing SNAP eligibility for many families.

Encourage Community Eligibility Provision (CEP) take up, which allows all students in a school or school district to receive free breakfast and lunch regardless of their household income.

Temporary Assistance for Needy Families (TANF) Cash Assistance

While families receiving TANF encountered relatively few TANF-specific cliffs, policy considerations that could expand eligibility and prevent cliffs partially or wholly resulting from losing or decreasing TANF eligibility include:

Increase the TANF earned income disregard, which currently allows recipients to claim an earned income disregard worth half of their earned income, to receive a higher TANF cash assistance grant.

Increase the TANF child care deduction, which currently allows recipients to reduce their gross income by a capped amount of child care expenses per child per month. This deduction can increase the TANF grant amount received each month and can also mitigate the impact of increased child care expenses.

Healthcare

Medicaid benefit cliffs are driven by cut-offs in Modified Adjusted Gross Income (MAGI) relative to the poverty level, which disincentivizes workers near these income cut-offs from earning extra income. The value of the premium tax credit, which declines as earnings rise among individuals covered under health insurance purchased on the health care marketplaces, is also based on MAGI income. Considerations to reduce healthcare cliff impacts include:

Incentivize or encourage employers to offer dependent care FSA. Employers seeking to incentivize more work or higher wages among employees potentially facing Medicaid cliffs could consider offering

employee benefits that increase overall compensation packages without producing additional income that counts toward Medicaid eligibility or the value of the premium tax credit. Since pre-tax contributions to dependent care Flexible Spending Account (FSA) plans do not count toward MAGI income, providing access to dependent care FSA plans to help cover the costs of reasonably anticipated child care expenses could help their employees by potentially reducing their tax burden, maintaining Medicaid eligibility, and/or receiving higher premium tax credits.

Housing

Subsidized housing interacts with several other benefit programs and can often be the tipping point for a cliff. A policy option to reduce housing-related cliffs includes:

Encourage greater use of the Public Housing flat rent option. All residents in Public Housing must annually be given the option of paying flat rents that do not rise with increases in income, a unique feature for Public Housing distinct from HUD's other major rental assistance programs. By remaining constant over the course of a year, the flat rent option may be appealing to individuals who can reasonably expect to earn a high enough income that year that they would pay less through flat rents than through income-based rents.

Transportation

When a worker begins working away from home, picks up an additional shift or job, or starts working an extra day, they can incur higher transportation costs, which can (typically in combination with other increased expenses or benefit losses) disincentivize increased workforce participation. One option to reduce this barrier includes:

Incentivize or encourage employers to provide transportation to employees by exploring options like a partnership with a ride-sharing company or shuttles to workplaces. These approaches would shift the transportation costs away from workers.

Summary of Child Care and Benefit Cliff Recommendations

Category	Policy Recommendations
Child care	Expand funding for the CCDF program
	Adjust CCDF step options so that there are more intervals with smaller increments
	Raise state payment rates for non-traditional hours
	Continue to pay child care providers based on enrollment, not on attendance
	Include license-exempt providers in next market rate study
	Implement a statewide pre-K program
	Expand Head Start and Early Head Start
	Continue adequate funding for full-day kindergarten
Food insecurity and SNAP eligibility	Encourage or support employer provision of onsite child care
	Increase SNAP gross income limit
	Provide a nominal Heat and Eat payment to SNAP recipients receiving housing subsidies
TANF Cash Assistance	Encourage Community Eligibility Provisions take up
	Increase the TANF earned income disregard
Healthcare	Increase the TANF child care deduction
	Incentivize or encourage employers to offer dependent care FSA
Housing	Encourage greater use of the Public Housing flat rent option
Transportation	Incentivize or encourage employers to provide free transportation to employees

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1. Study Context and Methodology

1.1. Background and Scope

The COVID-19 pandemic created a range of health, economic, and social policy challenges for New Hampshire. Changes in economic conditions have deepened existing challenges for vulnerable populations and communities, while other households have faced new challenges around decisions regarding employment and child care that they had never anticipated.

New Hampshire's economic recovery has many facets, with both short- and long-term dimensions. Health, macro-economic and social conditions will all contribute to the state's ability to restore its workforce, economy, and quality of life. This study focuses on key factors that impact the decision making of households and may serve as constraints to returning to the workforce or expanding their participation. Constraints to New Hampshire's workforce recovery come in several forms:

- The **availability of employment** has shifted, as industries and communities have been differentially impacted by temporary and permanent business closures associated with the pandemic;
- **Household obligations such as child care** and other family considerations have become more relevant to employment decisions as COVID has disrupted established patterns of life; and
- **Policy disincentives, such as benefit cliffs**, in which additional earned income can result in a net loss of resources through the loss of benefits, continue to factor into the employment choices that households make.

Granular analysis of household-level decisions is paired with aggregate analysis of impacts across communities and populations to help policymakers understand these constraints, and to target and prioritize solutions that can accelerate New Hampshire's recovery.

This study began in December 2019 with a focus on benefit cliffs, pursuant to a legislative requirement in the New Hampshire House Bill 4 (2019) to conduct an economic analysis to support the development of policy recommendations.¹¹ The onset of the COVID-19 pandemic in March 2020 changed the economic landscape of New Hampshire and the employment decisions faced by its households. Accordingly, the study was expanded to include additional analysis of unemployment conditions and reasons for unemployment relative to the pandemic, and to analyze child care availability and affordability, and the ways in which the pandemic had broadened the impact of child care as a constraint to work. This expansion of the scope of the analysis and incorporation of detailed datasets on unemployment claims and child care supply and demand over the course of the pandemic enabled the research team to develop a more comprehensive picture of the workforce constraints impacting New Hampshire's households and its economic recovery.

¹¹ House Bill 4 (2019), "An Act Relative to State Fees, Funds, Revenues and Expenditures." Passed September 25, 2019.
<http://gencourt.state.nh.us/bill_status/billText.aspx?sy=2019&id=1336&txtFormat=pdf&v=current>

1.2. Research Framework

This study employs as its core research framework the choices and constraints faced by New Hampshire's households as they make decisions about returning to or expanding their participation in the labor force. The labor market is, at its core, an aggregation of individual decisions by households and employers, each seeking to optimize their outcomes. Under optimal conditions, households enhance both their short-term resources and their long-term earning potential by maximizing their participation in the labor market. The constraints reviewed in this study are factors that disrupt this relationship, creating short-term conditions where households may be unable to participate in the workforce, or may benefit from not maximizing their participation.

This household decision-making framework was developed prior to the COVID-19 pandemic for the analysis of "benefit cliffs." Many federal and state benefit programs are means-tested, which creates situations in which additional earned income can result in the loss of benefits, and potentially a net loss (or "cliff") in household resources. The disincentives to working or earning more that benefit cliffs create can constrain the availability of workers in low-wage sectors in particular, limiting economic potential specifically in states like New Hampshire that have limited population growth and an aging citizenry. These disincentives can also create losses for households, as (rational) short-term choices to forgo potential wage increases can also lower their long-term earnings trajectory and economic mobility over time.

The COVID-19 pandemic has introduced significant new disruptions to labor market dynamics and the decisions of households about their participation in the workforce. The availability of jobs, influenced by the match between employee skills and available opportunities, is a significant constraint as industries and communities have faced differential impacts from the pandemic. The disruption in patterns of living have also created or exacerbated household challenges around managing child care and personal health issues that impact choices about employment.

This study uses a mix of datasets and methods to gain insight into these issues and their implications for New Hampshire's workforce recovery:

- **Anonymized "microdata"** on individual households, drawn from benefits program data and unemployment claim records, are analyzed at a granular level, including, for the benefit cliffs analysis, microsimulation analysis estimating projected family resources and expenses to understand the circumstances of individual households across New Hampshire;
- **Administrative data** is used to understand conditions and trends for key inputs like unemployment, child care availability, and public benefit program rules and regulations;
- **Longitudinal analysis** is used to understand the evolution of conditions prior to COVID, during the initial wave of the pandemic and associated business closures, and the initial recovery to conditions as of Fall 2020; and
- **Geographic analysis** is used to understand variation in conditions across different communities in New Hampshire.

1.3. Social Vulnerability in New Hampshire

Household decision making must also be understood in the broader context of social vulnerability. Social vulnerability includes factors that may make an individual or household more susceptible to stressors and reduce an individual's or household's ability to respond to stressors.¹² Factors like socio-economic status, household composition, and access to social services all influence the social vulnerability of a household, which in turn influences household decisions about participation in the workforce. Social vulnerability also impacts a household's ability to recover from a stressor like a loss of benefits, or in the context of COVID-19, a sudden loss of employment due to health concerns, child care responsibilities, or temporary or permanent business closures.

New Hampshire has recognized the intertwining of these social and economic issues through its embrace of a "Whole Family Approach to Jobs: Parents Working, Children Thriving" strategy. This initiative, designed to help "develop program, policy, and system solutions that support parents in achieving greater employment gains and economic stability," recognizes the connections between parents' education, financial stability, and health and their children's health and education.¹³ This collaborative initiative among six New England states, including New Hampshire, identified the need to improve family economic security by addressing benefit cliffs. In 2019, Governor Sununu and the New Hampshire Department of Health and Human Services (DHHS) published a policy paper examining workforce challenges related to benefit cliffs, and as a result, sought to understand state and federal benefits programs and how policy changes might affect benefit cliffs.¹⁴

Existing Social Vulnerabilities (pre-COVID)

The Division of Public Health Services within DHHS has created a statewide social vulnerability index (SVI) to understand which communities may be most vulnerable to external stressors. The SVI includes 16 measures at the census tract level.¹⁵ New Hampshire's SVI is recreated in Figure 1.1 below with 2018 data and using an updated indexing methodology provided by DHHS.

¹² Centers for Disease Control and Prevention (n.d.). CDC Social Vulnerability Index (SVI). <https://data.cdc.gov/Health-Statistics/CDC-Social-Vulnerability-Index-SVI-/u6k2-rtt3/data>.

¹³ National Conference of State Legislatures. (2018). A Whole Family Approach to Jobs Project. <https://www.ncsl.org/research/human-services/a-whole-family-approach-to-jobs-project.aspx>.

¹⁴ New Hampshire Department of Health and Human Services. (2019). Helping Business Thrive and Families Prosper. <https://www.dhhs.nh.gov/ocom/documents/closing-cliff-effect.pdf>.

¹⁵ New Hampshire Division of Public Health Services. (n.d.). Social Vulnerability Index: An Emergency Response Tool. <https://www.nh.gov/epht/highlights/documents/social-vulnerability-index.pdf>

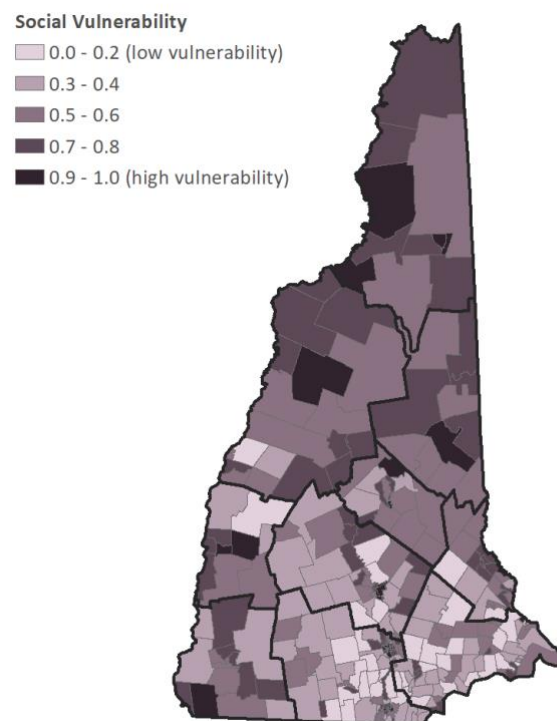
Broadly, the southeastern portion of the state has a lower SVI than the northern and western portions of the state. This indicates that southeastern New Hampshire, in general, is better prepared to recover from an external shock than households or families in the northern or western portions of the state. Generally, this trend is driven by measures including percent living below the poverty level, percent unemployed, percent over 65 years of age, and percent single parent households.

New and Exacerbated Social Vulnerabilities (COVID-19)

Populations in New Hampshire with high social vulnerability pre-COVID-19 are also those that may face a greater risk of infection and hospitalization from COVID-19 as well as reduced capacity to recover from the economic impacts associated with the pandemic. A study of social vulnerability and COVID-19 infection in the U.S. found that social vulnerability of a community was associated with increased COVID-19 case counts.¹⁶

The COVID-19 pandemic has disproportionately affected people of color, particularly Black Americans, the elderly, and low-income populations, which are all measures associated with social vulnerability.¹⁷ Some racial and ethnic minority groups are disproportionately represented among populations with limited access to health care, in crowded housing conditions, and those working essential jobs in health care, farms, grocery stores, and public transportation, all factors that can increase one's risk of COVID-19 infection. Additionally, jobs in Food Service, Retail, and Entertainment that were significantly impacted by the pandemic tend to be low-paying and employ a greater share of young people, women, and Black or Hispanic workers than

Figure 1.1: New Hampshire Social Vulnerability Index (Pre-COVID)



Source: ESI (2020), NH DHHS (2019)

¹⁶ Karaye, I. & Horney, J. (2020). The Impact of Social Vulnerability on COVID-19 in the U.S.: An Analysis of Spatially Varying Relationships. American Journal of Preventative Medicine. DOI:<https://doi.org/10.1016/j.amepre.2020.06.006>.

¹⁷ Eligon, J., Burch, A.D.S., Searcey, D., & Oppel Jr, R.A (2020). Black Americans Face Alarming Rates of Coronavirus Infection in Some States. New York Times. <https://www.nytimes.com/2020/04/07/us/coronavirus-race.html>.

Killerby ME, Link-Gelles R, Haight SC, et al. Characteristics Associated with Hospitalization Among Patients with COVID-19 — Metropolitan Atlanta, Georgia, March–April 2020. MMWR Morb Mortal Wkly Rep 2020; 69:790–794.

DOI: <http://dx.doi.org/10.15585/mmwr.mm6925e1external icon>.

Centers for Disease Control and Prevention (2020). Health Equity Considerations and Racial and Ethnic Minority Groups.

<https://www.cdc.gov/coronavirus/2019-ncov/community/health-equity/race-ethnicity.html>.

Finch, W. H. & Hernandez Finch, M.E. (2020). Poverty and Covid-19: Rates of Incidence and Deaths in the United States During the First 10 Weeks of the Pandemic. <https://doi.org/10.3389/fsoc.2020.00047>.

industries overall.¹⁸ Further, these populations may not have the financial stability or resources to withstand or recover from a loss of employment.

The pandemic has also created newly vulnerable populations who, because of stay-at-home orders, closures, health reasons, or reduced demand, are dealing with long-term economic instability or unemployment for the first time. Analysis of unemployment and child care trends over the course of the pandemic illustrate widespread impacts across segments of the population that had seemingly stable employment and family arrangements at the start of 2020.

Further, the pandemic—which has increased stress, social isolation, job loss and job insecurity, and health concerns for many people—has the potential to exacerbate other health and social issues in New Hampshire, including mental health issues, substance use disorders, and intimate partner violence. From a Kaiser Family Foundation poll in July 2020, 53 percent of adults in the U.S. reported that their mental health had been negatively impacted due to COVID-19.¹⁹ In the same poll, 12 percent of respondents reported an increase in alcohol consumption or substance use.

While these issues have been made more prevalent by the pandemic across the population, impacts have been disproportionate within certain groups. From a survey of adults in the U.S. in June 2020, slightly more men (14.4 percent) than women (12.2 percent) reported starting or increasing substance use to cope with pandemic-related stress, and Black (18.4 percent) and Hispanic (21.9 percent) individuals were more likely to report substance use than white (10.6 percent) or Asian (6.7 percent) individuals.²⁰ Additionally, those in the 18–24 age range were more likely to report substance use (24.7 percent) than other age ranges.

Lastly, with more people staying at home as a result of the pandemic, the risk of intimate partner violence has increased.²¹ Data collected from an academic medical center in the northeast U.S. reflected an increase from the previous year in the incidence of intimate partner violence cases among patients who sought emergency care at the beginning of the pandemic.²²

Consistent with the “Whole Family Approach to Jobs,” social vulnerabilities within a household or community are understood to interact with each of the workforce constraints considered throughout this report. Accordingly, social vulnerability will be revisited as a lens to better understand the aforementioned populations and issues throughout this report.

¹⁸ Kochhar, R. & Barroso, A. (2020). Young workers likely to be hard hit as COVID-19 strikes a blow to restaurants and other service sector jobs. Pew Research Center. <https://www.pewresearch.org/fact-tank/2020/03/27/young-workers-likely-to-be-hard-hit-as-covid-19-strikes-a-blow-to-restaurants-and-other-service-sector-jobs/>.

¹⁹ Panchal, N. et al. (2020). The Implications of COVID-19 for Mental Health and Substance Use. KFF. <https://www.kff.org/coronavirus-covid-19/issue-brief/the-implications-of-covid-19-for-mental-health-and-substance-use/>.

²⁰ Czeisler, M. et al (2020). Mental Health, Substance Use, and Suicidal Ideation During the COVID-19 Pandemic—United States, June 24–30, 2020. CDC Morbidity and Mortality Weekly Report. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7440121/>.

²¹ Evans, M., Lindauer, J., & Farrell, M. (2020). A Pandemic within a Pandemic—Intimate Partner Violence during Covid-19. New England Journal of Medicine. <https://www.nejm.org/doi/full/10.1056/NEJMp2024046>.

²² Gosangi, B. et al (2020). Exacerbation of Physical Intimate Partner Violence during COVID-19 Lockdown. Radiology. https://pubs.rsna.org/doi/10.1148/radiol.2020202866?_ga=2.135408177.1443884022.1605810817-865774151.1605810817.

1.4. Variation by Community

Workforce constraints and social vulnerabilities vary by community type across New Hampshire. To help understand differential issues in communities across the state, analyses of unemployment, child care, and benefit programs are undertaken on a town-by-town basis.

Within the context of this report, findings are generally shown on a statewide basis and by county. In order to understand patterns at the town level, a typology is developed that categorizes towns by descriptive factors such as their density, income level, and economic characteristics. Analyses are undertaken by typology to assess which constraints are most relevant across different community types. Finally, the [Interactive Appendix](#) to this report represents an online interface that enables the user to see results for the key measures reviewed in this report for each town in New Hampshire, and to benchmark each town against others of similar typology.

Typologies are developed to define these benchmarks based on the following factors:

- County
- Population Density (measured as population per square mile)
- Median Household Income
- Social Vulnerability (measured by the SVI index described above)
- Employment Composition (measured based on the industry mix of employment in each town)

Figure 1.2 shows the typologies developed from each of these metrics that are used throughout this analysis. A small proportion of towns do not have a sufficient population size or employment base for categorization under this typology.

For population density, median household income, and social vulnerability, towns are sorted into quartile based on the relevant metric.²³ Towns are then categorized by quartile as either “Low” (first quartile), “Mid-Low” (second quartile), “Mid-High” (third quartile) or “High” (fourth quartile) on each metric.

The employment composition in each sector is characterized based on U.S. Census Bureau data on the sector representing the largest share of employment in each town.²⁴ Towns in which Manufacturing, Construction or Natural Resources represent the largest employer were categorized as “Goods-Producing,” while the remaining towns are considered “Service-Producing.” Among those service-producing towns, a further division was made into those towns where the largest employers were Education and Health Services; Trade, Transportation and Utilities; Leisure and Hospitality; or a different sector (categorized as “Other”).²⁵

²³ A quartile is a statistical measure dividing data equally into four categories based on a continuous ranking. In this case, the lowest 25% of towns on a given measure represent the first quartile, those between 25% and the median the second quartile, and so on.

²⁴ U.S. Census Bureau. (2021). LEHD Origin-Destination Employment Statistics Data (2018).

²⁵ Largest sectors for towns categorized as “other” are typically Public Administration, Professional & Business Services or Financial Activities.

Figure 1.2: Typologies Used by Town

Quartile	Category	Population Density	Household Income	Social Vulnerability	Employment Composition
1	Low	< 33	< \$60,400	< 0.39	Goods-producing (56)
2	Mid-Low	33-76	\$60,400 - \$72,300	0.39 – 0.51	Education & Health Services (76)
3	Mid-High	76-205	\$72,300 - \$86,200	0.51 – 0.61	Trade, Transport & Utilities (46)
4	High	> 205	> \$86,200	> 0.61	Leisure & Hospitality (36) Other (25)
Definition		Population/ square mile	Median HH Income	Index (0-1)	Leading Employment Sector

Source: ESI (2020)

Figure 1.3 at the end of this section shows the typology for each town in New Hampshire across each of these dimensions, and full information on each town across each of these dimensions is available in the [Interactive Appendix](#).

1.5. Organization of Report

The analysis that follows is organized into the following sections:

Section 2: Labor Market Impacts from COVID-19 details the evolution of workforce conditions from low unemployment rates at the outset of 2020, widespread initial shutdowns in business activity at the beginning of the pandemic, and differential recoveries across industries and geographies over the course of 2020 as the unemployment rate in New Hampshire returned to four percent in December. A detailed analysis of unemployment claims is undertaken to gain insight into the continuing reasons for unemployment and a gap analysis is undertaken to understand mismatches between labor supply and demand that may constrain the recovery of New Hampshire's workforce going forward.

Section 3: Child Care Workforce Constraints reviews the affordability, availability, and quality of child care in New Hampshire prior to the pandemic, and the way in which the disruptions created by COVID have impacted the supply and demand of child care as well as parents of young children. Broader research is then marshalled to understand the implications of this issue for the availability and productivity of the state's workforce, as well as disparities that the issue creates and exacerbates.

Section 4: Benefit Cliff Workforce Constraints analyzes the effect of policy design for a range of benefit programs (including Medicaid, TANF, SNAP, housing subsidies, LIHEAP, and child care subsidies) on the household decisions and employment incentives of enrolled families. Through the simulation of family resources at various earnings levels, benefit cliffs are identified where households see net resource losses from increased earnings. The prevalence and magnitude of these cliffs are analyzed by household type and geography in order to understand which represent the most meaningful constraints on employment participation.

Section 5: Benefit Cliff Workforce Constraints: Deep Dive Analysis takes a deeper look at the characteristics of families facing either the most prevalent or highest risk cliffs. This section includes analysis based on household composition, workforce participation, and benefit program combinations.

Section 6: Summary and Policy Considerations aggregates the key findings of the four analysis sections of the report to provide a summary of the most relevant workforce constraints to the economic recovery statewide. The section then advances policy considerations both for the short-term, as the state seeks to address specific challenges created by the COVID-19 pandemic, and over the longer-term as the state reckons with pre-existing challenges that limit economic opportunity and outcomes for certain communities and populations.

Figure 1.3: Typology Categorization by Town

Town	County	Population	Pop Density	Household Income	Social Vulnerability	Employment Composition
Acworth	Sullivan	892	Low	Mid-Low	Mid-High	Goods-producing
Albany	Carroll	746	Low	Low	High	Goods-producing
Alexandria	Grafton	1,620	Mid-Low	Mid-Low	Mid-High	Leisure & Hospitality
Allenstown	Merrimack	4,422	High	Low	Low	Other
Alstead	Cheshire	1,932	Mid-Low	Low	Mid-Low	Education & Health Services
Alton	Belknap	5,335	Mid-High	Mid-High	Mid-Low	Trade, Transport & Utilities
Amherst	Hillsborough	11,329	High	High	Low	Goods-producing
Andover	Merrimack	2,383	Mid-Low	Mid-High	Mid-High	Education & Health Services
Antrim	Hillsborough	2,695	Mid-Low	Mid-Low	Low	Other
Ashland	Grafton	2,055	Mid-High	Low	High	Education & Health Services
Atkinson-Gilmanton	Coos	-	NA	NA	Mid-High	NA
Atkinson	Rockingham	7,015	High	High	Low	Education & Health Services
Auburn	Rockingham	5,538	High	High	Low	Goods-producing
Barnstead	Belknap	4,669	Mid-High	Mid-High	Mid-Low	Education & Health Services
Barrington	Strafford	9,193	Mid-High	High	Mid-Low	Goods-producing
Bartlett	Carroll	2,805	Mid-Low	Low	Mid-High	Leisure & Hospitality
Bath	Grafton	1,091	Low	Low	High	Education & Health Services
Bean's Grant	Coos	-	NA	NA	Mid-Low	NA
Bean's Purchase	Coos	-	NA	NA	Mid-High	NA
Bedford	Hillsborough	22,696	High	High	Low	Education & Health Services
Belmont	Belknap	7,306	High	Mid-Low	Mid-High	Trade, Transport & Utilities
Bennington	Hillsborough	1,510	Mid-High	Mid-Low	Mid-Low	Goods-producing
Benton	Grafton	371	Low	Low	High	Education & Health Services
Berlin	Coos	10,200	Mid-High	Low	High	Education & Health Services
Bethlehem	Grafton	2,565	Low	Low	High	Education & Health Services
Boscawen	Merrimack	4,082	Mid-High	Mid-Low	Mid-Low	Education & Health Services
Bow	Merrimack	7,949	High	High	Mid-Low	Goods-producing
Bradford	Merrimack	1,703	Mid-Low	Mid-Low	Low	Leisure & Hospitality
Brentwood	Rockingham	4,710	High	High	Low	Trade, Transport & Utilities
Bridgewater	Grafton	1,073	Mid-Low	Mid-Low	High	Trade, Transport & Utilities
Bristol	Grafton	3,055	Mid-High	Low	Mid-High	Goods-producing
Brookfield	Carroll	690	Low	Mid-High	Mid-Low	Other
Brookline	Hillsborough	5,407	High	High	Low	Goods-producing
Cambridge	Coos	7	Low	NA	Mid-Low	NA
Campton	Grafton	3,308	Mid-Low	Mid-Low	High	Leisure & Hospitality
Canaan	Grafton	3,901	Mid-Low	Mid-High	Mid-Low	Education & Health Services
Candia	Rockingham	3,946	Mid-High	High	Low	Goods-producing
Canterbury	Merrimack	2,456	Mid-Low	Mid-High	Mid-Low	Trade, Transport & Utilities
Carroll	Coos	742	Low	Low	High	Leisure & Hospitality
Center Harbor	Belknap	1,100	Mid-High	Mid-Low	High	Trade, Transport & Utilities
Chandler's Purchase	Coos	-	NA	NA	Mid-Low	NA
Charlestown	Sullivan	5,012	Mid-High	Low	Mid-High	Goods-producing
Chatham	Carroll	360	Low	Mid-Low	Mid-High	Other
Chester	Rockingham	5,240	Mid-High	High	Low	Education & Health Services
Chesterfield	Cheshire	3,602	Mid-High	Mid-Low	Mid-High	Trade, Transport & Utilities

Town	County	Population	Pop Density	Household Income	Social Vulnerability	Employment Composition
Chichester	Merrimack	2,689	Mid-High	High	Mid-Low	Trade, Transport & Utilities
Claremont	Sullivan	12,967	High	Low	Mid-High	Trade, Transport & Utilities
Clarksville	Coos	250	Low	Low	Mid-High	Trade, Transport & Utilities
Colebrook	Coos	2,133	Mid-Low	Low	High	Education & Health Services
Columbia	Coos	725	Low	Low	High	Other
Concord	Merrimack	43,412	High	Mid-Low	Mid-Low	Education & Health Services
Conway	Carroll	10,266	Mid-High	Low	High	Trade, Transport & Utilities
Cornish	Sullivan	1,625	Mid-Low	Mid-High	Mid-High	Education & Health Services
Crawford's Purchase	Coos	-	NA	NA	Mid-Low	NA
Croydon	Sullivan	759	Low	Mid-High	Mid-Low	Leisure & Hospitality
Cutt's Grant	Coos	-	NA	NA	Mid-Low	NA
Dalton	Coos	878	Low	Low	High	Education & Health Services
Danbury	Merrimack	1,220	Low	Mid-Low	Mid-Low	Goods-producing
Danville	Rockingham	4,567	High	High	Low	Goods-producing
Deerfield	Rockingham	4,536	Mid-High	High	Mid-Low	Goods-producing
Deering	Hillsborough	1,962	Mid-Low	Mid-Low	Low	Education & Health Services
Derry	Rockingham	33,667	High	Mid-Low	Low	Education & Health Services
Dix's Grant	Coos	1	Low	NA	Mid-High	NA
Dixville	Coos	11	Low	NA	High	Other
Dorchester	Grafton	357	Low	Low	Mid-High	Other
Dover	Strafford	31,771	High	Mid-Low	Mid-High	Education & Health Services
Dublin	Cheshire	1,543	Mid-Low	Mid-High	Mid-High	Education & Health Services
Dummer	Coos	283	Low	Low	High	Trade, Transport & Utilities
Dunbarton	Merrimack	2,856	Mid-High	High	Low	Goods-producing
Durham	Strafford	16,574	High	Mid-High	Mid-Low	Education & Health Services
East Kingston	Rockingham	2,423	High	High	Low	Other
Easton	Grafton	265	Low	Mid-High	High	Leisure & Hospitality
Eaton	Carroll	398	Low	Mid-Low	High	Leisure & Hospitality
Effingham	Carroll	1,478	Mid-Low	Low	High	Goods-producing
Ellsworth	Grafton	87	Low	Low	Mid-High	Education & Health Services
Enfield	Grafton	4,564	Mid-High	Mid-High	Mid-Low	Education & Health Services
Epping	Rockingham	7,045	High	Mid-High	Low	Trade, Transport & Utilities
Epsom	Merrimack	4,756	Mid-High	Mid-Low	Mid-Low	Trade, Transport & Utilities
Errol	Coos	264	Low	Low	Mid-Low	Trade, Transport & Utilities
Erving's Location	Coos	-	NA	NA	High	NA
Exeter	Rockingham	15,317	High	Mid-High	Low	Education & Health Services
Farmington	Strafford	6,923	Mid-High	Mid-Low	Mid-Low	Education & Health Services
Fitzwilliam	Cheshire	2,377	Mid-Low	Mid-Low	Mid-High	Trade, Transport & Utilities
Francetown	Hillsborough	1,577	Mid-Low	High	Low	Leisure & Hospitality
Franconia	Grafton	1,110	Low	Mid-High	Mid-High	Trade, Transport & Utilities
Franklin	Merrimack	8,712	High	Low	Mid-High	Goods-producing
Freedom	Carroll	1,554	Mid-Low	Mid-Low	High	Leisure & Hospitality
Fremont	Rockingham	4,750	High	High	Low	Education & Health Services
Gilford	Belknap	7,194	Mid-High	Mid-High	Mid-High	Trade, Transport & Utilities
Gilmanton	Belknap	3,758	Mid-Low	Mid-Low	Mid-Low	Education & Health Services
Gilsum	Cheshire	803	Mid-Low	Mid-Low	Mid-High	Goods-producing
Goffstown	Hillsborough	18,106	High	Mid-High	Mid-Low	Education & Health Services
Gorham	Coos	2,607	Mid-High	Mid-Low	High	Trade, Transport & Utilities
Goshen	Sullivan	808	Mid-Low	Mid-Low	Mid-Low	Other
Grafton	Grafton	1,336	Low	Low	Mid-Low	Other
Grantham	Sullivan	2,949	Mid-High	High	Low	Education & Health Services
Greenfield	Hillsborough	1,877	Mid-Low	Mid-High	Low	Education & Health Services
Greenland	Rockingham	4,123	High	High	Low	Trade, Transport & Utilities
Green's Grant	Coos	1	Low	NA	Mid-High	Trade, Transport & Utilities
Greenville	Hillsborough	2,109	High	Low	Low	Goods-producing
Groton	Grafton	597	Low	Low	Mid-High	Trade, Transport & Utilities

Town	County	Population	Pop Density	Household Income	Social Vulnerability	Employment Composition
Hadley's Purchase	Coos	-	NA	NA	Mid-Low	NA
Hale's Location	Carroll	127	Mid-Low	Mid-High	Mid-High	NA
Hampstead	Rockingham	8,657	High	High	Low	Trade, Transport & Utilities
Hampton Falls	Rockingham	2,372	Mid-High	High	Mid-Low	Leisure & Hospitality
Hampton	Rockingham	15,564	High	Mid-High	Low	Leisure & Hospitality
Hancock	Hillsborough	1,657	Mid-Low	Mid-Low	Mid-Low	Education & Health Services
Hanover	Grafton	11,500	High	High	Mid-Low	Education & Health Services
Harrisville	Cheshire	953	Mid-Low	Mid-High	Mid-Low	Goods-producing
Hart's Location	Carroll	44	Low	Mid-Low	Mid-High	Leisure & Hospitality
Haverhill	Grafton	4,582	Mid-High	Low	High	Education & Health Services
Hebron	Grafton	627	Mid-Low	Mid-Low	High	Education & Health Services
Henniker	Merrimack	4,989	Mid-High	High	Low	Education & Health Services
Hill	Merrimack	1,104	Mid-Low	Mid-High	Mid-High	Education & Health Services
Hillsborough	Hillsborough	5,992	Mid-High	Mid-High	Mid-Low	Goods-producing
Hinsdale	Cheshire	3,905	Mid-High	Mid-Low	High	Goods-producing
Holderness	Grafton	2,109	Mid-Low	Mid-Low	High	Education & Health Services
Hollis	Hillsborough	7,945	High	High	Low	Goods-producing
Hooksett	Merrimack	14,428	High	Mid-High	Mid-Low	Trade, Transport & Utilities
Hopkinton	Merrimack	5,739	Mid-High	High	Low	Trade, Transport & Utilities
Hudson	Hillsborough	25,559	High	High	Mid-Low	Goods-producing
Jackson	Carroll	853	Low	Mid-Low	Mid-High	Leisure & Hospitality
Jaffrey	Cheshire	5,297	Mid-High	Mid-Low	Mid-Low	Goods-producing
Jefferson	Coos	1,041	Low	Low	High	Leisure & Hospitality
Keene	Cheshire	23,056	High	Low	Mid-High	Education & Health Services
Kensington	Rockingham	2,120	Mid-High	High	Low	Education & Health Services
Kilkenney	Coos	-	NA	NA	High	NA
Kingston	Rockingham	6,333	High	High	Low	Education & Health Services
Laconia	Belknap	16,492	High	Low	Mid-High	Education & Health Services
Lancaster	Coos	3,249	Mid-Low	Low	High	Education & Health Services
Landaff	Grafton	434	Low	Low	High	Leisure & Hospitality
Langdon	Sullivan	690	Mid-Low	Mid-High	Mid-High	Education & Health Services
Lebanon	Grafton	13,602	High	Mid-Low	Mid-Low	Education & Health Services
Lee	Strafford	4,481	High	High	Low	Education & Health Services
Lempster	Sullivan	1,160	Mid-Low	Mid-Low	Mid-High	Goods-producing
Lincoln	Grafton	1,762	Low	Low	High	Leisure & Hospitality
Lisbon	Grafton	1,584	Mid-Low	Low	High	Goods-producing
Litchfield	Hillsborough	8,617	High	High	Low	Education & Health Services
Littleton	Grafton	5,895	Mid-High	Low	High	Trade, Transport & Utilities
Livermore	Grafton	-	NA	NA	Mid-High	NA
Londonderry	Rockingham	26,302	High	High	Low	Goods-producing
Loudon	Merrimack	5,616	Mid-High	Mid-Low	Low	Goods-producing
Low and Burbank's	Coos	-	NA	NA	Mid-High	NA
Lyman	Grafton	530	Low	Low	High	Other
Lyme	Grafton	1,679	Low	High	Mid-Low	Education & Health Services
Lyndeborough	Hillsborough	1,734	Mid-Low	High	Low	Other
Madbury	Strafford	1,860	Mid-High	High	Mid-Low	Education & Health Services
Madison	Carroll	2,600	Mid-Low	Mid-Low	High	Education & Health Services
Manchester	Hillsborough	112,525	High	Low	High	Education & Health Services
Marlborough	Cheshire	2,067	Mid-High	Mid-Low	Mid-High	Goods-producing
Marlow	Cheshire	728	Low	Low	Mid-Low	Leisure & Hospitality
Martin's Location	Coos	-	NA	NA	Mid-High	NA
Mason	Hillsborough	1,435	Mid-Low	High	Low	Leisure & Hospitality
Meredith	Belknap	6,415	Mid-High	Mid-Low	Mid-High	Leisure & Hospitality
Merrimack	Hillsborough	25,969	High	High	Low	Other
Middleton	Strafford	1,825	Mid-High	Mid-High	Mid-High	Trade, Transport & Utilities
Milan	Coos	1,233	Low	Low	High	Goods-producing

Town	County	Population	Pop Density	Household Income	Social Vulnerability	Employment Composition
Milford	Hillsborough	16,007	High	Mid-High	Low	Goods-producing
Millsfield	Coos	21	Low	NA	High	Leisure & Hospitality
Milton	Strafford	4,652	Mid-High	Mid-Low	Mid-High	Goods-producing
Monroe	Grafton	800	Mid-Low	Mid-Low	High	Goods-producing
Mont Vernon	Hillsborough	2,583	Mid-High	High	Low	Trade, Transport & Utilities
Moultonborough	Carroll	4,161	Mid-Low	Mid-Low	Mid-High	Leisure & Hospitality
Nashua	Hillsborough	89,246	High	Mid-High	Mid-High	Trade, Transport & Utilities
Nelson	Cheshire	730	Mid-Low	Mid-High	Low	Other
New Boston	Hillsborough	5,795	Mid-High	High	Low	Education & Health Services
New Castle	Rockingham	981	High	High	Low	Leisure & Hospitality
New Durham	Strafford	2,702	Mid-Low	Mid-High	Mid-Low	Leisure & Hospitality
New Hampton	Belknap	2,213	Mid-Low	Mid-Low	Mid-High	Education & Health Services
New Ipswich	Hillsborough	5,374	Mid-High	Mid-High	Mid-Low	Goods-producing
New London	Merrimack	4,461	Mid-High	Mid-High	Low	Education & Health Services
Newbury	Merrimack	2,225	Mid-Low	High	Mid-Low	Leisure & Hospitality
Newfields	Rockingham	1,731	High	High	Mid-Low	Goods-producing
Newington	Rockingham	804	Mid-High	High	Low	Trade, Transport & Utilities
Newmarket	Rockingham	9,147	High	Mid-High	Low	Education & Health Services
Newport	Sullivan	6,366	Mid-High	Low	Mid-High	Goods-producing
Newton	Rockingham	4,936	High	High	Low	Goods-producing
North Hampton	Rockingham	4,494	High	High	Low	Trade, Transport & Utilities
Northfield	Merrimack	4,926	Mid-High	Mid-Low	Mid-High	Goods-producing
Northumberland	Coos	2,130	Mid-Low	Low	High	Education & Health Services
Northwood	Rockingham	4,301	Mid-High	High	Low	Education & Health Services
Nottingham	Rockingham	5,114	Mid-High	High	Low	Education & Health Services
Odell	Coos	4	Low	NA	High	NA
Orange	Grafton	309	Low	Low	Mid-Low	Goods-producing
Orford	Grafton	1,295	Low	Mid-High	Mid-High	Education & Health Services
Ossipee	Carroll	4,394	Mid-Low	Low	Mid-High	Trade, Transport & Utilities
Pelham	Hillsborough	14,049	High	High	Low	Goods-producing
Pembroke	Merrimack	7,227	High	Mid-High	Mid-Low	Trade, Transport & Utilities
Peterborough	Hillsborough	6,625	Mid-High	Mid-High	Mid-Low	Education & Health Services
Piermont	Grafton	805	Low	Mid-High	High	Other
Pinkham's Grant	Coos	9	Low	NA	Mid-High	Leisure & Hospitality
Pittsburg	Coos	813	Low	Low	High	Leisure & Hospitality
Pittsfield	Merrimack	4,140	Mid-High	Low	Mid-Low	Goods-producing
Plainfield	Sullivan	2,379	Mid-Low	Mid-High	Low	Education & Health Services
Plaistow	Rockingham	7,729	High	Mid-High	Low	Trade, Transport & Utilities
Plymouth	Grafton	6,779	High	Low	High	Education & Health Services
Portsmouth	Rockingham	21,896	High	Mid-High	Low	Other
Randolph	Coos	285	Low	Mid-High	High	Leisure & Hospitality
Raymond	Rockingham	10,451	High	Mid-High	Low	Trade, Transport & Utilities
Richmond	Cheshire	1,127	Low	Mid-Low	High	Other
Rindge	Cheshire	6,273	Mid-High	Mid-High	Mid-Low	Trade, Transport & Utilities
Rochester	Strafford	31,366	High	Low	Mid-High	Trade, Transport & Utilities
Rollinsford	Strafford	2,587	High	Mid-High	Mid-High	Goods-producing
Roxbury	Cheshire	221	Low	High	High	Other
Rumney	Grafton	1,558	Mid-Low	Low	High	Goods-producing
Rye	Rockingham	5,452	High	High	Low	Education & Health Services
Salem	Rockingham	29,554	High	Mid-High	Low	Trade, Transport & Utilities
Salisbury	Merrimack	1,437	Mid-Low	Mid-High	Mid-High	Goods-producing
Sanbornton	Belknap	2,979	Mid-Low	Mid-High	Mid-High	Leisure & Hospitality
Sandown	Rockingham	6,451	High	High	Low	Goods-producing
Sandwich	Carroll	1,354	Low	Mid-High	Mid-High	Leisure & Hospitality
Sargent's Purchase	Coos	-	NA	NA	Mid-High	NA
Seabrook	Rockingham	8,869	High	Mid-Low	Mid-Low	Trade, Transport & Utilities

Town	County	Population	Pop Density	Household Income	Social Vulnerability	Employment Composition
Second College Grant	Coos	-	NA	NA	Mid-High	NA
Sharon	Hillsborough	368	Low	Mid-Low	Mid-Low	Other
Shelburne	Coos	345	Low	Mid-Low	Mid-High	Other
Somersworth	Strafford	11,970	High	Mid-Low	Mid-High	Trade, Transport & Utilities
South Hampton	Rockingham	829	Mid-High	High	Low	Goods-producing
Springfield	Sullivan	1,339	Low	Mid-High	Mid-Low	Goods-producing
Stark	Coos	499	Low	Low	High	Other
Stewartstown	Coos	931	Low	Low	High	Education & Health Services
Stoddard	Cheshire	1,238	Low	Mid-High	Mid-Low	Other
Strafford	Strafford	4,186	Mid-High	High	Mid-Low	Education & Health Services
Stratford	Coos	681	Low	Low	High	Goods-producing
Stratham	Rockingham	7,465	High	High	Low	Trade, Transport & Utilities
Success	Coos	-	NA	NA	High	NA
Sugar Hill	Grafton	577	Mid-Low	Mid-High	High	Leisure & Hospitality
Sullivan	Cheshire	675	Mid-Low	Mid-Low	Mid-High	Trade, Transport & Utilities
Sunapee	Sullivan	3,475	Mid-High	Mid-Low	Mid-Low	Education & Health Services
Surry	Cheshire	743	Mid-Low	Mid-High	Mid-Low	Education & Health Services
Sutton	Merrimack	1,911	Mid-Low	High	Low	Education & Health Services
Swanzy	Cheshire	7,196	Mid-High	Mid-Low	Mid-High	Trade, Transport & Utilities
Tamworth	Carroll	3,053	Mid-Low	Low	High	Leisure & Hospitality
Temple	Hillsborough	1,435	Mid-Low	High	Mid-Low	Goods-producing
Thompson-Meserve's	Coos	3	Low	NA	Mid-High	NA
Thornton	Grafton	2,511	Mid-Low	Mid-Low	High	Education & Health Services
Tilton	Belknap	3,561	High	Low	High	Trade, Transport & Utilities
Troy	Cheshire	2,097	Mid-High	Mid-Low	Mid-High	Leisure & Hospitality
Tuftsboro	Carroll	2,409	Mid-Low	Low	Mid-High	Leisure & Hospitality
Unity	Sullivan	1,617	Mid-Low	Mid-Low	High	Education & Health Services
Wakefield	Carroll	5,098	Mid-High	Mid-Low	Mid-High	Education & Health Services
Walpole	Cheshire	4,026	Mid-High	Mid-High	Mid-Low	Goods-producing
Warner	Merrimack	2,939	Mid-Low	Mid-High	Low	Trade, Transport & Utilities
Warren	Grafton	925	Low	Low	High	Trade, Transport & Utilities
Washington	Sullivan	1,106	Low	Mid-High	Mid-Low	Other
Waterville Valley	Grafton	243	Low	High	Mid-High	Leisure & Hospitality
Weare	Hillsborough	9,076	Mid-High	High	Low	Other
Webster	Merrimack	1,953	Mid-Low	Mid-High	Mid-Low	Goods-producing
Wentworth's Location	Coos	30	Low	NA	Mid-Low	Other
Wentworth	Grafton	956	Low	Mid-Low	Mid-High	Goods-producing
Westmoreland	Cheshire	1,696	Mid-Low	High	Mid-Low	Education & Health Services
Whitefield	Coos	2,213	Mid-Low	Low	High	Education & Health Services
Wilmot	Merrimack	1,397	Mid-Low	Mid-High	Mid-Low	Goods-producing
Wilton	Hillsborough	3,759	Mid-High	Mid-High	Low	Goods-producing
Winchester	Cheshire	4,208	Mid-High	Low	Mid-High	Goods-producing
Windham	Rockingham	14,747	High	High	Low	Education & Health Services
Windsor	Hillsborough	229	Low	Mid-Low	Mid-Low	Education & Health Services
Wolfeboro	Carroll	6,389	Mid-High	Mid-Low	Mid-High	Education & Health Services
Woodstock	Grafton	1,369	Low	Low	High	Leisure & Hospitality

Source: U.S. Census Bureau (2018), NH Office of Energy and Planning (2020), ESI (2020)

2. Labor Market Impacts from COVID-19

New Hampshire entered 2020 with a tight labor market, one of the lowest unemployment rates in the nation, and concerns about whether the state's demographics would support the growing workforce needs of its businesses. These circumstances changed abruptly with the onset of the COVID-19 pandemic and its aftereffects.

The initial wave of business shutdowns and unemployment from COVID hit workers across all sectors and regions of the state and created newly vulnerable households and communities. Relief through the CARES Act helped to mitigate the effect on household budgets and to keep spending circulating within the economy. Unemployment rates have gradually declined, with new claims falling to pre-COVID levels following the expiration of enhanced federal unemployment benefits in August.

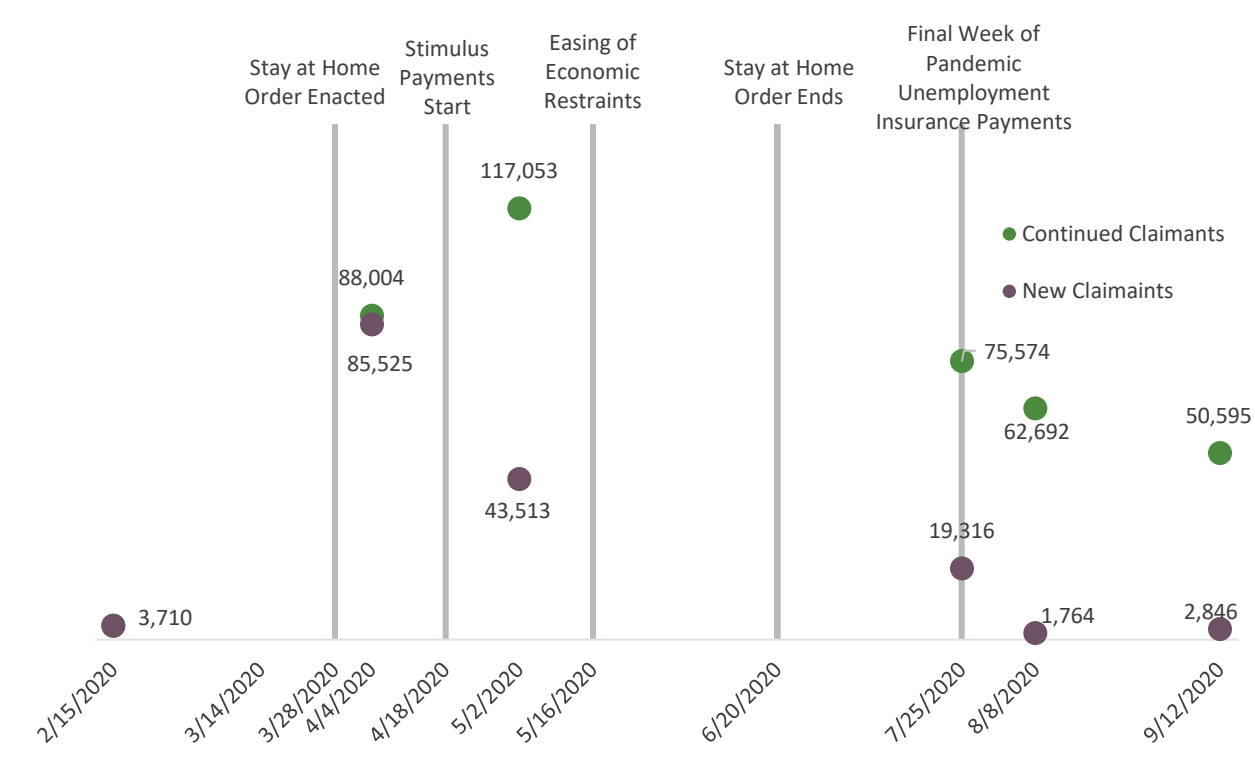
While the initial surge of unemployment was broadly shared across industries, communities, and populations, differential patterns began to emerge as the initial recovery began. Today, with the state's unemployment rate for December 2020 at four percent, significant disparities exist in the recovery between industries, workers, and communities.

Analysis in this section draws on a rich dataset, provided by New Hampshire Employment Security (NHES) of administrative and labor force information for approximately 160,000 individuals across six representative weeks of unemployment for roughly 400,000 observations,²⁶ in addition to traditional measures of unemployment and data on job postings. These sources are analyzed to understand the evolution of the labor market over the course of the pandemic and to yield insights into the current equilibrium of labor supply and demand.

Figure 2.1 below illustrates the number of claimants in the unemployment insurance system within each of the representative weeks analyzed. Additionally, it shows the number of claimants that are new to the analysis each week. It is important to note that these "new" claimants are new to this analysis but did not necessarily enter the system during that week. For example, in week ended April 4th, there were roughly 88,000 claimants, of which 85,000 were considered "new." These 85,000 claimants did not all enter the system during the week ended April 4th but between weeks ended February 22nd and weeks ended April 4th. While this distinction is important, these "new" claimants afford valuable insights to the changing nature of pandemic-related unemployment.

²⁶ Data for six representative weeks: February 15, April 4, May 2, July 25, August 8, and September 12 were utilized for this study.

Figure 2.1: Unemployment by Week, February through September 2020



Source: NHES (2020)

The analysis will detail the “Where?” (locations), “What?” (sectors), and “Who?” (individuals) of unemployment impacts from the pandemic. In addition, due to the richness of expanded data collection during the pandemic, the analysis will shed light on the vital question of “Why?” through an analysis of the self-reported reasons for unemployment. This granularity allows for an understanding of which constraints on employment remain the most salient and important barriers to New Hampshire’s recovery.

The analysis proceeds in the following sequence:

- **Section 2.1: Labor Market Conditions Pre-COVID** details the low unemployment environment and economic conditions in New Hampshire at the start of 2020;
- **Section 2.2: Peak Unemployment During COVID** details the immediate shock of unemployment at the peak of economic effects from the pandemic in April / May 2020;
- **Section 2.3: The Path of Unemployment During COVID** tracks the evolution of conditions in New Hampshire from Spring to Fall 2020 to understand the changing sectors, wages, locations, and reasons for unemployment as the initial recovery period began; and
- **Section 2.4: Fall 2020 Labor Market Conditions** details unemployment conditions and supply and demand dynamics as of Fall 2020, to lend insight into which areas, sectors and populations continue to face the greatest challenges at this stage of recovery.

- **Section 2.5: Unemployment Analysis by Town Typology** details pre-pandemic, peak, and fall unemployment trends for similar towns grouped by geography, density, income, industry concentration, and social vulnerability.

2.1. Labor Market Conditions Pre-COVID

Prior to the pandemic, New Hampshire had one of the lowest unemployment rates in the nation, shrinking from a high of 6.2 percent in 2009 to just 2.4 percent in March 2020.²⁷ Demographic trends in the state dictated that economic growth and the demand for employment over this period outpaced growth in the working age population, creating a tightening of the labor market.

New Hampshire's population growth has been modest in recent years, growing by about 40,000 residents (a 3 percent increase) between 2010 and 2018.²⁸ The composition of the population has also changed, as the disproportionately large baby boomer generation approaches retirement age, with New Hampshire's median age of 43 ranking it the second-oldest state in the nation.²⁹ Disparities also exist across different areas of the state, with population growth concentrated in the southeast portion of the state, and a substantially larger portion of the population 65 and older in the northern and central portions.³⁰

These economic and demographic conditions—low unemployment and an aging population—led to shortages in the current and prospective workforce. In the short-term, New Hampshire businesses responded to a labor market in which demand exceeded supply through a willingness to increase wages and benefits, increase part-time workers' hours, and engage with traditionally harder to reach populations like formerly incarcerated residents. Over the longer-term, the state faced—and still faces—a significant challenge in developing a future workforce to match the demand for employment.

Recognizing these structural challenges, DHHS published a policy paper in 2019, *Helping Business Thrive and Families Prosper*, that examined workforce shortages that contributed to business demand for labor.³¹ This analysis identified Health Care, Manufacturing, Finance and Insurance, and Transportation and Warehousing as industries that were hiring at a faster rate than other industries in the region and were facing labor shortages.

²⁷ U.S. Bureau of Labor Statistics (BLS) (2020)

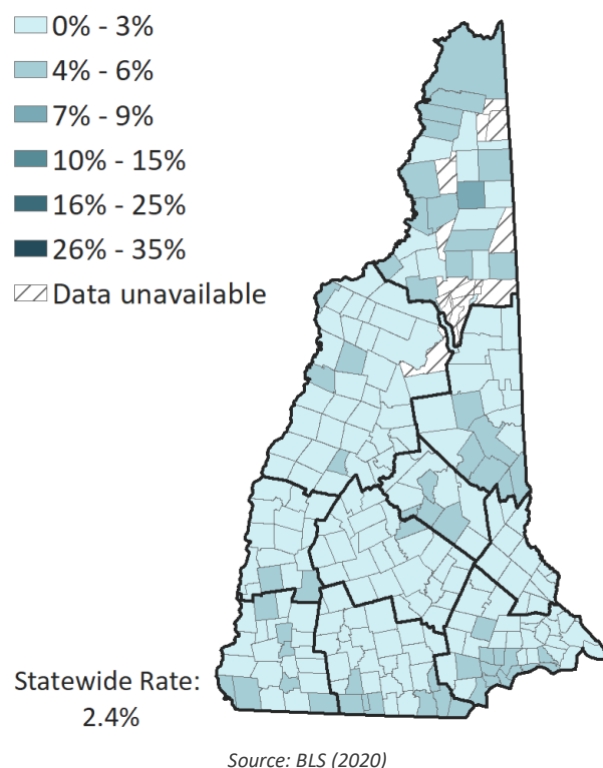
²⁸ Kenneth M. Johnson. (2019). New Hampshire Demographic Trends in an Era of Economic Turbulence. Carsey Research. <https://scholars.unh.edu/cgi/viewcontent.cgi?article=1381&context=carsey>

²⁹ U.S. Census Bureau (2019).

³⁰ Kenneth M. Johnson. (2019). New Hampshire Demographic Trends in an Era of Economic Turbulence. Carsey Research. <https://scholars.unh.edu/cgi/viewcontent.cgi?article=1381&context=carsey>

³¹ New Hampshire Department of Health and Human Services. (2019). *Helping Business Thrive and Families Prosper*. <https://www.dhhs.nh.gov/ocom/documents/closing-cliff-effect.pdf>.

Figure 2.2: Unemployment by Town in New Hampshire, March 2020



In June 2020, NHES released 2018 to 2028 employment projections for the state (based on pre-COVID data and analysis), projecting that total employment in New Hampshire will grow by 5.3 percent, a gain of more than 37,000 jobs.³² The industries with the highest projected employment gains were Health Care and Social Assistance (+12,900 jobs), Professional, Scientific, and Technical Services (+6,900 jobs and the fastest growing in percentage terms, at +18 percent), and Accommodation and Food Services (+4,800 jobs).

Unemployment Characteristics (Pre-COVID)

In March 2020, the 2.4 percent unemployment rate in New Hampshire was at a twenty-year low.³³ Only Coos County (3.6 percent) had an unemployment rate higher than 3 percent, with consistently low levels of unemployment in towns across the state (see Figure 2.2).

Prior to the pandemic, in February 2020, there were roughly 3,700 individuals receiving unemployment benefits.³⁴ A large percentage of this unemployment was due to the seasonal

nature of the Construction industry (18 percent of claims). Unemployment was also relatively high in the Office and Administrative Support sector (representing 17 percent of claims). Sixty-five percent of claimants prior to the pandemic were male, consistent with the composition of the industries exhibiting the highest share of claims.

Figure 2.3 below shows the February 2020 share of employment by sector and unemployment rate by county, as well as comparative “z-scores” of unemployment rates by industry and county based on continuing unemployment claims as of February 15.³⁵ A z-score describes the position of a measure in terms of its distance from the overall population mean when measured in standard deviations and is

³² State of New Hampshire. (2020). New Hampshire Employment Projections by Industry and Occupation. <https://www.nhes.nh.gov/elmi/products/documents/2018-2028-emp-proj-pub.pdf>.

³³ The last time New Hampshire's unemployment rate reached 2.4 percent was in July 1988. The Bureau of Labor Statistics uses the 12th of the month as its benchmark for unemployment. Due to the timing of the pandemic closures (March 16th), any unemployment due to the pandemic would not be recorded for March.

³⁴ According to BLS Local Area Unemployment Statistics (LAUS), the overall number of unemployed individuals in the state in February 2020 was approximately 24,000. LAUS unemployment numbers are much higher than the number of individuals receiving unemployment benefits, as it is a survey-based metric that includes a broader measure of unemployment, such as “new entrants” to the workforce or self-employed individuals who are not collecting and/or not eligible for benefits.

³⁵ To calculate this z-score, the number of continuing claims by county of residence and sector for the week ending February 15, 2020 was divided by the number of jobs by county of residence and sector from the 2017 U.S. Census Bureau LEHD Origin-Destination Employment Statistics Resident Area Characteristics (LODES RAC). This data provides job numbers by sector for geographic levels as targeted as census blocks. This dataset provides insight into the employment distribution of each county by sector, which is unavailable from LAUS data.

particularly helpful when normalizing data and identifying outliers. A negative z-score reveals the raw score is lower than the average while a positive z-score reveals the raw score is higher than average. In the case of unemployment rates shown below and through this section, sector-locations with a positive z-score (purple values) indicate a higher concentration of unemployment (i.e., worse labor market conditions), while sector-locations with a negative z-score (green values) indicate a lower concentration of unemployment (i.e., better labor market conditions). By definition, a z-score that is greater than two indicates a statistically significant difference from the overall average.³⁶

As seen in the Figure 2.3, there are significant variations in the z-scores when evaluated by sector:

- The Construction sector exhibits an above average unemployment rate in all counties.
- The Agriculture, Mining, and Administrative sectors exhibit above average rates in a few locations.

Variations by county are modest, with sectoral and overall rates relatively evenly distributed.

Figure 2.3: Unemployment Z-Scores by County by Sector, Feb 2020

<div>Negative values = lower unemployment</div> <div>Positive values = higher unemployment</div>		Share of Emp Jan 2020 (%)	Belknap	Carroll	Cheshire	Coos	Grafton	Hillsborough	Merrimack	Rockingham	Strafford	Sullivan
62: Health Care & Social Asst	15.1	(1.0)	(0.5)	(0.5)	(1.0)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)
44-45: Retail Trade	14.5	(0.5)	(0.5)	0.0	(0.5)	0.0	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)
31-33: Manufacturing	10.7	(0.5)	(0.5)	0.0	0.5	0.5	(0.5)	0.0	(0.5)	0.0	0.0	0.0
61: Educational Services	9.7	(0.5)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)
72: Accommodation & Food Serv	8.6	(0.5)	(0.5)	(1.0)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(1.0)	(0.5)
54: Professional Services	6.1	(0.5)	(0.5)	(0.5)	0.0	(0.5)	(0.5)	(0.5)	(0.5)	0.0	(0.5)	(0.5)
56: Admin & Support	5.2	0.5	0.5	2.0	3.0	2.5	1.0	1.5	1.5	1.5	1.5	2.5
92: Public Admin	4.7	(0.5)	(1.0)	(0.5)	(0.5)	(0.5)	(1.0)	(1.0)	(0.5)	(1.0)	(1.0)	(1.0)
23: Construction	4.2	4.0	1.0	4.0	5.5	4.5	1.0	3.0	1.5	1.5	1.5	2.5
42: Wholesale Trade	4.2	(0.5)	(0.5)	0.5	(1.0)	1.0	(0.5)	(0.5)	0.0	0.0	0.0	(0.5)
52: Finance & Insurance	4.0	(1.0)	(1.0)	(0.5)	(1.0)	(1.0)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(1.0)
81: Other Services	3.3	0.0	(0.5)	0.0	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)
48-49: Transport & Warehouse	2.9	0.0	(0.5)	0.0	1.0	1.0	(0.5)	0.0	0.0	0.0	0.0	(0.5)
51: Information	1.9	(1.0)	0.0	0.0	(1.0)	0.0	(0.5)	(0.5)	0.0	(0.5)	(1.0)	(1.0)
71: Arts & Entertainment	1.8	0.5	0.5	0.5	0.0	(0.5)	0.0	0.0	0.0	0.0	0.0	(1.0)
55: Mgmt. of Companies	1.4	(1.0)	(1.0)	(0.5)	(1.0)	(1.0)	(1.0)	(0.5)	(1.0)	(1.0)	(1.0)	(1.0)
53: Real Estate	1.0	0.5	0.0	(1.0)	(1.0)	0.0	0.0	0.0	(0.5)	0.5	(1.0)	(1.0)
22: Utilities	0.3	(1.0)	0.0	(1.0)	0.5	(1.0)	(0.5)	(1.0)	(1.0)	(1.0)	(1.0)	6.5
11: Agriculture	0.3	3.5	3.5	(1.0)	(0.5)	(1.0)	0.0	2.5	2.0	0.0	0.0	0.0
21: Mining	0.1	(1.0)	2.5	(1.0)	(1.0)	(1.0)	6.5	0.5	1.5	4.0	(1.0)	(1.0)
Unemp Rate Feb 2020 (%)	3.1	3.2	3.2	3.1	4.2	2.5	3.2	2.6	3.3	2.8	2.7	2.7

Source: NHES (Continuing Claims, Week of Feb 15, 2020), U.S. Census Bureau (2017)

³⁶ A z-score greater than two indicates the value is roughly two standard deviations away from the mean, or statistically significant at the 95 percent confidence level. A z-score greater than three indicates the value is roughly three standard deviations away from the mean, or statistically significant at the 99.7 percent confidence level.

2.2. Peak Unemployment During COVID

Circumstances changed in Spring 2020 with the unprecedented health conditions ushered in by the COVID-19 pandemic. Nationally, as states responded to the spreading pandemic by limiting gatherings and closing non-essential businesses, unemployment surged from 4.4 percent in March to 14.7 percent in April 2020,³⁷ while national Gross Domestic Product (GDP) decreased by 31.4 percent from the first quarter to the second quarter of 2020.³⁸

In New Hampshire, Governor Sununu signed the first of many pandemic-related emergency orders on March 13, 2020. By March 27, an emergency order was implemented urging all New Hampshire residents to stay at home and ordering all businesses “that do not provide essential services” to close their doors and cease all in-person operations until at least May 4, 2020.

These conditions created significant economic strains on businesses, workers, and families. While impacting non-essential businesses to a greater degree, this recession based on “non-economic” reasons hit every location and industry within New Hampshire. The analysis below reviews New Hampshire’s unemployment at the peak of job losses from the pandemic.³⁹

³⁷ Bureau of Labor Statistics, Labor Force Statistics from the Current Population Survey (last updated November 6, 2020)

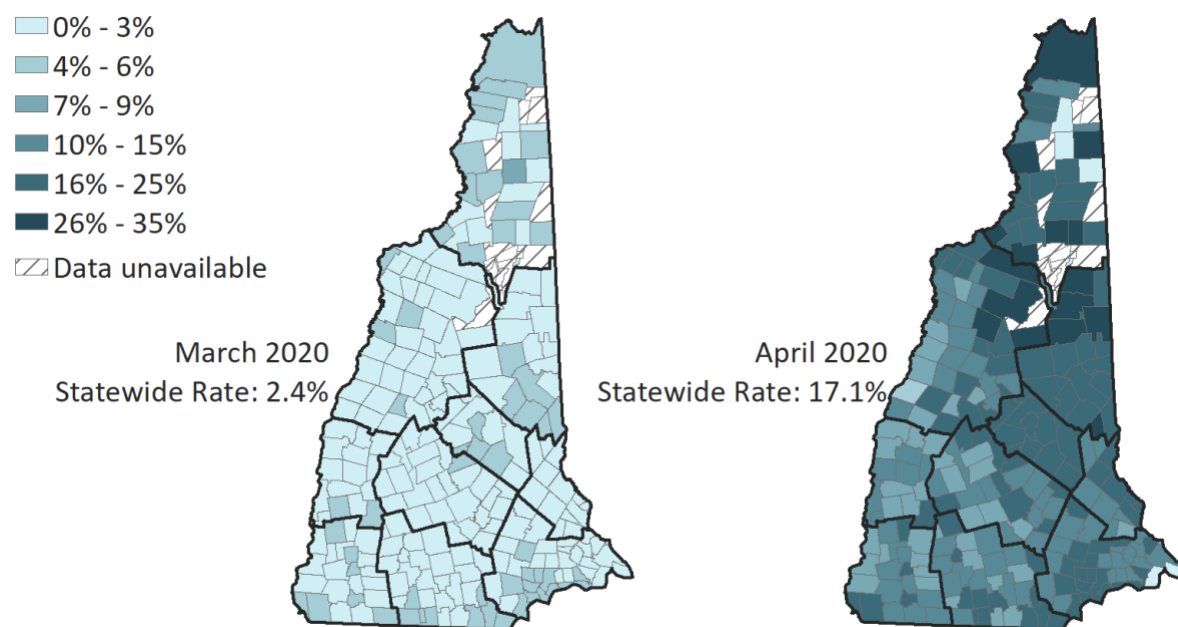
³⁸ Bureau of Economic Analysis GDP Release (2020)

³⁹ Peak published unemployment, according to BLS, was in April 2020 for New Hampshire. Because of this, we analyze April 2020 for town unemployment rates. For microdata analysis, the reference week of May 2 had the highest number of continuing claimants. Therefore, for analyzing “peak” microdata the May 2 benchmark is used to represent “peak unemployment.”

Peak Unemployment by Town

In April 2020, the unemployment rate reached its all-time high of 17.2 percent, reaching double digits for the first time in New Hampshire (since the start of the data series in 1976). By town, unemployment rates ranged between 4.7 and 34.9 percent (see Figure 2.4).

Figure 2.4: Unemployment Rates by Town, March and April 2020



Source: BLS (2020)

While the impacts were felt everywhere, certain locations were hit particularly hard, based primarily on the pre-pandemic composition of their economies. Figure 2.5 depicts the towns with the largest change in their unemployment “z-score” between March and April 2020. This approach isolates the change of COVID’s impact on unemployment rates in relative terms, controlling for “pre-pandemic” unemployment levels.⁴⁰

⁴⁰ Notably, towns with higher absolute levels of peak unemployment can still be reflected in this approach as showing a lower-than-average impact (negative z-score). For instance, the Town of Conway in Carroll County had a z-score change of +2.37 over the time period, increasing from a relatively average unemployment rate of 2.9 percent in February (-0.05 z-score) to a significantly high rate of 31.6 percent in April (2.70 z-score). On the other hand, Berlin City in Coos County had a high comparative unemployment rate (5.3 percent) in February and did not realize as high of an increase (22.2 percent) in April compared to other towns. For this reason, Berlin City’s z-score decreased from 2.37 to 1.01 over the time period, indicating a less severe impact relative to the average town in New Hampshire (-1.36 change).

Towns in Grafton and Carroll Counties had the greatest change in relative unemployment rate from March to April 2020 (shown as positive z-score values in Figure 2.5). This is likely due to the high concentration of Accommodation and Food Services in these counties, as a relatively high proportion of New Hampshire's tourism activity occurs in this portion of the state.

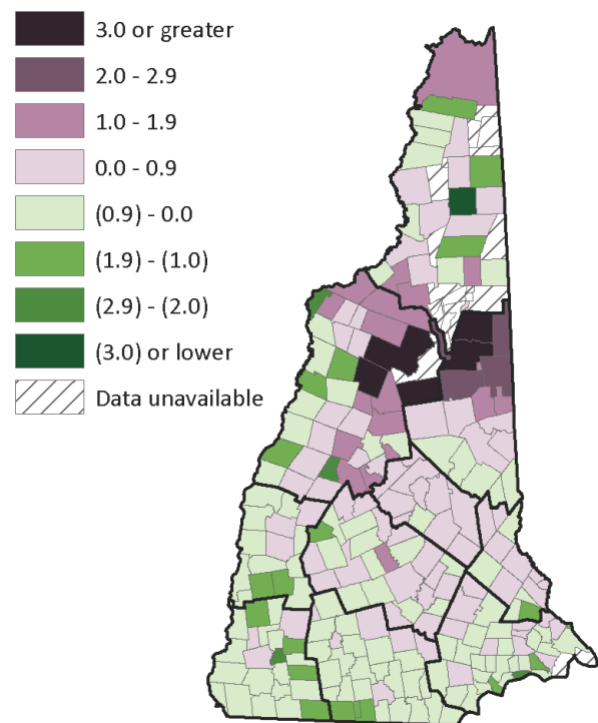
Areas where unemployment increased to a lesser degree than average (shown as negative z-score values in Figure 2.5) are primarily concentrated near the southern and western borders of the state.

Peak Unemployment by Sector

Industry composition is crucial to understanding the spike leading to peak unemployment. Figure 2.6 below compares the share of continuing unemployment claims by sector pre-COVID (based on 3,700 claimants as of February 15) and at peak unemployment (based on 117,000 claimants as of May 2).⁴¹

- Accommodation and Food Services had the largest share increase, growing from 3 percent of claims in February to 17 percent in April (net +14 percent), followed by Health Care and Social Assistance (net +7 percent) and Retail Trade (net +5 percent).
- Construction, which had 18 percent of the total share of claims in February, accounted for only 3 percent of claims in May (net -15 percent), decreasing to only 650 claimants during the peak, with a similar decline in the relative share for Administration and Support (net -12 percent).

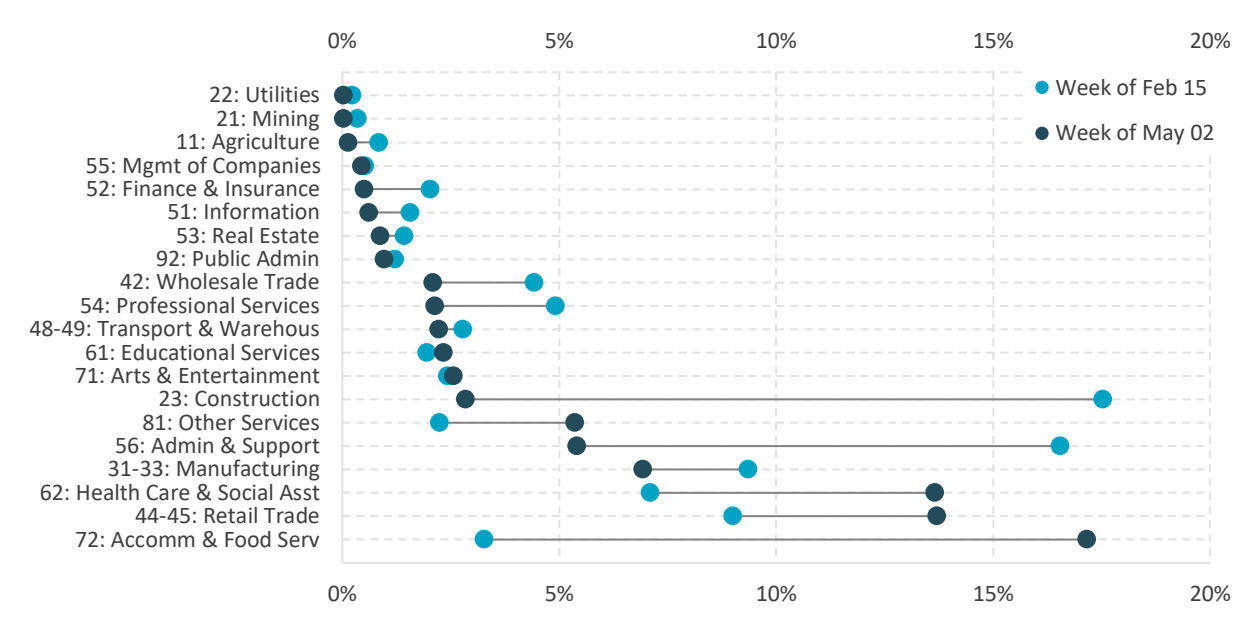
Figure 2.5: Change in Unemployment Rate by Town (Z-Score), March-April 2020



Source: BLS (2020)

⁴¹ Note that twenty percent of claimants were unclassified, meaning that sectoral shares do not sum to 100 percent.

Figure 2.6: Share of Continuing Unemployment Claims by Sector, Pre COVID and Peak



Source: NHES (Week of Feb 15, 2020 and May 2, 2020)

Figure 2.7 below shows further detail on peak unemployment conditions (using May 2 claims) with analysis of relative unemployment by county and sector through comparative z-scores.

- Concentrations of unemployment (shown as positive z-score values in Figure 2.7) are highest in the service sectors, led by Accommodation and Food Services; Arts, Entertainment, and Recreation; Administration and Support; and Other Services.
- Lower than average (though still significant) impacts were generally concentrated in “white collar” sectors such as Professional Services, Finance and Insurance, Educational Services, and Public Administration.
- New Hampshire’s largest sectors, Health Care and Social Assistance and Retail Trade, which collectively represented about 30 percent of pre-pandemic employment, each saw somewhat higher than average unemployment impacts. At peak unemployment, there were approximately 16,000 claimants in each of these sectors, trailing only Accommodation and Food Services (which had approximately 20,000 claimants).

Figure 2.7: Z-Scores by County per Sector – Continuing Claims Week of May 2, 2020

	Share of Emp Jan 2020 (%)										
Negative values = lower unemployment											
Positive values = higher unemployment											
		Belknap	Carroll	Cheshire	Coos	Grafton	Hillsborough	Merrimack	Rockingham	Strafford	Sullivan
62: Health Care & Social Asst	15.1	0.5	0.0	0.0	0.0	(0.5)	0.5	0.5	0.5	0.5	(0.5)
44-45: Retail Trade	14.5	0.5	0.5	0.5	0.0	0.5	0.5	0.5	0.5	0.5	0.5
31-33: Manufacturing	10.7	0.0	0.0	0.0	0.0	0.0	(0.5)	0.0	0.0	0.5	0.0
61: Educational Services	9.7	(0.5)	(0.5)	(0.5)	(1.0)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)
72: Accom & Food Serv	8.6	2.0	2.5	1.5	2.0	2.5	1.5	2.0	2.0	2.0	2.0
54: Professional Services	6.1	(0.5)	(0.5)	0.5	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)
56: Admin & Support	5.2	1.0	1.0	0.5	0.5	1.0	0.5	0.5	0.5	0.5	0.5
92: Public Admin	4.7	(1.0)	(0.5)	(0.5)	(0.5)	(0.5)	(1.0)	(0.5)	(0.5)	(0.5)	(0.5)
23: Construction	4.2	0.0	(0.5)	0.0	(0.5)	0.0	0.0	0.0	0.0	0.0	0.5
42: Wholesale Trade	4.2	(0.5)	0.0	(0.5)	0.0	(0.5)	(0.5)	(0.5)	(0.5)	0.0	(0.5)
52: Finance & Insurance	4.0	(0.5)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)
81: Other Services	3.3	1.0	0.5	1.5	0.5	0.5	2.0	1.0	1.5	1.5	0.5
48-49: Transport & Warehous	2.9	0.5	0.5	0.0	0.0	0.5	0.5	0.5	0.5	0.5	0.0
51: Information	1.9	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	0.0
71: Arts & Entertainment	1.8	1.5	1.5	1.0	1.0	2.0	1.5	1.0	1.5	0.5	1.0
55: Mgmt. of Companies	1.4	(0.5)	(0.5)	(1.0)	(0.5)	(1.0)	(0.5)	(0.5)	(0.5)	0.0	(0.5)
53: Real Estate	1.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	0.0	1.0
22: Utilities	0.3	(1.0)	(0.5)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(0.5)
11: Agriculture	0.3	(0.5)	(0.5)	(0.5)	0.0	(0.5)	(0.5)	0.0	(0.5)	(0.5)	(1.0)
21: Mining	0.1	(0.5)	(0.5)	(0.5)	2.0	(1.0)	(0.5)	(1.0)	(1.0)	(0.5)	(0.5)
Unemp Rate May 2020 (%)	15.3	17.7	20.7	12.9	18.7	14.0	15.7	13.9	15.6	15.0	11.3

Source: NHES (2020), U.S. Census Bureau (2017)

While all counties in New Hampshire saw unemployment rates rise into double digits, some variation can be seen geographically in Figure 2.7 above:

- The highest rates were observed in Carroll (21 percent), Coos (19 percent) and Belknap (18 percent) Counties in the northern and central portions of the state. These counties did not necessarily disproportionately change within individual sectors relative to other counties (with z-scores by sector typically aligned with state norms); rather, the composition of employment by sector (particularly the concentration of employment in the Accommodation and Food Services industry driven by the hospitality industry) drove higher overall unemployment rates.
- The lowest rates were observed in Sullivan (11 percent) and Cheshire (13 percent) Counties in the southwestern portion of the state. New Hampshire's two largest counties, Hillsborough and Rockingham, which collectively represent more than half of the state's workforce, each had unemployment rates near the state average at 16 percent.

2.3. The Path of Unemployment During COVID

Since the initial unemployment peak, businesses and consumers have slowly adapted to changing health and economic conditions, and the economy and workforce have begun an initial recovery towards prior levels. It is well-understood, however, that the future post-COVID economy should be understood as a “new normal,” rather than a return to the exact pre-COVID conditions. Analysis of the path of unemployment across this initial recovery can help to shed light on which populations may be at greater risk for sustained unemployment as the economic recovery proceeds.

This analysis will detail how the unemployment population (156,673 individual claimants) altered from February to September 2020 using weekly claims from six representative weeks (397,628 total claims). While the previous sections focused primarily on the macro levels of unemployment by sector and location, this section will focus on the trends and disparities of unemployment by reason, gender, sector, location, and length of unemployment throughout the course of the pandemic.

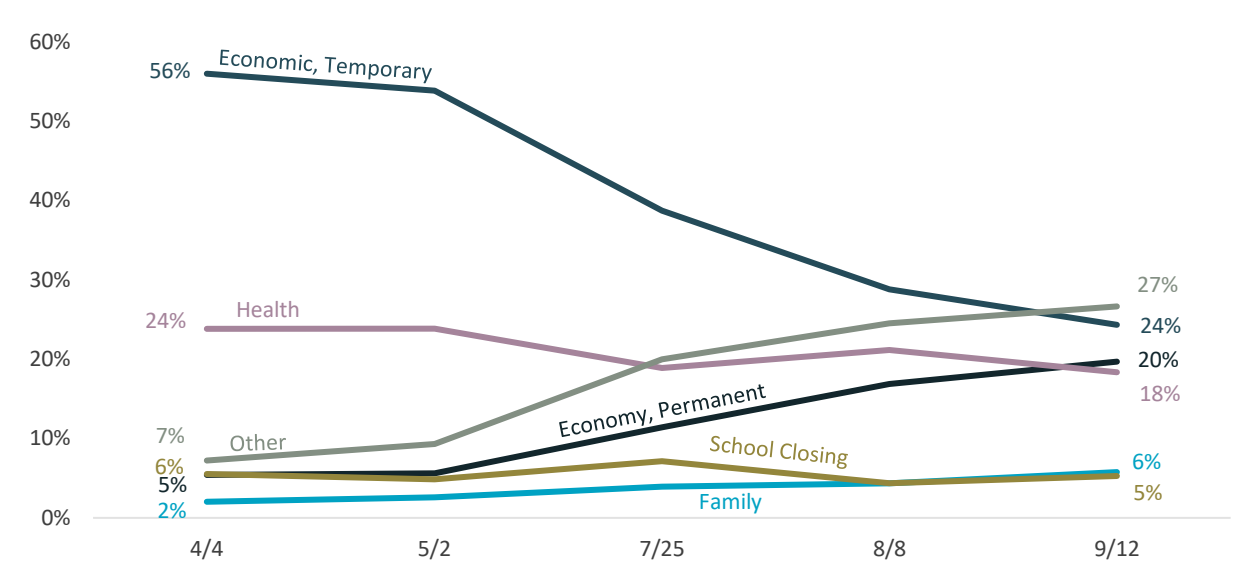
Reason for Unemployment

Unemployment claimants self-report broad and detailed reasons for separation; however, as the pandemic continued to spread, NHES added fields to claim forms, asking claimants whether their unemployment was due to the COVID-19 pandemic and, if so, what the specific reasons were for separation from employment. Figure 2.8 below shows the initial reason for unemployment reported by each claimant on the first week they entered the dataset to shed light on changes in the reasons for unemployment over the course of the pandemic and initial recovery.⁴²

- Initially, claims were dominated by “temporary economic layoff or employer shutdown,” which represented 56 percent of the roughly 85,000 newly unemployed on the week ending April 4 and 54 percent in the week ending May 2. This reason for initial unemployment has declined steadily and represented only 24 percent of new claimants in the week ending September 12.
- Permanent unemployment has increased in share of reason for new unemployment over the course of the pandemic, from 5 percent in April (1,435 claimants) to 20 percent in September (560 claimants).
- Unemployment for health reasons has been relatively stable (from 24 percent of the share in April to 18 percent in September), as have family and school closing reasons.
- Unemployment for “other” reasons has seen the largest percent increase in share over the six months analyzed as the economy started to stabilize. Reasons included in “other” are generally performance- or pay-related and not directly attributable to the pandemic.

⁴² This figure displays only the reasons for each new claimant by week. For example, among the 117,053 total claims in week ended May 2, this graph depicts the reasons for unemployment for the 43,513 individuals that appeared in the dataset for the first time that week.

Figure 2.8: Initial Reason for Unemployment, by Week, April-September 2020

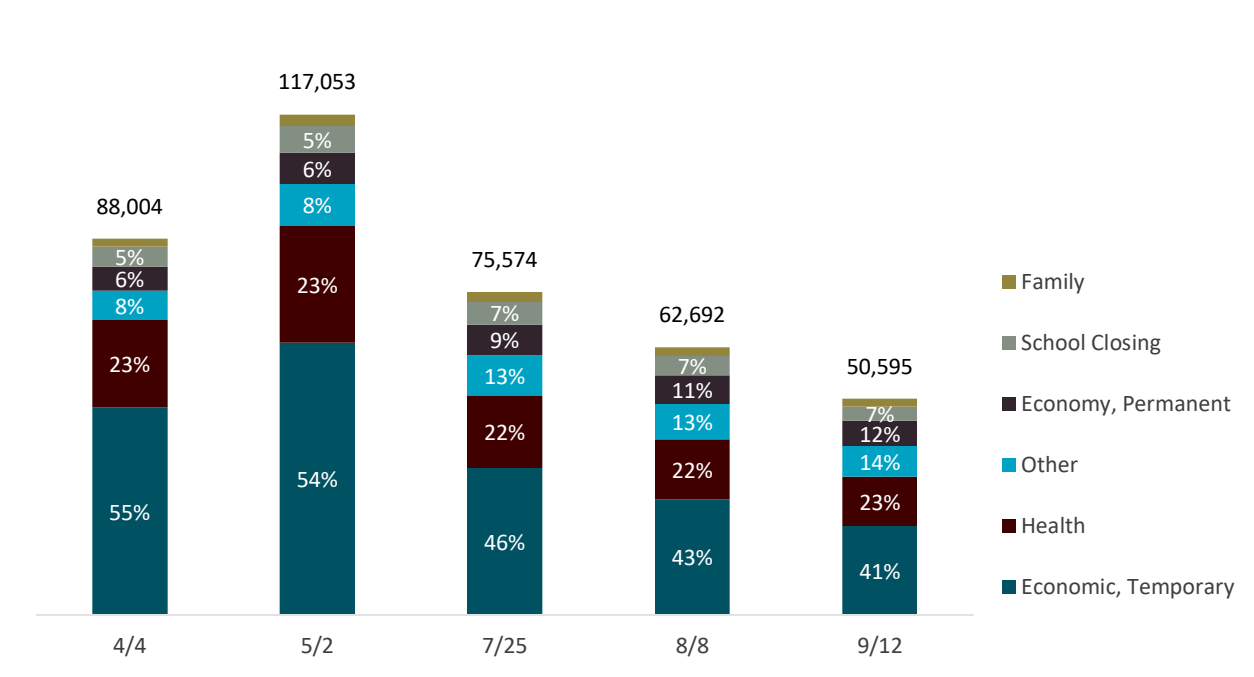


Source: NHES (2020)

Patterns among continuing unemployment claimants differ somewhat from the initial claimants, reflecting differences in the duration of unemployment by cause. Figure 2.9 below shows the reason for unemployment among continuing claimants in each of the analyzed weeks.

- The share of permanently unemployed doubled from April to September as those unemployed for a more permanent reason were less likely to return to the labor force compared to those caring for a family member or unemployed for health reasons.
- "Temporary" economic circumstances represent a larger share of the reasons for unemployment in continuing claims compared to initial claims, suggesting that for these claimants, conditions that were initially viewed as temporary have been continuing longer than anticipated.
- The share of unemployed due to school closings increased despite a slight decline in new claims related to school closings, indicating that those receiving unemployment due to school closures experienced more sustained unemployment compared to individuals unemployed for other reasons.

Figure 2.9: Reason for Unemployment for Continuing Claimants, April-September 2020



Source: NHES (2020)

Duration of unemployment is important to gain a deeper understanding of the location, sectors, demographics, and reasons of those individuals that may be more vulnerable going forward with sustained unemployment. Since this study is analyzing six representative weeks of unemployment and not the entire dataset, in order to arrive at an expected value of number of weeks, an imputation was made for each individual based on the number of weeks appearing in the dataset.⁴³

Individuals unemployed due to school closings averaged the highest number of weeks unemployed (16.4 weeks) followed by those permanently laid off for economic reasons (15.9 weeks) and those out of work due to family reasons (15.4 weeks). The number of weeks unemployed averaged 14.8 weeks across the 31-week dataset.

The health and safety concerns associated with the pandemic, coupled with school closings and other familial considerations, are additional deterrents to quickly returning to the workforce. It is also important to note that previous research has shown that extended benefits like those provided by the CARES Act tend to slow recovery as these additional benefits add disincentives to rejoining the labor force.⁴⁴ Nevertheless, differences in the average number of weeks provide insight into those individuals that may be more permanently affected by the pandemic recession.

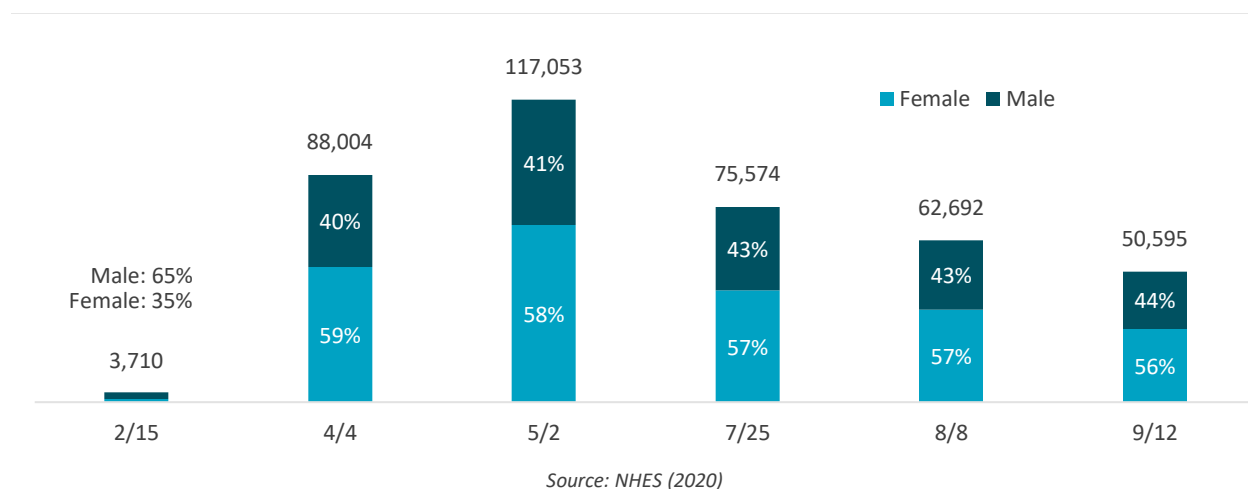
⁴³ For example, if a claimant was included in the week ended July 25th dataset but not present in the week ended May 2nd and week ended August 8th pulls, the expected value (average) of the total number of weeks (13 weeks) exclusive of May 2nd and August 8th is divided by two for an expected value of 6.5 weeks unemployment.

⁴⁴ Laura Belsie. (2012). Extended Unemployment Benefits and Unemployment Spells. NBER. <https://www.nber.org/digest/oct13/extended-unemployment-benefits-and-unemployment-spells>

Unemployment by Gender

Both the sectoral composition of unemployment associated with the pandemic and the reasons for unemployment have contributed to disparities in unemployment by gender. Figure 2.10 below shows that the majority of continuing unemployment claims across each week over the course of the pandemic had been filed by women, who represented 56 percent of continuing claims as of September.

Figure 2.10: Weekly Unemployment, by Gender, February through September 2020



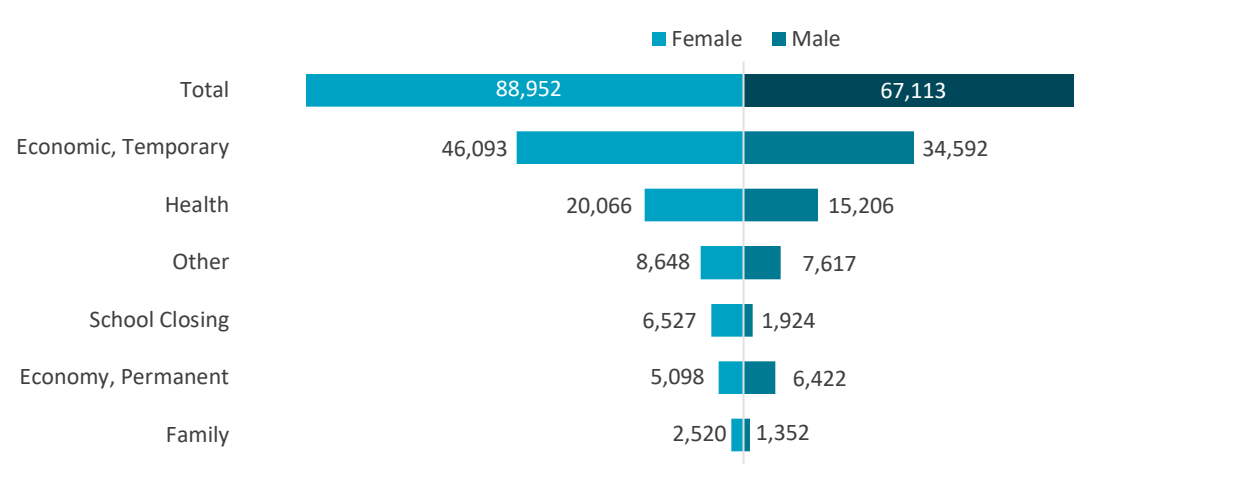
This pattern represents a contrast to the pre-COVID composition of unemployment claims, in which women made up only 35 percent of the unemployed. This is also a stark contrast to unemployment patterns in the Great Recession, during which up to three-quarters of the unemployed were men.⁴⁵

These differentials are due, in part, to the composition of impacted sectors. Claims in February 2020 were disproportionately concentrated in male-dominated sectors like Construction, a sector that along with Manufacturing was heavily impacted during the Great Recession. By contrast, the pandemic has heavily hit service professions like hospitality, retail, and health care services that are comprised of a larger share of female workers.

In addition to sectoral effects, disparities in household responsibilities have been significant contributors to gender differentials. Figure 2.11 below shows reported reasons for unemployment by gender, which show that in addition to economic reasons, women have higher concentrations of unemployment for family, school closing, or health-related reasons. Caring for family members and school closings had two of the longest durations among reasons for unemployment, exacerbating gender disparities, since 77 percent of those unemployed because of school closings and 65 percent of those due to care for family members were women. Section 3 of this report analyzes in greater depth the constraint of child care on New Hampshire's workforce recovery.

⁴⁵ Erica Mende. (2012). Men hit harder during the recession but are recovering faster than women. Urban Wire: Income and Wealth. Urban Institute. <https://www.urban.org/urban-wire/men-hit-harder-during-recession-are-recovering-jobs-faster-women>

Figure 2.11: Reason for Unemployment, by Gender, April through September 2020



Source: NHES (2020)

As the pandemic has progressed, the gender gap has begun to converge slightly, with men making up 44 percent of claimants in September (up from 40 percent in April). Men also make up a majority of those workers who report being permanently laid off, and therefore those that may have a more difficult path to re-employment.

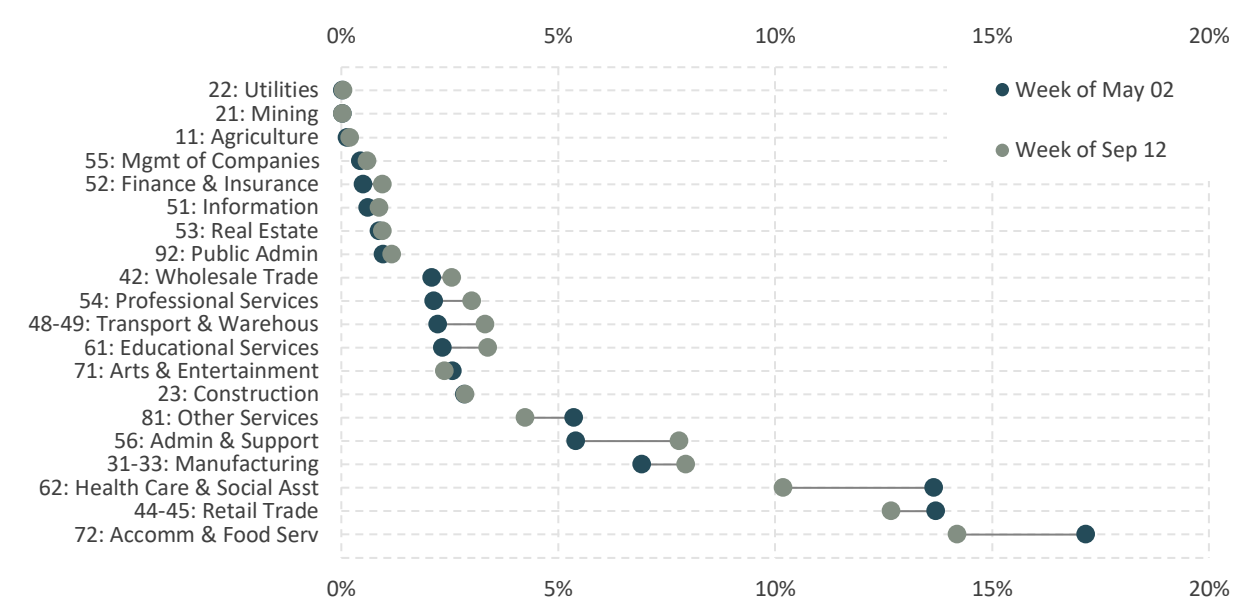
Unemployment by Sector

Substantial changes were seen in the composition of unemployment as stay-at-home orders closed many non-essential businesses and sectors that required in-person meetings, such as restaurants, retail stores, and child care centers, were unable to entirely convert their businesses to a digital or a socially-distanced structure. As the recovery began, some of the initially-impacted sectors have been more successful than others in initiating a recovery.

Figure 2.12 below compares the share of continuing unemployment claims by sector at the peak (117,000 claims on May 2) to the share as of September 12 (around 50,000 claims).

- The three largest sectors remain Accommodation and Food Services, Retail Trade, and Health Care and Social Assistance. Each shows a decline in the share of total claims, though the decline for Retail is very modest.
- Several sectors, led by Manufacturing and Administration and Support Services have increased somewhat as a share of claims, though claims are down in these sectors in absolute terms.

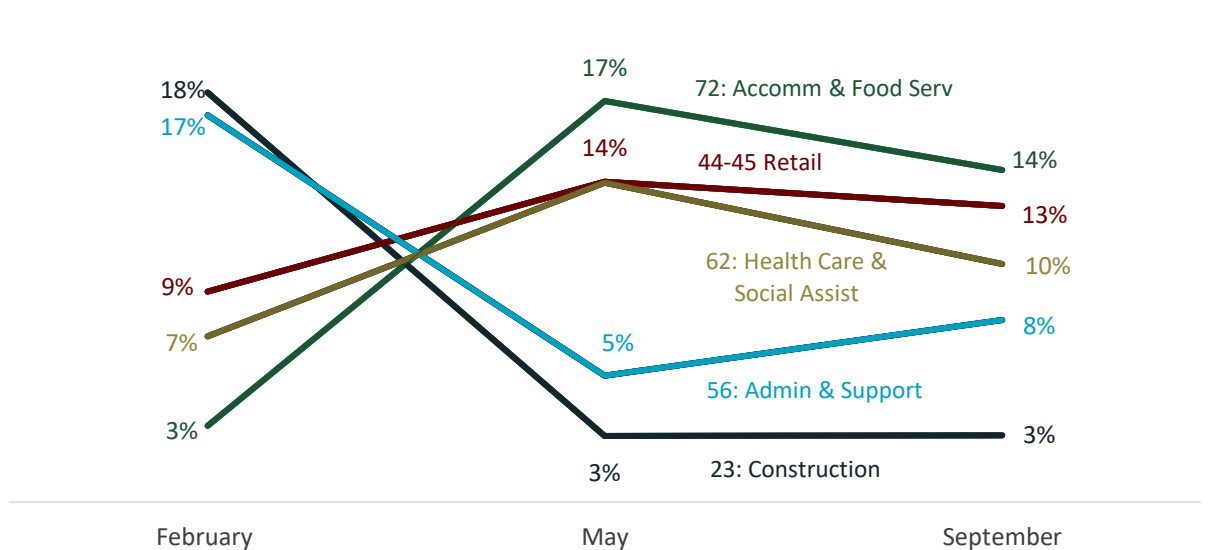
Figure 2.12: Share of Claims by Sector, Week of May 2, 2020 vs. Week of September 12, 2020



Source: NHES (2020)

Figure 2.13 below shows the progression in the share of continuing unemployment claims in selected sectors from February (pre-COVID) to May (peak unemployment) to September 2020. Conditions in the sectors most impacted initially abated slightly, with claims in Accommodation and Food Services, Retail Trade, and Health Care and Social Assistance falling from a collective 45 percent of claims during the May peak to 37 percent of claims in September. Still, this is nearly double their pre-COVID share of 19 percent.

Figure 2.13: Share of Unemployment Claims, by Select Sectors, February through September 2020



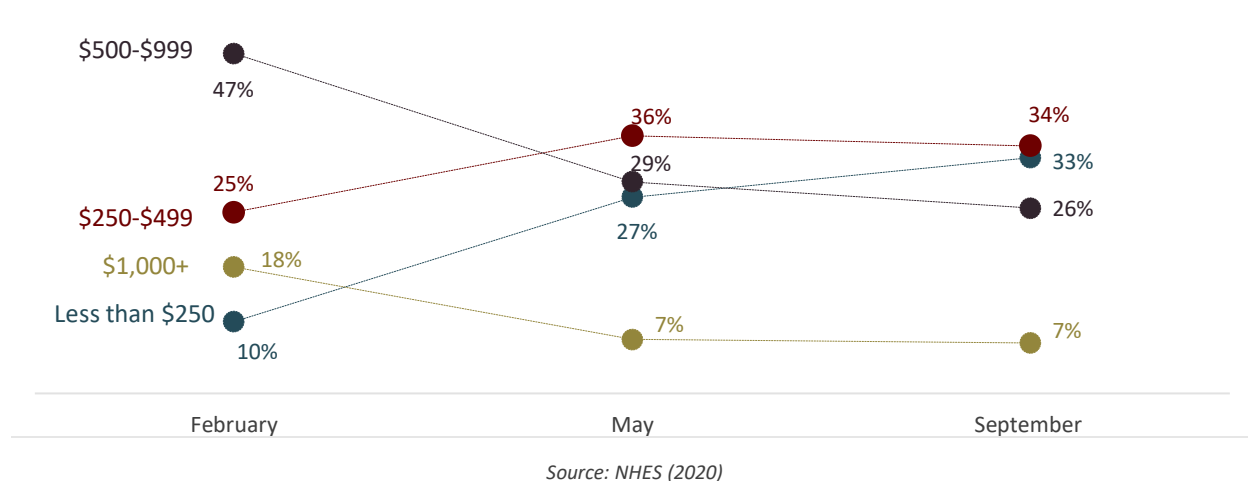
Source: NHES (2020)

Earnings

Differences over time in the composition of unemployment can also be seen in the average weekly wage of those unemployed (see Figure 2.14).

- In February, the average weekly wage of unemployed claimants was roughly \$729, likely driven by high unemployment in the Construction sector, where workers typically earn an average weekly wage of \$1,183 according to the Bureau of Labor Statistics. This concentration of unemployment in a high-earning sector resulted in 18 percent of the unemployed earning over \$1,000 per week in their previous employment with only 35 percent of claimants earning less than \$500.
- By May, as the pandemic caused unemployment to shift towards service-oriented sectors, the average weekly wage of claimants decreased to \$471. These earnings are consistent with industry averages by sector: Accommodation and Food Services (\$432), Retail Trade (\$648), and Health Care and Social Assistance (\$1,149).⁴⁶
- By September, the trend continued with only 7 percent of the claimants with average weekly wages over \$1,000 per week and 67 percent of claimants with average weekly wages less than \$500.

Figure 2.14: Average Usual Weekly Wage of Claimants, February-May-September 2020



2.4. Fall 2020 Labor Market Conditions

As reviewed throughout this section, the initial wave of unemployment associated with the pandemic had disproportionate effects on service sectors, on women, and on counties in the northern and central portions of the state. As the employment and health situation have evolved and the initial recovery has begun, these differentials have begun to revert somewhat, with movement toward an unemployed population more “typical” of New Hampshire’s pre-COVID economy.

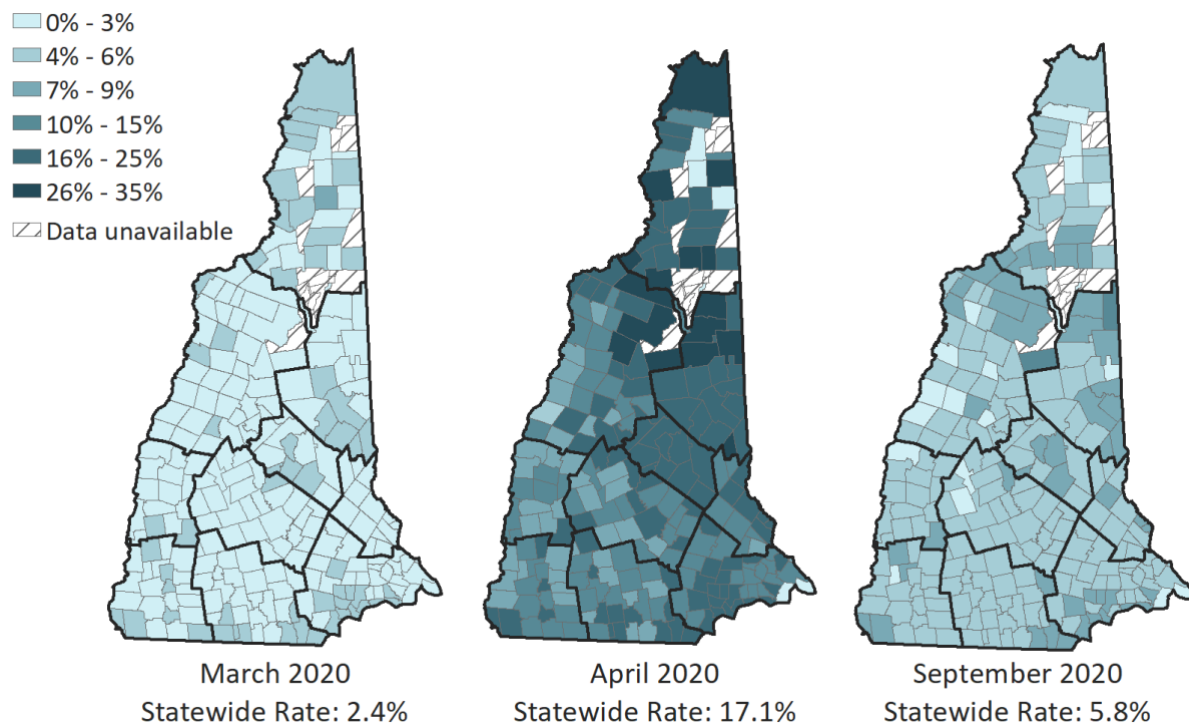
⁴⁶ It is important to note that the Health Care and Social Assistance sector includes establishments with typically high wages such as Hospitals and Physicians’ Offices as well as lower wage establishments such as Child Care Centers, Nursing Homes, and Individual and Family Services.

Disparities remain, however, and may persist in a new labor market equilibrium after the resolution of the current health challenges. This section reviews overarching trends of New Hampshire's labor market as of Fall 2020, to provide guidance as to the sectors, populations, and geographies that have experienced the strongest recoveries and those that face the greatest remaining challenges going forward.

Recovery by Town

By September 2020, New Hampshire's unemployment rate declined from its 17.2 percent peak to 6.0 percent, the 14th lowest rate in the nation at this time.⁴⁷ While only a handful of towns had lower unemployment in September than in March, all towns, with the exception of Waterville Valley, had recovered to single-digit unemployment rates (see Figure 2.15).

Figure 2.15: Unemployment Rates by Town, March, April, September 2020



Source: BLS (2020)

In order to pinpoint those areas that may be recovering at a slower pace, a comparative “z-score” was calculated for the change in unemployment from March to April and March to September for every town (see Figure 2.16).

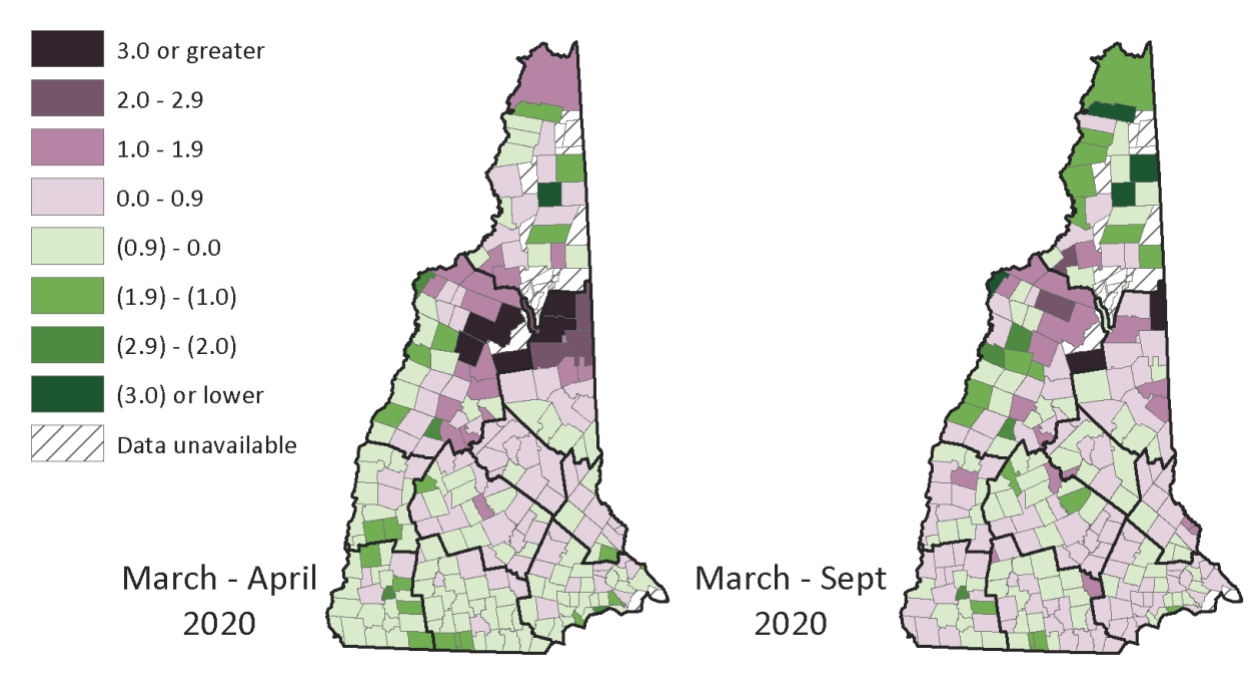
Unsurprisingly, many of the towns that saw the greatest impacts from the initial surge of unemployment remain those with the greatest relative increases in September unemployment relative to the pre-COVID peak. For example, towns in Grafton and Carroll Counties that saw the largest initial surges remain the

⁴⁷ In February 2020, New Hampshire had the 8th lowest unemployment rate in the country.

locations seeing some of the greatest negative impacts on unemployment (expressed as positive z-scores in Figure 2.16).

Noteworthy differentials have emerged elsewhere in the state, however. Towns at the southern edge of the state in Rockingham and Hillsborough Counties, which fared well in relative terms in the initial surge, now see a more mixed picture in terms of their recovery relative to their baseline pre-COVID levels. By contrast towns in Coos County, the northernmost part of the state, have seen a stronger relative recovery against these baseline levels (expressed as negative z-scores in parentheses) when compared to the statewide change.

Figure 2.16: Changes in Unemployment Rate Z-Score by Town, March – September 2020



Source: BLS (2020)

Recovery by Sector

Figure 2.17 below shows September conditions with analysis of relative unemployment by county and sector through comparative z-scores.

- Relative to peak unemployment, scores have “normalized” considerably, with unemployment in hard hit sectors like Accommodation and Food Services now less than two standard deviations from average in all counties.
- Transportation and Warehousing, as well as Administrative and Support Services, are trending towards larger concentrations in unemployment compared to average.
- The state’s largest sector, Health Care and Social Assistance, has recovered relatively well, and is now showing average or below average unemployment rates in most counties, while Retail Trade unemployment rates remain above average in most locations.

Figure 2.17: Z-Scores by County per Sector – Continuing Claims Week of September 12, 2020

Negative values = lower unemployment	Share of Emp Jan 2020 (%)	Belknap	Carroll	Cheshire	Coos	Grafton	Hillsborough	Merrimack	Rockingham	Strafford	Sullivan
Positive values = higher unemployment											
62: Health Care & Social Asst	15.1	0.0	0.0	(0.5)	0.0	(0.5)	0.0	0.0	0.0	0.0	(0.5)
44-45: Retail Trade	14.5	0.0	0.5	0.5	0.0	0.0	0.5	0.0	0.5	0.0	0.5
31-33: Manufacturing	10.7	0.0	0.0	0.5	0.0	0.0	0.0	0.0	(0.5)	0.5	0.0
61: Educational Services	9.7	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)
72: Accommm & Food Serv	8.6	0.5	1.5	0.5	1.5	1.5	1.5	1.5	1.5	1.0	1.5
54: Professional Services	6.1	0.0	(0.5)	0.5	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)
56: Admin & Support	5.2	1.5	1.0	1.0	0.5	1.5	1.0	1.0	1.0	1.0	1.0
92: Public Admin	4.7	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(1.0)	(0.5)	(0.5)	(0.5)	(0.5)
23: Construction	4.2	0.0	(0.5)	(0.5)	(0.5)	(0.5)	0.0	0.0	(0.5)	(0.5)	0.0
42: Wholesale Trade	4.2	0.0	0.0	(0.5)	(0.5)	0.0	0.0	0.0	0.0	0.0	0.0
52: Finance & Insurance	4.0	(0.5)	(1.0)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)
81: Other Services	3.3	0.5	0.0	0.5	0.5	0.0	1.0	0.5	1.0	0.5	0.0
48-49: Transport & Warehous	2.9	0.5	1.0	1.0	(0.5)	0.5	1.0	0.5	1.0	1.0	0.5
51: Information	1.9	0.0	(0.5)	(0.5)	0.0	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	0.0
71: Arts & Entertainment	1.8	1.5	1.0	1.0	1.5	1.5	1.0	1.0	1.5	0.5	1.5
55: Mgmt of Companies	1.4	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	(0.5)	0.0	(0.5)
53: Real Estate	1.0	0.0	0.0	0.0	0.0	0.0	0.5	0.0	0.0	0.0	1.0
22: Utilities	0.3	(1.0)	(0.5)	(1.0)	(0.5)	(0.5)	(1.0)	(1.0)	(1.0)	(1.0)	(0.5)
11: Agriculture	0.3	(0.5)	0.0	(1.0)	0.0	(0.5)	(0.5)	0.5	(0.5)	0.0	(0.5)
21: Mining	0.1	(0.5)	(0.5)	(1.0)	0.5	0.0	(0.5)	(0.5)	(1.0)	(0.5)	(1.0)
Unemp Rate Sep 2020 (%)	5.5	5.9	6.2	5.3	5.8	4.5	5.9	4.8	6.0	5.3	4.8

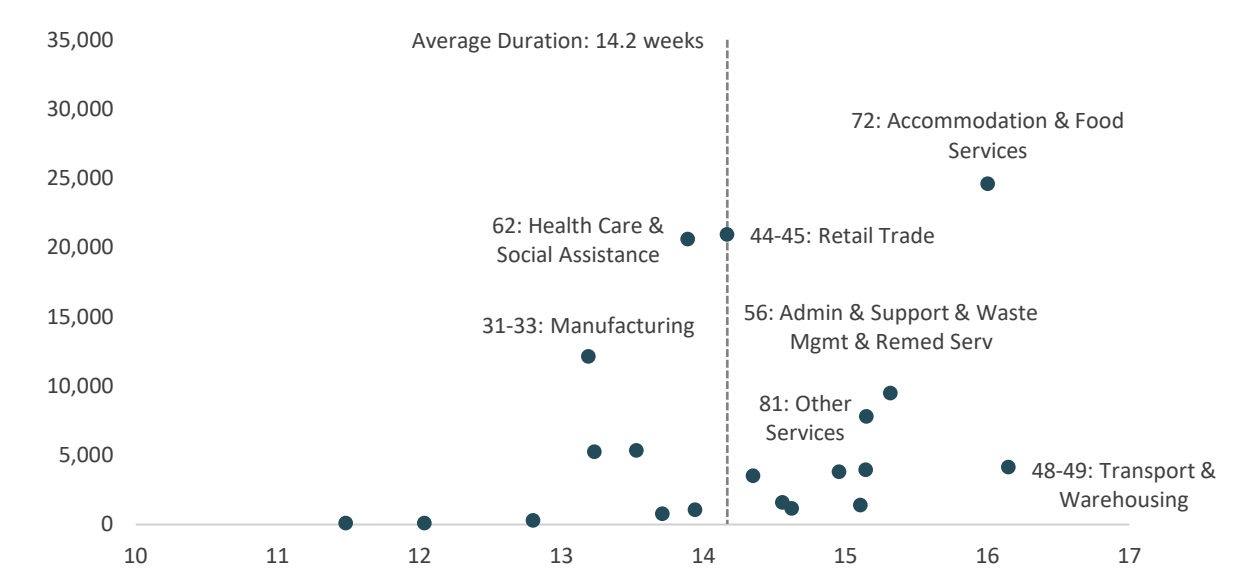
Source: NHES (2020), U.S. Census Bureau (2017)

Duration of Unemployment

The length of unemployment provides an important indicator of the potential permanency of unemployment in different sectors. Figure 2.18 below shows the volume of claims by sector along with the average duration of claims in those sectors, which combine to show potential constraints on the economy going forward.

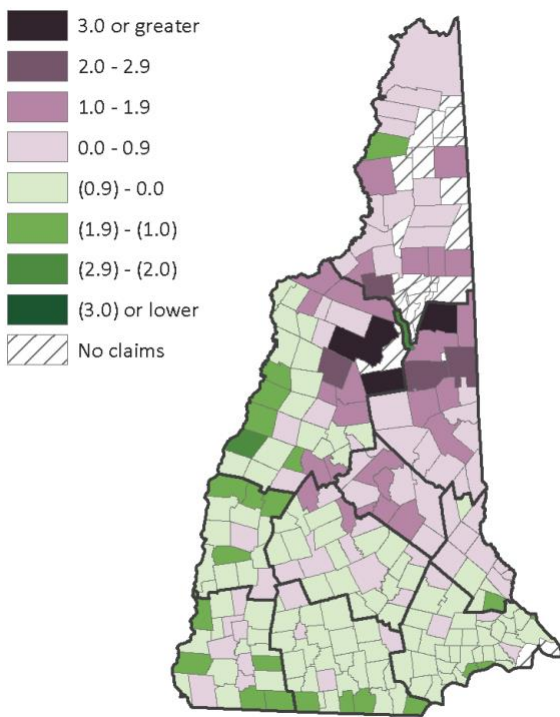
- Accommodation and Food Services faces the greatest continuing challenges, with both a high level of unemployment, and among the longest durations (top right quadrant of the chart).
- Health Care and Social Assistance has high volumes of claims, but is close to average in terms of duration, indicating some potential recovery in those sectors.
- Transportation and Warehousing and Administration and Support Services are among those sectors with higher-than-average durations, indicating potential recovery challenges.

Figure 2.18: Unemployment Claims by Sector and Average Duration



Source: NHES (2020)

Figure 2.19: Z-Score of Weeks Unemployed × Unemployment Rate by Town



Source: NHES (2020)

The level and length of unemployment can also be viewed on a geographic basis. This analysis again returns to z-scores, with Figure 2.19 depicting the comparative impacts by town based on the town's average length of unemployment multiplied by the town's unemployment rate.⁴⁸

Interestingly, this measure of sustained unemployment provides a different picture of towns facing the greatest impacts than the comparison of relative changes in unemployment rates shown in Figure 2.16 above. Towns in central New Hampshire, particularly in Carroll and Belknap Counties, remain those most impacted by any of the measures developed in this analysis. However, towns in Coos County, which fared relatively better in a comparison of changes in unemployment rate in part due to a higher pre-COVID baseline, have suffered greater than average prolonged unemployment by this measure.

⁴⁸ The unemployment rate for each town was based on the number unemployed in the NHES microdata divided by the labor force in the town as of January 2020.

In contrast, towns along the southern border in Hillsborough and Rockingham Counties have not suffered from sustained unemployment to the degree that would be suggested by their overall change in unemployment rate. Towns along the western border of the state in Cheshire, Sullivan, and Grafton Counties have been the least impacted by this measure, consistent with the lower-than-average increases in unemployment in these counties throughout the course of the pandemic.

Supply and Demand

While New Hampshire's labor market has recovered significantly from the initial unemployment peak, 51,000 workers remained unemployed as of September 2020. The path ahead remains uncertain, as health and broader economic conditions continue to change. This represents substantially different conditions than the historically tight labor market that preceded the pandemic.

While there are 51,000 individuals currently unemployed, roughly 17,000 are unemployed due to school closings, family reasons, and health concerns. Given these reasons, it is not clear that these individuals are actively looking to re-enter the labor market at this time. Furthermore, 21,000 individuals indicate they are currently unemployed because of a temporary layoff or employer shutdown. Assuming that their employers will be able to reopen once it is safe to do so, these individuals may have the opportunity to return to their previous places of employment. Removing these groups isolates approximately 13,000 individuals currently "permanently" unemployed due to a business closing, permanent layoff, or other "non-pandemic"-related reason and potentially seeking employment now.

By sector, five industries comprise 56 percent of total unemployed workers potentially looking to be rehired in the state. Figure 2.20 below compares the supply and demand within these sectors based on job postings in Burning Glass by sector and county.⁴⁹ The number of workers per available job posting is calculated, with values greater than one indicating that multiple unemployed workers are in potential competition for each available job.

- The Administrative sector shows a high level of workers (4.0) for each available job, indicating a shortage of employment opportunities in this sector.
- Ratios are more balanced between supply and demand in the Manufacturing, Accommodation and Food Services, and Retail Trade sectors, though county-level measures indicate potential mismatches between supply and demand.
- Health Care and Social Assistance appears to be suffering from a significant workforce shortage with twice as many job postings as available workers.

⁴⁹ Since these individuals were unemployed during the week ended September 12, Burning Glass job postings were pulled for the following four weeks, from September 13 through October 10. To arrive at the overall measure of workers per job posting, the total number of postings by county were divided by the number of unemployed persons reasonably assumed to be looking for work.

Figure 2.20: Workers per Job Posting by County in Selected Sectors, September 2020

County	Administrative / Waste Management	Manufacturing	Accommodation and Food Services	Retail Trade	Health Care and Social Assistance ⁵⁰
Belknap	53.0	10.1	2.7	1.1	1.4
Carroll	12.0	3.9	0.8	0.9	0.5
Cheshire	2.2	4.4	1.4	1.5	0.7
Coos	-	17.0	0.3	4.2	0.5
Grafton	1.4	0.8	3.3	1.0	0.2
Hillsborough	4.0	1.4	2.0	0.8	0.5
Merrimack	4.9	2.7	2.6	1.0	0.4
Rockingham	2.8	0.8	2.0	0.6	0.5
Strafford	9.9	3.0	6.9	1.3	0.6
Sullivan	33.0	3.9	2.1	3.5	0.8
Total	4.0	1.7	1.7	0.9	0.5

Source: NHES (2020), Burning Glass (2020)

2.5. Unemployment Analysis by Town Typology

As described over the course of this section, the pandemic led to increases in unemployment across all community types in New Hampshire, but the severity of those impacts varied by location and sector. Analysis of unemployment trends by town typology helps to illustrate the types of communities that saw the greatest impact.

Figure 2.21 below shows unemployment rates by typology type in March 2020 (calculated prior to the pandemic), at peak unemployment in April 2020, and in September 2020, as well as the percentage change from March to September. As previously stated, New Hampshire's unemployment rate was near record low levels in March 2020, and this tight labor market created an environment in which towns of all types faced similar unemployment rates (around 3 percent) regardless of the town's median income, social vulnerability, industry concentration, or density.⁵¹

With unemployment skyrocketing to 17 percent statewide in April, differences by typology began to emerge:

- Towns with high social vulnerability, low density, lower income households, employment concentrated in Leisure and Hospitality, or located in Coos and Belknap Counties averaged unemployment rates greater than 20 percent in April 2020.

⁵⁰ It is important to note that occupations greatly vary across sectors and may be a greater determinant of labor supply and demand in certain situations. For instance, an unemployed accountant would not necessarily need to fit into any particular sector while an unemployed steamfitter would most likely seek employment in the Construction sector. For the Health Care and Social Assistance sector, these distinctions are especially important as there may still be a substantial mismatch in openings and unemployed based on level of education and credentials.

⁵¹ 88 percent of towns had an unemployment rate of 3 percent or less in March 2020.

As recovery began, New Hampshire's unemployment rate in September (5.8 percent) remained more than double the pre-COVID rate from March (2.4 percent).⁵² However, increases in unemployment from March to September varied across communities, and were greater than 100 percent for certain typologies:

- Towns with high social vulnerability, lower incomes, and economies dependent on Leisure and Hospitality continued to see higher than average unemployment increases;
- Towns located in Hillsborough and Rockingham Counties had higher average unemployment rates in September 2020 compared to towns in other counties; and
- The largest percentage increases by county occurred in Strafford and Hillsborough Counties, while absolute unemployment levels were highest in rural Carroll and Coos Counties, along with Rockingham County.

⁵² Note that statewide rates from the BLS LAUS are seasonally adjusted, while town by town data is only available on an unadjusted basis. As a result of this differential, and the lack of data availability for the smallest communities, the statewide figures shown in Figure 2.22 below differ slightly from the sum of town-by-town data.

Figure 2.21: Unemployment Rates, by Typology, 2020

	March	April	September	% Chg (Mar-Sep)
New Hampshire	2.4%	17.1%	5.8%	100%
County				
Belknap	3%	21%	5%	83%
Carroll	3%	24%	6%	101%
Cheshire	3%	15%	5%	84%
Coos	4%	22%	6%	63%
Grafton	2%	16%	4%	94%
Hillsborough	3%	17%	6%	108%
Merrimack	2%	16%	5%	93%
Rockingham	3%	18%	6%	98%
Strafford	2%	16%	5%	113%
Sullivan	2%	14%	5%	88%
Density				
Low	3%	20%	5%	94%
Mid-Low	3%	17%	5%	81%
Mid-High	3%	17%	5%	88%
High	3%	17%	6%	105%
Income				
Low	3%	20%	6%	120%
Mid-Low	3%	18%	5%	100%
Mid-High	3%	17%	6%	97%
High	3%	15%	5%	85%
Social Vulnerability Index				
Low	3%	16%	5%	93%
Mid-Low	3%	15%	5%	87%
Mid-High	3%	18%	6%	104%
High	3%	21%	6%	125%
Industry Concentration				
Education & Health Services	3%	17%	5%	105%
Goods-producing	3%	16%	5%	90%
Leisure & Hospitality	3%	20%	6%	104%
Trade, Transportation & Utilities	3%	18%	6%	99%
Other	3%	16%	5%	90%

Source: ESI (2020), NH DHHS (2019), NHES (2020), BLS (2020)

Analysis of the individual towns facing the highest unemployment rates in April 2020 and September 2020 is illustrated by typology. Figure 2.22 shows towns with unemployment rates above 25 percent at the peak of unemployment in April 2020. Each of these towns had multiple indicators associated with higher unemployment peaks, such as low population density, low median income, high social

vulnerability scores, and employment concentrations in Leisure and Hospitality. The majority of these towns were located in Carroll and Coos Counties, with the remainder in Grafton County.

Figure 2.22: Highest Town Unemployment Rates with Typology Detail, April 2020

Town	County	Pop Density	Income	Social Vulnerability	Employment Composition	Mar	Apr	Sep
Jackson	Carroll	Low	Mid-Low	Mid-High	Leisure & Hospitality	3%	35%	7%
Waterville Valley	Grafton	Low	High	Mid-High	Leisure & Hospitality	1%	34%	10%
Lincoln	Grafton	Low	Low	High	Leisure & Hospitality	3%	34%	8%
Bartlett	Carroll	Mid-Low	Low	Mid-High	Leisure & Hospitality	2%	33%	7%
Conway	Carroll	Mid-High	Low	High	Trade, Transport & Utilities	3%	32%	6%
Woodstock	Grafton	Low	Low	High	Leisure & Hospitality	2%	30%	6%
Errol	Coos	Low	Low	Mid-Low	Trade, Transport & Utilities	6%	30%	4%
Albany	Carroll	Low	Low	High	Goods-producing	3%	29%	6%
Stratford	Coos	Low	Low	High	Goods-producing	4%	29%	7%
Pittsburg	Coos	Low	Low	High	Leisure & Hospitality	4%	29%	4%
Gorham	Coos	Mid-High	Mid-Low	High	Trade, Transport & Utilities	3%	27%	6%
Carroll	Coos	Low	Low	High	Leisure & Hospitality	3%	26%	6%
Randolph	Coos	Low	Mid-High	High	Leisure & Hospitality	4%	26%	6%
Dalton	Coos	Low	Low	High	Education & Health Services	5%	26%	8%
Brookfield	Carroll	Low	Mid-High	Mid-Low	Other	4%	26%	6%

Source: ESI (2020), NH DHHS (2019), NHES (2020), BLS (2020)

Figure 2.23 shows towns with an unemployment rate higher than 7 percent as of September 2020. These towns encompass a mix of characteristics, illustrating that continuing unemployment challenges are not limited to a distinct cause or community type.

Broad patterns in elevated unemployment align with the indicators suggested by the typology analysis above, with the majority exhibiting multiple characteristics associated with higher unemployment:

- With geographic location and density highly correlated, 22 towns (71 percent) were located in either rural locations (mainly Coos, Carroll, and Grafton Counties) with low density or urban areas (Rockingham and Hillsborough Counties) with high density; and
- Sixty-five percent of towns had average household incomes below the median, while 68 percent had an above-average SVI score.

Figure 2.23: Highest Town Unemployment Rates with Typology Detail, September 2020

Town	County	Pop Density	Income	Social Vulnerability	Employment Composition	March	April	Sept	% Chg (Mar-Sep)
Waterville Valley	Grafton	Low	High	Mid-High	Leisure & Hospitality	1%	34%	10%	560%
Chatham	Carroll	Low	Mid-Low	Mid-High	Other	2%	24%	9%	357%
Seabrook	Rockingham	High	Mid-Low	Mid-Low	Trade, Transport & Utilities	4%	23%	9%	102%
Dalton	Coos	Low	Low	High	Education & Health Services	5%	26%	8%	64%
Plaistow	Rockingham	High	Mid-High	Low	Trade, Transport & Utilities	5%	21%	8%	70%
Lincoln	Grafton	Low	Low	High	Leisure & Hospitality	3%	34%	8%	202%
Freedom	Carroll	Mid-Low	Mid-Low	High	Leisure & Hospitality	3%	20%	8%	167%
Salem	Rockingham	High	Mid-High	Low	Trade, Transport & Utilities	4%	20%	8%	108%
Danville	Rockingham	High	High	Low	Goods-producing	3%	20%	8%	116%
Whitefield	Coos	Mid-Low	Low	High	Education & Health Services	2%	22%	7%	235%
Atkinson	Rockingham	High	High	Low	Education & Health Services	4%	19%	7%	102%
Stratford	Coos	Low	Low	High	Goods-producing	4%	29%	7%	67%
Ossipee	Carroll	Mid-Low	Low	Mid-High	Trade, Transport & Utilities	4%	25%	7%	100%
Bartlett	Carroll	Mid-Low	Low	Mid-High	Leisure & Hospitality	2%	33%	7%	216%
Jefferson	Coos	Low	Low	High	Leisure & Hospitality	3%	19%	7%	141%
Lyman	Grafton	Low	Low	High	Other	2%	20%	7%	247%
Pelham	Hillsborough	High	High	Low	Goods-producing	4%	19%	7%	93%
Hinsdale	Cheshire	Mid-High	Mid-Low	High	Goods-producing	4%	18%	7%	92%
Jackson	Carroll	Low	Mid-Low	Mid-High	Leisure & Hospitality	3%	35%	7%	149%
Kingston	Rockingham	High	High	Low	Education & Health Services	4%	19%	7%	88%
Nashua	Hillsborough	High	Mid-High	Mid-High	Trade, Transport & Utilities	3%	18%	7%	108%
Effingham	Carroll	Mid-Low	Low	High	Goods-producing	3%	21%	7%	136%
Hampton	Rockingham	High	Mid-High	Low	Leisure & Hospitality	3%	21%	7%	128%
Tilton	Belknap	High	Low	High	Trade, Transport & Utilities	3%	24%	7%	124%
Winchester	Cheshire	Mid-High	Low	Mid-High	Goods-producing	4%	20%	7%	91%
Littleton	Grafton	Mid-High	Low	High	Trade, Transport & Utilities	3%	24%	7%	167%
Manchester	Hillsborough	High	Low	High	Education & Health Services	3%	20%	7%	151%
Franconia	Grafton	Low	Mid-High	Mid-High	Trade, Transport & Utilities	2%	19%	7%	334%
Derry	Rockingham	High	Mid-Low	Low	Education & Health Services	3%	20%	7%	115%
Washington	Sullivan	Low	Mid-High	Mid-Low	Other	3%	17%	7%	106%
Berlin	Coos	Mid-High	Low	High	Education & Health Services	5%	22%	7%	44%

Source: ESI (2020), NH DHHS (2019), NHES (2020), BLS (2020)

Of the 259 towns located in New Hampshire, unemployment data is available for 240 towns. The [Interactive Appendix](#) provides unemployment data by town, and benchmarks unemployment data relative to other similar towns.

The Effect of Federal Pandemic Unemployment Compensation

The Coronavirus Aid, Relief, and Economic Security (CARES) Act was signed into law on March 27, 2020. The program made three significant amendments to the unemployment insurance system:

- 1) It extended eligibility to individuals not typically able to collect unemployment benefits, including self-employed individuals and those with insufficient earnings;
- 2) It extended the length of time that individuals may receive benefits by 13 weeks; and
- 3) It created the Federal Pandemic Unemployment Compensation (FPUC) program, which provided a flat payment of \$600 per week to all recipients, which expired on August 1, 2020. This payment has since been extended by the Continuing Assistance Act (CAA) enacted on December 27, 2020 but the amount has been reduced to \$300/week. It is currently scheduled to expire March 13, 2021.

Most states' unemployment insurance programs aim to replace approximately 40 percent of recipients' earnings prior to becoming unemployed; as such, the FPUC program aimed to fill the gap and achieve a replacement rate of 100 percent of wages, calculating the \$600 weekly payment based on 60 percent of the weekly earnings of the median worker in the US. However, because pandemic-related unemployment disproportionately affected lower-income workers, the FPUC payment as implemented replaced more than 60 percent of wages for many recipients, with approximately 80 percent of unemployed individuals receiving more than 100 percent of their prior wages. In practice, workers in the bottom quarter of earnings experienced wage growth of 20 percentage points or more, and workers in the bottom third of earnings received about one-half of all UI payments during the length of the FPUC program.ⁱ

Prior to the CARES Act, New Hampshire had a statutory replacement rate of 48 percent, ranking 41st out of all states. Similarly, it ranked 43rd with the FPUC program increasing the statutory replacement rate to 139 percent.ⁱⁱ New Hampshire's unemployment claims peaked the week ended May 2, 2020 with over 117,000 individuals collecting benefits. Salary and unemployment benefit data was available for roughly 112,000 claimants. In order to understand how the pandemic unemployment insurance payments affected the unemployment population, their weekly UI benefit, including the additional \$600 benefit, was compared to their average weekly wage.

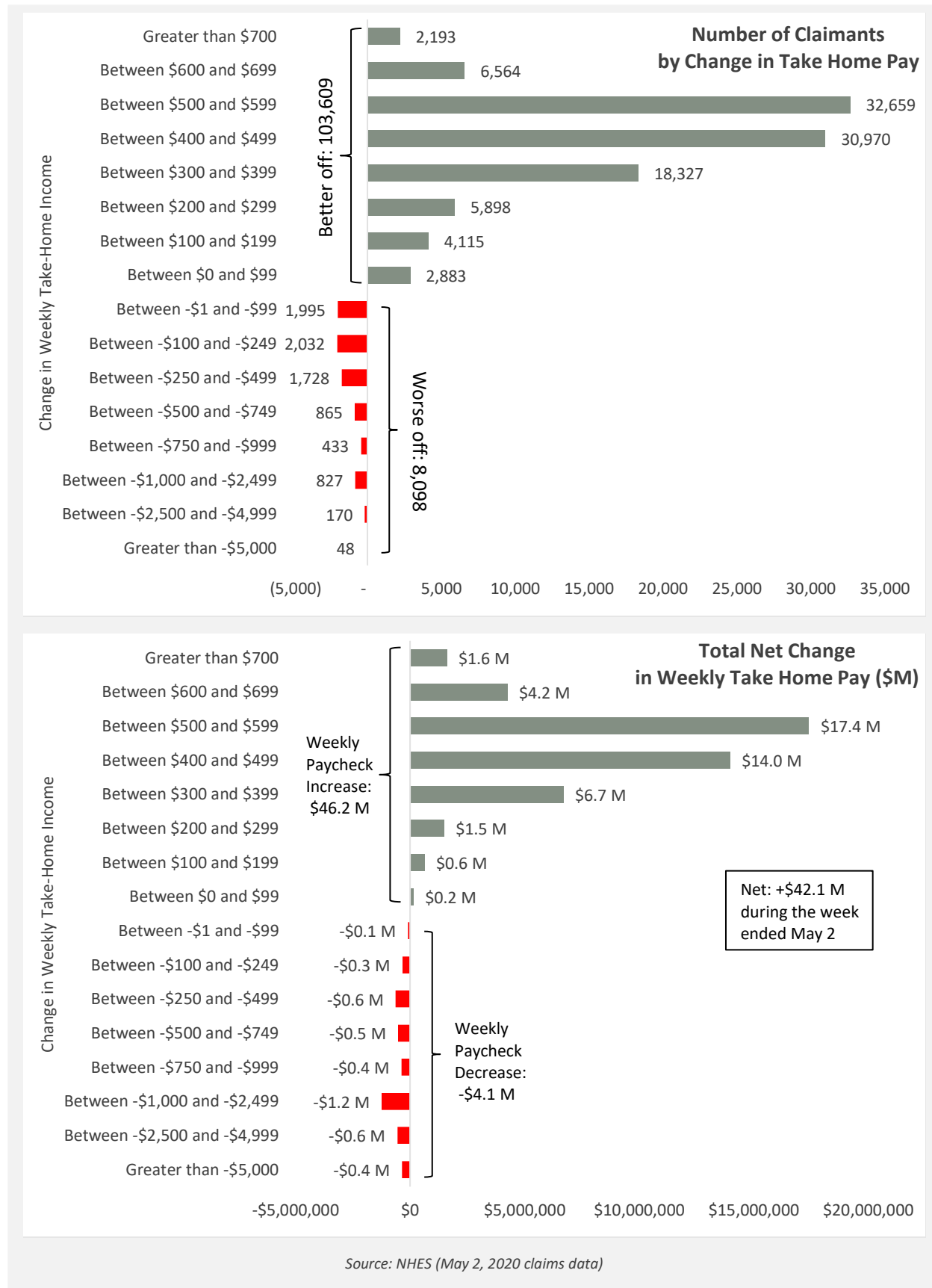
The figures below show the distribution of claimants on May 2 based on their take home income through the enhanced unemployment relative to their typical income, and the total additional earnings across all claimants in that week relative to their typical earnings.

- 93 percent of claimants were earning more than their usual weekly pay by an average of \$446 per week, while only 7 percent of claimants were worse off even with the additional benefit, losing on average \$507 per week.
- In sum, these individuals took home a net \$42.1 million in additional income compared to their usual earnings.

This unusual dynamic resulted in significant support to households across New Hampshire, enabling them to maintain their spending and some degree of economic security. It also created unusual conditions in the labor market, which likely dissipated with the expiration of this enhanced support.

ⁱ Matias Cortes and Eliza Forsythe. (2020). Did the CARES Act Help Counter Pandemic-Fueled Growth in Inequality? Econofact. <https://econofact.org/did-the-cares-act-help-counter-pandemic-fueled-growth-in-inequality>

ⁱⁱ Peter Ganong, Pascal Noel, and Joseph Vavra. (2020). US Unemployment Insurance Replacement Rates During the Pandemic. NBER. https://www.nber.org/system/files/working_papers/w27216/w27216.pdf



3. Child Care Workforce Constraints

While the availability of jobs has been the foremost concern in the initial stage of the economic recovery, potential workers may face substantial constraints in their ability to enter or reenter the workforce due to non-economic reasons. This section reviews the constraint presented by child care considerations, which have become more pressing for many families during the pandemic, while Section 4 reviews issues related to benefit program design, which tend to be longer-term in nature.

The child care system is foundational to enabling workers with children to contribute to the labor force. However, the lack of affordable, accessible, and quality care has the potential to create significant barriers to work, especially for women, single-parent households, and low-income families. Survey data shows that many low-income individuals cite family constraints as a reason for not entering the labor force.⁵³

The COVID-19 pandemic has not caused these issues with child care, but has certainly exacerbated them, increasing disparities and forcing marginally attached workers out of the labor market. Moreover, the pandemic has created an unprecedented child care crisis for parents of school age children as well, with many schools in the nation switching from in-person classes to remote or hybrid learning. These constraints have a profound impact not only on individual workers and families but on the state's economy, impacting the productivity of workers while constraining the available workforce.

While many families are likely relying on family and friends to fulfill additional child care needs during the pandemic, this analysis primarily focuses on factors influencing the availability and use of licensed child care facilities for children under age 13.⁵⁴ Child care in this report is defined as a school or licensed child care setting that cares for children under age 13, thereby allowing parents to work. Children below school age are children under age six, and school age children needing care are children aged 6-12.⁵⁵ It is important to note that older children requiring child care typically are children with disabilities. Due to data limitations, this report does not analyze child care impacts for these children and their families. Using a mix of information on New Hampshire's evolving child care supply and demand, data on reasons for unemployment, and research on the economic implications, this analysis proceeds in the following sequence:

- **Section 3.1: The State of Child Care Pre-COVID** reviews the affordability, availability, and quality of child care for children under age six in New Hampshire prior to the pandemic;
- **Section 3.2: Child Care Implications from COVID** discusses changes in supply and demand for child care during the course of the pandemic, including impacts on parents of school age children in addition to the population of children below school age;

⁵³ Katharine B. Stevens. (2017). *Workforce of Today, Workforce of Tomorrow: The Business Case for High-Quality Childcare*. Center for Education and Workforce. US Chamber Foundation.

https://www.uschamberfoundation.org/sites/default/files/Workforce%20of%20Today%2CWorkforce%20of%20Tomorrow%20Report_0.pdf

⁵⁴ (2020). *Returning to Work and the Childcare Dilemma*. U.S. Chamber of Commerce Foundation. Working Papers, Childcare, and Covid-19. https://www.uschamberfoundation.org/sites/default/files/media-uploads/EarlyEd_Minis_Report4_FINAL.pdf

⁵⁵ For the analysis on school age children, elementary (K-5) and middle (6-8) school closings were used to understand potential child care needs of parents in New Hampshire during the COVID-19 pandemic. Because eighth grade students are typically aged 12 to 13, some 13-year-old students may be included in this analysis.

- **Section 3.3: Potential Impacts on Labor Availability and Productivity** synthesizes information on the labor market impacts from child care constraints, including the disproportionate impacts on women, to understand the implications for New Hampshire's economic recovery; and
- **Section 3.4: Licensed Child Care Gap Analysis by Town Typology** takes a deeper look into the pre-COVID and COVID-era child care gaps for similar towns grouped by geography, density, income, industry concentration, and social vulnerability.

3.1. The State of Child Care Pre-COVID

Prior to the COVID-19 pandemic, New Hampshire's families with children below school age faced challenges in terms of availability, affordability, and quality. These issues are reviewed in detail below. Notably, the issues New Hampshire faces are not unique to the state, as discussed further in the section.

Affordability

The cost of child care for children below school age represents a significant constraint for many New Hampshire families in their employment decisions. The U.S Department of Health and Human Services (HHS) set a federal standard stating that affordable co-payments for low-income families receiving Child Care and Development Fund (CCDF) subsidies should not exceed 7 percent of household income.⁵⁶ The Child Care for Working Families Act utilizes this standard, proposing to limit child care expenses to 7 percent of income for low-income families.⁵⁷ New Hampshire is in the top half of states with the highest center-based infant care costs as a percentage of median income for a married couple, ranking 24th among fifty states and D.C. in 2018. Northeastern states have particularly high child care costs, accounting for up to 16.5 percent of median income for a married couple household in Maine and as low as 10.7 percent in Rhode Island. The majority of low-income working New Hampshire households with children under 6 do not receive CCDF subsidies, although the percentage of this population receiving subsidies is much higher than in the vast majority of states. In 2019, the annual cost of center-based child care for an infant in New Hampshire was approximately \$13,000, roughly 12 percent of median household income with two earners, and over 40 percent of annual income for a single-parent household.⁵⁸ Nationally, center-based child care for infants can make up an average of 36 percent of a single-parent household's income.⁵⁹ To put this cost into perspective, the average cost of public university tuition in New Hampshire is only marginally higher, at \$16,500 annually. The cost of child care for young children is also less affordable than child care for school age children.⁶⁰

⁵⁶ (n.d.). Child Care and Development Fund Final Rule Frequently Asked Questions. <https://www.acf.hhs.gov/occ/faq/child-care-and-development-fund-final-rule-frequently-asked-questions>

⁵⁷ Sen. Patty Murray. (2019). Child Care for Working Families Act. <https://www.congress.gov/bill/116th-congress/senate-bill/568>

⁵⁸ (n.d.) Price of Child Care in: New Hampshire. Child Care Aware of America.

https://info.childcareaware.org/hubfs/2019%20Price%20of%20Care%20State%20Sheets/New%20Hampshire.pdf?utm_campaign=2019%20Cost%20of%20Care&utm_source=2019%20COC%20-%20NH
(2016). Child Care and Development Fund (CCDF) Program. Federal Register Vol. 81 No. 190. <https://www.govinfo.gov/content/pkg/FR-2016-09-30/pdf/2016-22986.pdf>

⁵⁹ (n.d.) Price of Child Care in: New Hampshire. Child Care Aware of America.

https://info.childcareaware.org/hubfs/2019%20Price%20of%20Care%20State%20Sheets/New%20Hampshire.pdf?utm_campaign=2019%20Cost%20of%20Care&utm_source=2019%20COC%20-%20NH

⁶⁰ (2019). State Child Care Facts in the State of: New Hampshire. Child Care Aware of America.

<https://cdn2.hubspot.net/hubfs/3957809/State%20Fact%20Sheets%202019/New%20Hampshire%202019.pdf>

Figure 3.1 below shows annual market rate child care costs by county for center-based care for one infant and for two children, based on data from Child Care Aware of America.⁶¹ These costs are then shown as a proportion of median income for a two-parent household.⁶²

- The statewide cost-to-income ratio for infant care is 12 percent and 22 percent for care for two children (one infant and one four-year-old).
- Costs and income ratios vary by county, with lower-income counties often featuring below average costs in absolute terms but higher than average cost-to-income ratios. The highest ratios are seen in Sullivan, Carroll, Coos, and Grafton Counties, despite each having an average cost below the state average.

Figure 3.1: Annual Cost of Child Care for Center-Based Care by County, 2019

County	One Infant	Percent Income (Two Parent)	Two Children (Infant & 4yo)	Percent Income (Two Parent)
Belknap	\$10,192	11%	\$18,858	20%
Carroll	\$10,247	14%	\$18,857	26%
Cheshire	\$12,009	13%	\$21,460	24%
Coos	\$9,193	14%	\$17,253	25%
Grafton	\$12,955	14%	\$22,808	25%
Hillsborough	\$13,106	12%	\$23,497	22%
Merrimack	\$11,604	12%	\$21,395	22%
Rockingham	\$13,897	12%	\$24,961	22%
Strafford	\$10,024	11%	\$20,173	22%
Sullivan	\$12,434	15%	\$21,534	27%
State Average	\$13,044	12%	\$23,647	22%

Source: Child Care Aware of America (2020)

By HHS's standard, the cost of child care for young children without subsidies is unaffordable for the median New Hampshire household. When considering low-income or single-parent households, these costs create a significant, and at times insurmountable, barrier to entering the workforce. For low-income New Hampshire residents, the cost of child care for two children in a two-parent household would account for approximately 94 percent of its total income.⁶³ For comparison, in Maine, this percentage would be 101.5, in Vermont it is 95.4, and in Rhode Island, it is nearly 83 percent.

Survey data confirms the relevance of child care costs to employment decisions for these households. In a U.S. Chamber of Commerce Foundation survey, a strong majority (71 percent) of non-working poor

⁶¹ This analysis relies on data from Child Care Aware of America and Child Care Aware of New Hampshire. Two children in this analysis include an infant and a four-year-old child.

⁶² (2019). The US and the High Price of Child Care: An Examination of a Broken System. Child Care Aware of America.
<https://www.childcareaware.org/our-issues/research/the-us-and-the-high-price-of-child-care-2019/2019-price-of-child-care-by-county-new-hampshire/>

⁶³ (n.d.) Price of Child Care in: New Hampshire. Child Care Aware of America.
https://info.childcareaware.org/hubfs/2019%20Price%20of%20Care%20State%20Sheets/New%20Hampshire.pdf?utm_campaign=2019%20Cost%20of%20Care&utm_source=2019%20COC%20-%20NH

cited “taking care of their family/home” as a reason for not entering the labor force,⁶⁴ while in RAND’s 2019 family survey, 43 percent of parents reporting they could not find care cited the reason being as an inability to afford available options.⁶⁵

Availability

In spite of the high costs of care in New Hampshire, child care providers often struggle to generate a profit due to high operating costs, in part due to facility-related expenses and staff benefits, which results in very slim margins.⁶⁶ The labor-intensive nature of child care coupled with child-to-adult ratio mandates and payment structures result in significant overall labor costs for operators, despite generally low wages for individual child care workers (average wage was \$11.17 per hour in 2018).⁶⁷ In New Hampshire, the median hourly wage for a child care worker is \$11.69, which amounts to roughly \$23,850 per year; these earning levels often incentivize child care workers to look outside the industry for other opportunities.⁶⁸

This combination of low wages for workers and small profits for operators tends to lead to an undersupply of child care centers and care capacity. Figure 3.2 below compares the need and availability of licensed, center-based child care slots in New Hampshire prior to the pandemic.

The below analysis begins by focusing on children under age six.⁶⁹ In total, there are approximately 75,500 children under the age of six in New Hampshire.⁷⁰ Of these children, roughly 54,000 live in two-parent households in which both parents are in the labor force or in a single-parent household in which the sole caretaker is in the labor force, defining a potential “need” of approximately 54,000 child care slots.

While there are roughly 43,500 licensed slots in New Hampshire, in order to isolate openings particularly for young children (under six for the purposes of this report), slots that were available to children over the age of six or licensed as a “school age program” were excluded as well as those categorized as a “summer camp” and “parks and recreation” program (approximately 10,200 slots total). Additionally, it is important to note that, due to data availability, this count includes only those programs that are licensed by the State of New Hampshire.

⁶⁴ Katharine B. Stevens. (2017). Workforce of Today, Workforce of Tomorrow: The Business Case for High-Quality Childcare. Center for Education and Workforce. US Chamber Foundation.

https://www.uschamberfoundation.org/sites/default/files/Workforce%20of%20Today%2CWorkforce%20of%20Tomorrow%20Report_0.pdf

⁶⁵ Lynn Karoly and Elizabeth Steiner et al. (2020). Understanding the New Hampshire Birth through Five System.

https://mypages.unh.edu/sites/default/files/pdg/files/nh_b-5_needs_assessment_pdg.pdf

⁶⁶ Jess Carson and Marybeth Mattingly. (2020). COVID-19 Didn’t Create a Child Care Crisis, But Hastened and Inflamed It. Carsey School of Public Policy. <https://carsey.unh.edu/publication/child-care-crisis-COVID-19>

⁶⁷ (2019). The US and the High Price of Child Care: An Examination of a Broken System. Child Care Aware of America.

<https://info.childcareaware.org/hubfs/2019%20Price%20of%20Care%20State%20Sheets/Final-TheUSandtheHighPriceofChildCare-AnExaminationofaBrokenSystem.pdf>

⁶⁸ (2019). May 2019 State Occupational Employment and Wage Estimates. Bureau of Labor Statistics.

https://www.bls.gov/oes/current/oes_nh.htm#39-0000

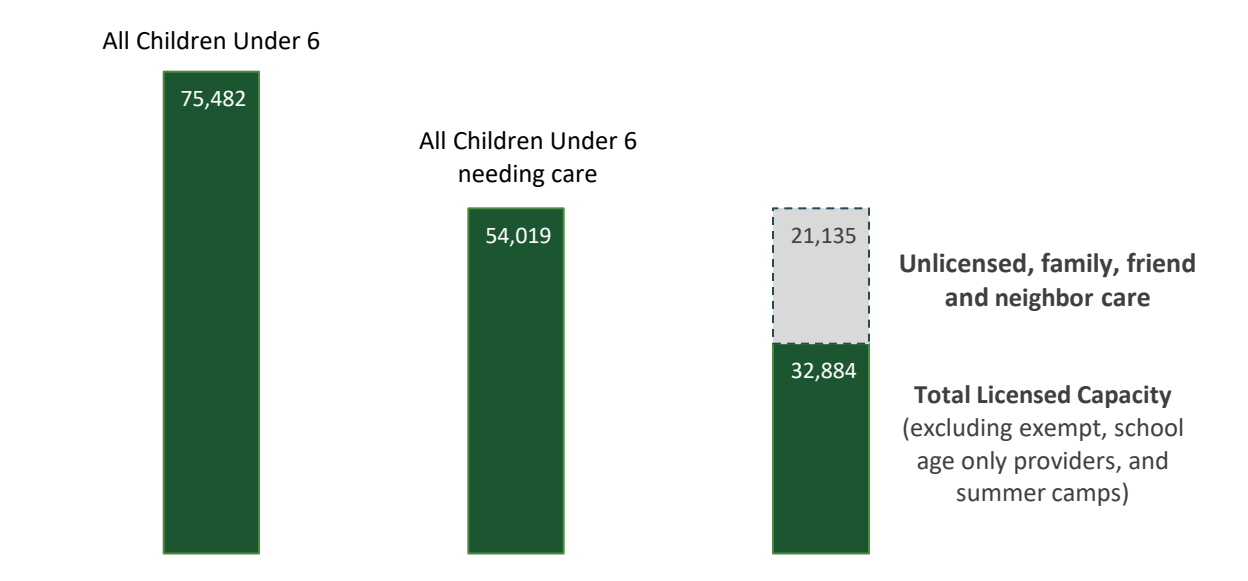
⁶⁹ Because some children aged 5 may be enrolled in kindergarten full-time, there is a possible double count of five-year-olds in this analysis as both needing child care and also enrolled in kindergarten. Due to lack of necessary data, all children under six were included in this analysis regardless of kindergarten enrollment.

⁷⁰ Based on data from the U.S. Census

<https://data.census.gov/cedsci/table?t=Age%20and%20Sex&g=0400000US33&tid=ACST1Y2019.S0101&hidePreview=false>

With these exclusions applied, there are currently approximately 33,000 licensed child care slots in New Hampshire, leaving a gap of approximately 21,000 children (nearly 40 percent) whose child care needs are currently addressed without formal child care but instead served by unlicensed friend, family, or informal care.⁷¹

Figure 3.2: Licensed Child Care Capacity in New Hampshire (Pre-COVID)



Source: Child Care Aware of America (2020); U.S. Census Bureau (2018)

Supply challenges also vary by location, often mismatched with demand. It is estimated that approximately half of Americans live in areas defined by Child Care Aware of America as “child care deserts,” where access to formal, quality child care is effectively nonexistent.⁷²

⁷¹ Data on licensed slots is current as of October 2020. Subsequent analysis in this chapter details the extent to which these slots have been available over the course of the pandemic.

⁷² Rashid Malid and Katie Hamm et al. (2018). America's Child Care Deserts in 2018. Center for American Progress. <https://www.americanprogress.org/issues/early-childhood/reports/2018/12/06/461643/americas-child-care-deserts-2018/> (n.d.). Child Care Deserts. childcaredeserts.org.
(n.d) 2019 New Hampshire Child Care Desert Map. <https://www.nh-connections.org/communities/nh-child-care-desert-map/>

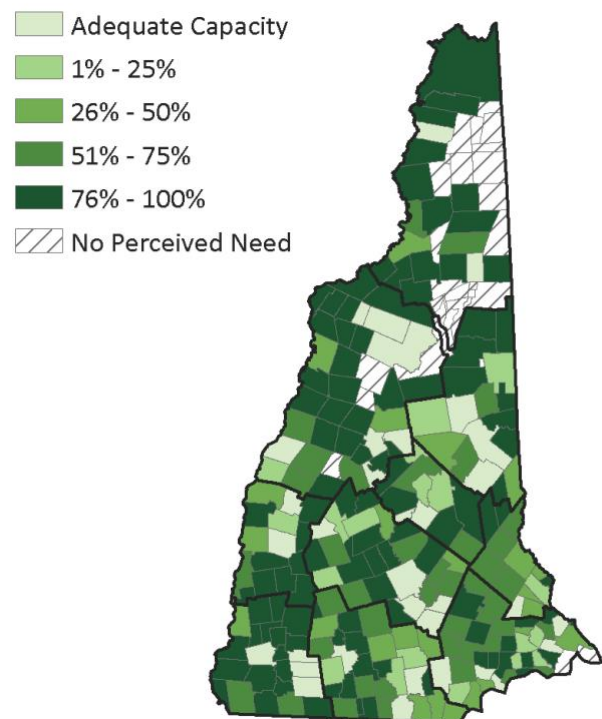
In New Hampshire, 44 percent of the state's infants and toddlers (ages 0-2) live in rural areas, far higher than the 9 percent of infants and toddlers living in rural areas nationwide.⁷³ Seven of New Hampshire's 10 counties are considered non-metropolitan. Figure 3.3 shows the share of unmet need (based on the gap between children needing care and licensed capacity) by town, while Figure 3.4 below aggregates these results by county.

Based on analysis by county:

- The largest absolute needs are in the most populous counties of Hillsborough (7,000 slots) and Rockingham (5,200 slots), which have an unmet need close to the state average of 40 percent.
- On a proportional basis, the highest share of unmet need is found in Coos (52 percent), Sullivan (50 percent), and Cheshire (48 percent) Counties.

These statistical measures of availability align with the experience reported by New Hampshire families. In a family survey conducted in 2019 as part of New Hampshire's Preschool Development Grant, one in four parents responded that they do not have sufficient early care and childhood education choices where they live.⁷⁴

Figure 3.3: Unmet Need by Town (Pre-COVID)

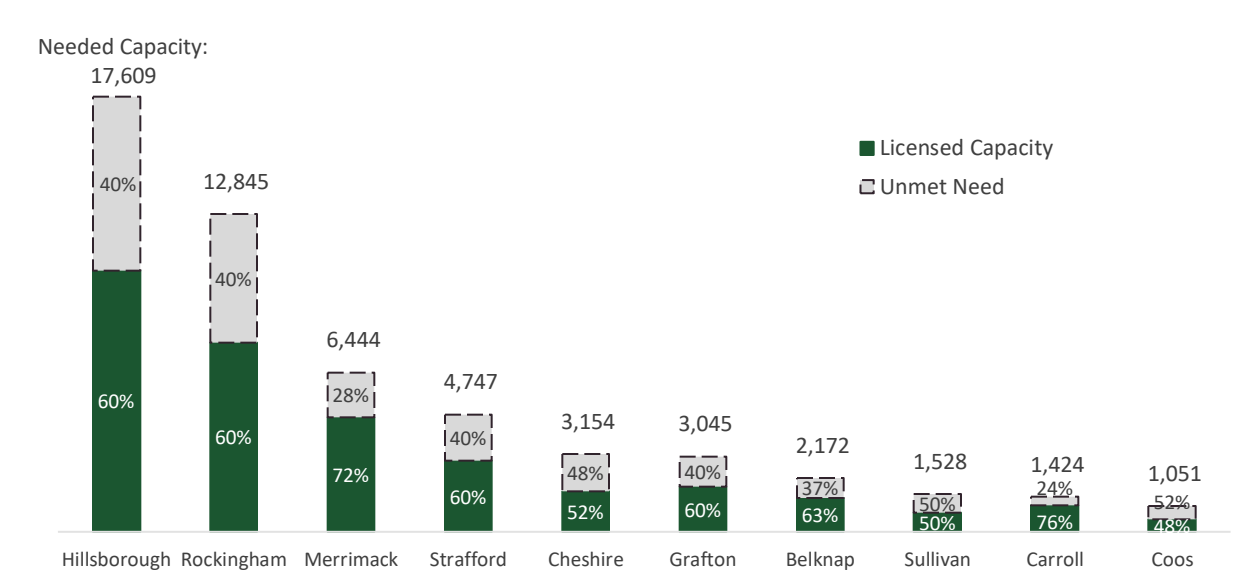


Source: Child Care Aware of New Hampshire (2020), U.S. Census Bureau (2018)

⁷³ State of New Hampshire's Babies. (2020). State of Babies Yearbook 2020. https://stateofbabies.org/wp-content/uploads/2017/07/New_Hampshire.pdf

⁷⁴ Lynn Karoly and Elizabeth Steiner et al. (2020). Understanding the New Hampshire Birth through Five System. https://mypages.unh.edu/sites/default/files/pdg/files/nh_b-5_needs_assessment_pdg.pdf

Figure 3.4: Pre-COVID Unmet Need and Licensed Capacity, Children Under Six, by County



Source: Child Care Aware of America (2020)

Quality

The quality of the care provided is also a crucial metric when assessing New Hampshire's child care system. The National Association for the Education of Young Children (NAEYC), a national accrediting association for child care centers, evaluates quality through ten standards: curriculum; relationships; teaching; assessment of child progress; health; teachers; families; community; physical environment; and leadership and management.⁷⁵ States are required to use a portion of their Child Care and Development Fund (CCDF) budget for quality improvement activities and to increase options and access to quality child care. However, the state's quality rating and improvement system (QRIS) is currently under revision, and has limited information on the quality of child care for children beyond licensing at this time.⁷⁶ Currently, the state's Child Care Licensing Unit regulates quality based on ratio, group size, health, safety, and the training, education, and experiences of the provider, and licenses several types of child care programs that include family child care homes, group child care centers, and school age programs, among others.⁷⁷

In New Hampshire, formal child care providers are designated as either Licensed, Licensed Plus, or (nationally) Accredited. Figure 3.5 below shows the distribution of slots by designation.

⁷⁵ (n.d.).

⁷⁶ Lynn Karoly and Elizabeth Steiner et al. (2020). Understanding the New Hampshire Birth through Five System. https://mypages.unh.edu/sites/default/files/pdg/files/nh_b-5_needs_assessment_pdg.pdf

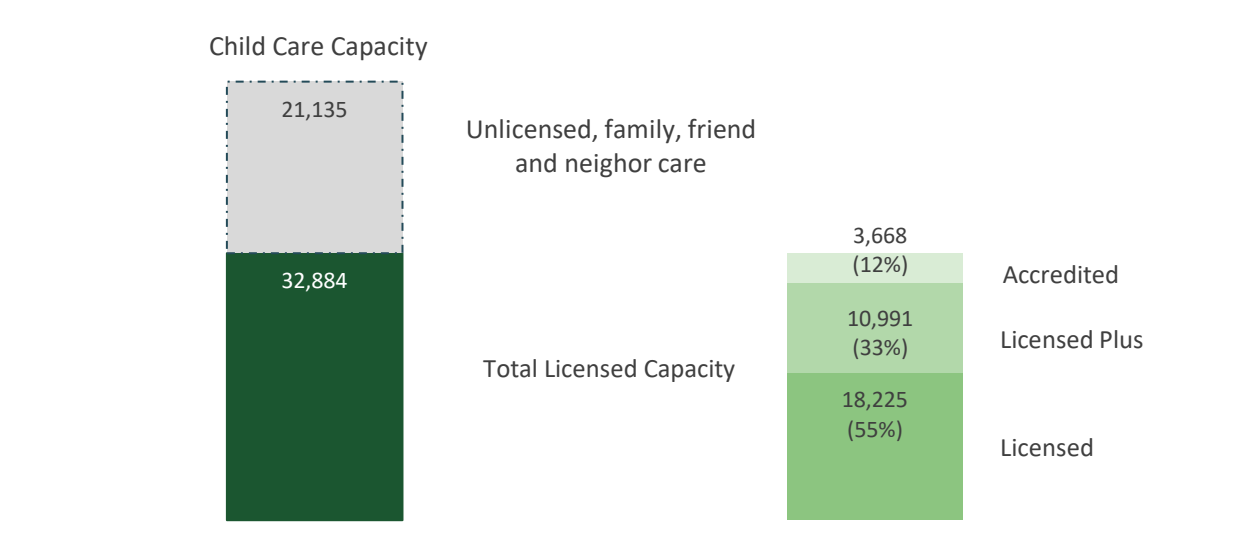
(n.d.). Quality Rating and Improvement System (QRIS). New Hampshire Department of Health and Human Services. <https://www.dhhs.nh.gov/dcyf/cdb/quality.htm>

⁷⁷ (n.d.). Quality Rating and Improvement System (QRIS). New Hampshire Department of Health and Human Services. <https://www.dhhs.nh.gov/dcyf/cdb/quality.htm>

(n.d.). Child Care Licensing Unit. New Hampshire Department of Health and Human Services. <https://www.dhhs.nh.gov/oos/cclu/index.htm>

- **Licensed:** Licensed establishments meet the minimum requirements to become a formal child care provider by adhering to rules regarding capacity, child-to-provider ratios, and physical requirements. More than 18,000 of the roughly 33,000 slots (55 percent) fall into this category.
- **Licensed Plus:** Licensed establishments can apply to be recognized as a Licensed Plus provider by meeting sixteen quality standards around learning, regulations, family involvement, professional development, and staff requirements, among others. Around 11,000 slots in New Hampshire (33 percent) are at Licensed Plus providers.
- **Accredited:** Establishments that apply for national accreditation through the NAEYC, National Association for Family Child Care, or the National After School Association are deemed to have the highest quality standards based on national best practice metrics. Approximately 3,700 slots in New Hampshire (12 percent) have this accreditation.

Figure 3.5: Licensed Child Care Capacity in New Hampshire, by Quality of Care, 2020



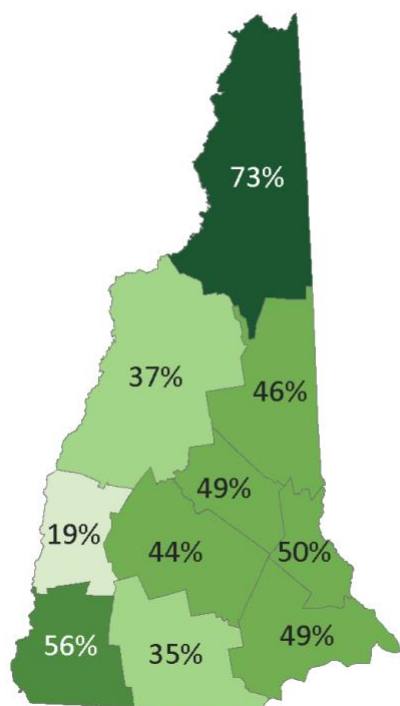
Source: Child Care Aware of America (2020)

Collectively, around 45 percent of New Hampshire's licensed child care slots are located in Accredited centers or Licensed Plus centers reflecting quality designations beyond the basic requirements.

Figure 3.6 shows variation in these proportions by county. The proportion of high-quality providers (as measured by licensing levels) is highest in Coos County (73 percent), followed by Cheshire (56 percent) and Stratford (50 percent) Counties.

Among the most populous counties with the highest demand for child care, quality levels are above average by this metric in Rockingham County (49 percent) but below average in Merrimack (44 percent) and Hillsborough (35 percent) Counties.

Figure 3.6: Percent of Capacity Designated
“Accredited” or “Licensed Plus”, by County, 2020



Source: Child Care Aware of New Hampshire (2020)

Importantly, each of the aspects reviewed in this section cannot truly be considered independent of each other. Affordability concerns dictate in part the degree to which parents enter the workforce, meaning that the calculated need would be higher without this constraint. Quality of care also provides another lens through which to view availability, as thirty-five percent of parent respondents in RAND’s New Hampshire family survey who had trouble finding child care reported that their reason was because they could not find providers with the level of quality they wanted.⁷⁸ Finally, other considerations limit the availability of child care, such as care during nonstandard hours. Thirty-three percent of parent respondents in RAND’s New Hampshire family survey who could not find child care cited the reason being that they could not find care at the hours and locations that met their needs. Parents from rural areas more often reported an inability to find care and providers offering care at nonstandard hours.⁷⁹

3.2. Child Care Implications from COVID

Finding high quality, affordable, and accessible child care was challenging for many New Hampshire families prior to COVID. The pandemic exacerbated and created new challenges for parents and providers alike. Facing a combination of decreased revenues due to public health-necessitated enrollment limits, increased cleaning expenses, decreased demand by parents due to changes in employment, and increased expenses to provide personal protective equipment (PPE) for child care workers, many providers have struggled to remain open. Detailed analyses of child care supply nationwide show that providers in low- and middle-income neighborhoods are most at risk of experiencing permanent closures, due to the industry’s reliance on parent fees.⁸⁰

The analysis that follows reviews how the pandemic has influenced the supply of child care in New Hampshire through temporary and permanent closings, and the implications for families, including the varied impacts on demand for child care as the health and economic situation has evolved. In addition,

⁷⁸ *Ibid*

⁷⁹ *Ibid*

⁸⁰ Rasheed Malik and Katie Hamm et al. (2020). The Coronavirus Will Make Child Care Deserts Worse and Exacerbate Inequality. Center for American Progress. <https://www.americanprogress.org/issues/early-childhood/reports/2020/06/22/486433/coronavirus-will-make-child-care-deserts-worse-exacerbate-inequality/>

analysis is undertaken on impacts of remote school for school age children, which has created a new constraint for working parents.

Children Below School Age

Child care supply

On March 26, 2020, Governor Sununu signed an emergency order requiring all non-essential businesses to close and residents to stay at home.⁸¹ While the executive order guidance designated staff supporting emergency childcare programs as essential, many centers closed due to low attendance, school closings, and worker health and safety concerns.⁸² During the first week of April, approximately 96 percent of licensed child care slots were closed. However, New Hampshire was able to support child care providers using the federal CARES act and the Child Care Recovery and Stabilization Program grants through the Governor's Office for Emergency Relief and Recovery (GOFERR). The CARES Act included \$3.5 billion in supplemental appropriations to states through the Child Care and Development Block Grant (CCDBG), which many states used to sustain their child care systems. In New Hampshire, the state primarily used the \$6.999 million in supplemental CCDBG funding via the CARES Act to establish Emergency Child Care Programs (ECCPs) to ensure sufficient child care coverage for children whose parents were deemed essential workers. Centers approved under the program are eligible for incentive payments to cover staff salaries, operations, and supplies. Through the ECCP, approximately 490 centers were able to stay open or reopen. Supplemental CCDBG funding also went to child care providers to help them retain employees and to cover parent copayments and subsidies to child care programs, regardless of operating status.⁸³

These supplemental funds, however, could not sustain the child care industry through the summer. In May 2020, Governor Sununu authorized an additional \$25 million, \$16.6 million of which GOFERR distributed to providers through Child Care Recovery and Stabilization Program grants. All but 1 of 419 applicants (5 providers did not apply) received funding.⁸⁴ An additional \$10 million was added to the program in Fall 2020 for a total of \$35 million in grants and a total of \$45.7 million invested in child care.

In addition to establishing ECCPs and disbursing GOFERR funds, New Hampshire took other measures to support parents with young children during COVID. For example, the State temporarily froze child care scholarship eligibility redetermination for months; in other words, they did not count temporary fluctuations in reported income so that no family would lose support for child care during this time, and temporarily allowed for enrollment-based payments to providers in certain situations (as opposed to attendance-based payments).^{85,86} In addition, New Hampshire paid full-time subsidy rates to CCDF-enrolled providers who cared for school age children during remote learning hours between September

⁸¹ Christopher Sununu. (2020). Emergency Order #17 Pursuant to Executive Order 2020-04. Office of the Governor. <https://www.governor.nh.gov/sites/g/files/ehbemt336/files/documents/emergency-order-17.pdf>

⁸² Christopher Sununu. (2020). Exhibit A to Emergency Order #17. Office of the Governor. <https://www.governor.nh.gov/sites/g/files/ehbemt336/files/documents/emergency-order-17-ex-a.pdf>

⁸³ Linda Smith et al. (2020). September Update: State-by-State Use of CARES Act Funds to Support Child Care Through the Fall. <https://bipartisanpolicy.org/blog/september-update-state-by-state-use-of-cares-act-funds-to-support-child-care-through-the-fall/>

⁸⁴ Linda Smith et al. (2020). September Update: State-by-State Use of CARES Act Funds to Support Child Care Through the Fall. <https://bipartisanpolicy.org/blog/september-update-state-by-state-use-of-cares-act-funds-to-support-child-care-through-the-fall/>

⁸⁵ Email correspondence from DEHS, 10 December 2020 and virtual communication on 12 December 2020.

⁸⁶ Lori Sibinette and Christine Santaniello. (2020). Information Regarding Payment for COVID-19 Pandemic Related Absences. Department of Health and Human Services. <https://files.constantcontact.com/49b439d5301/c32f01b8-137d-4c4c-a066-efe6dbaaef97.pdf>

7, 2020 and January 3, 2021.⁸⁷ The federal appropriations act passed December 2020 included another \$10 billion in emergency relief funds for the child care sector through CCDBG and \$250 million for Head Start programs.⁸⁸

Figures 3.7 and 3.8 below show the progression in the share of open programs and number of slots available by provider type as conditions evolved through October 2020.⁸⁹

- The proportion of open child care centers, which represent the large majority of capacity in the state, dipped below 50 percent in May. Capacity returned over the course of the summer, with more than three-quarters open as of October, representing 87 percent of typical slots.
- Head Start and pre-school programs were nearly all closed in April and over the course of the summer of 2020. These programs began to return in the fall, but the majority remained closed as of October 2020.⁹⁰
- As of October 2020, around 26,900 of the 32,900 typical slots were available (82 percent), a proportion that increased steadily over time. This share is attributable to the importance of child care centers to the overall provider mix.

⁸⁷ ⁸⁷ Lori Sibinette and Christine Santaniello. (2020). NH Child Care Scholarship Payment for School-age Care. Department of Health and Human Services. <https://files.constantcontact.com/49b439d5301/f568116d-e878-43c9-8af9-ccab2cdf08a3.pdf>

⁸⁸ (2020). COVID-19 Emergency Relief Package – Detailed Summary of New Legislation. <https://www.nh-connections.org/uploads/2020/12/COVID-19-Emergency-Relief-Package-Detailed-Summary-of-New-Legislation.pdf>

⁸⁹ For consistency, “slots” includes licensed capacity in child care centers, family child care, pre-school programs, and Head Start programs in which the minimum age is less than six years old.

⁹⁰ Early Head Start and Head Start are parenting and school readiness programs for families with children ages birth to five. While formally not considered a child care program, some programs often provide a form of child care, allowing parents to work. Three grantees do offer child care programs in addition to Head Start programming. Some of these remained open throughout the pandemic. Head Start programs, however, closed their centers on March 16, but offered services remotely. NH Head Start grantees often align their programs with school districts, so summer closures were not a COVID artifact. In the fall, all Head Start resumed their services with a hybrid of classroom and remote learning/services, along with school districts (Email correspondence, 01/13/2021).

Figure 3.7: Share of Open Programs, by Type of Program, April-October 2020

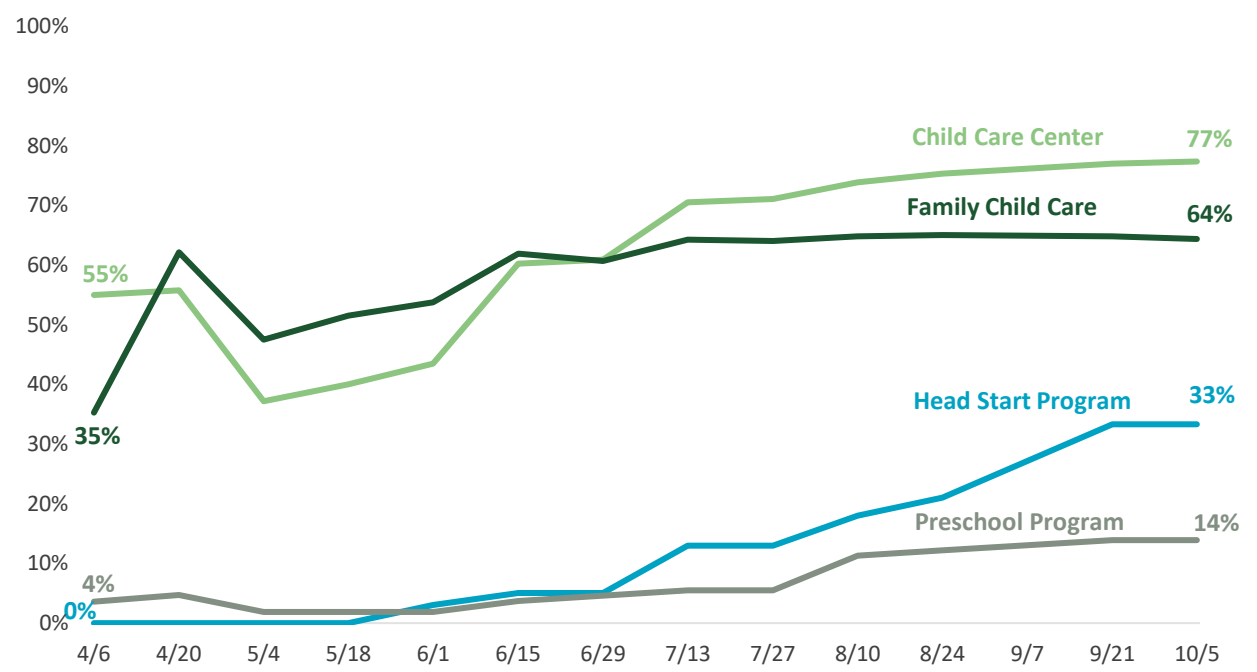
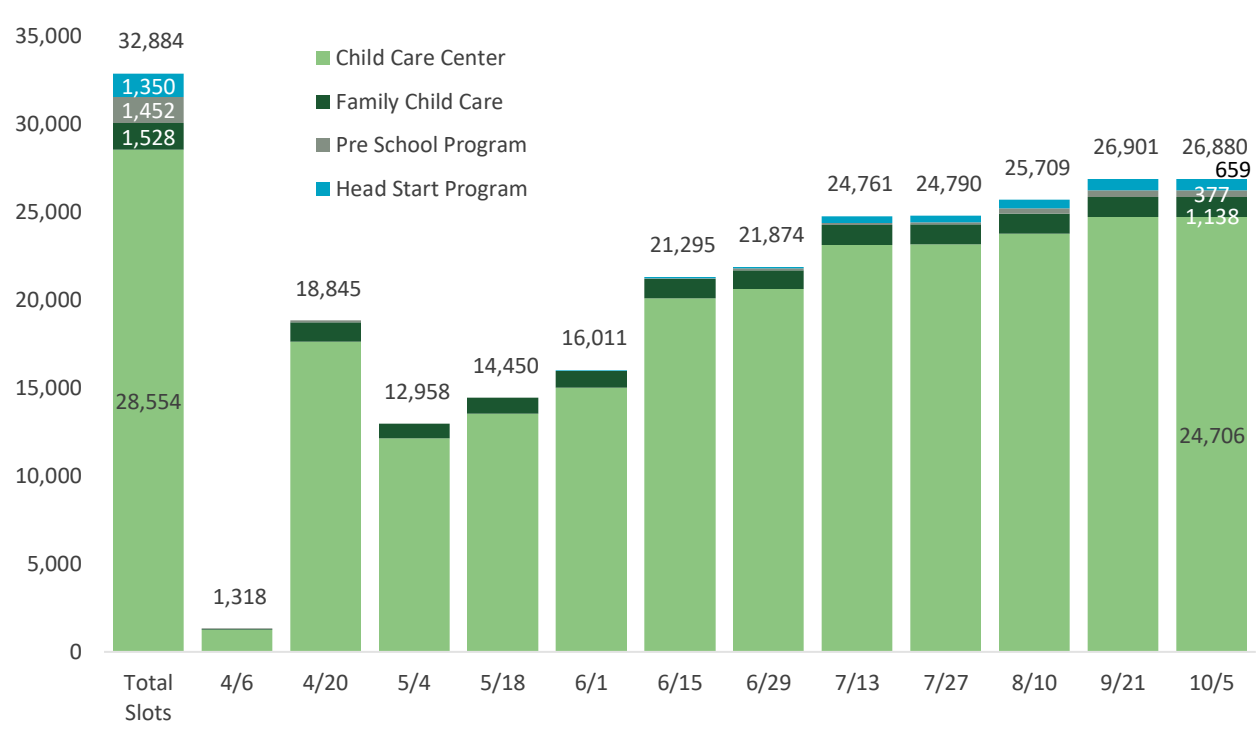


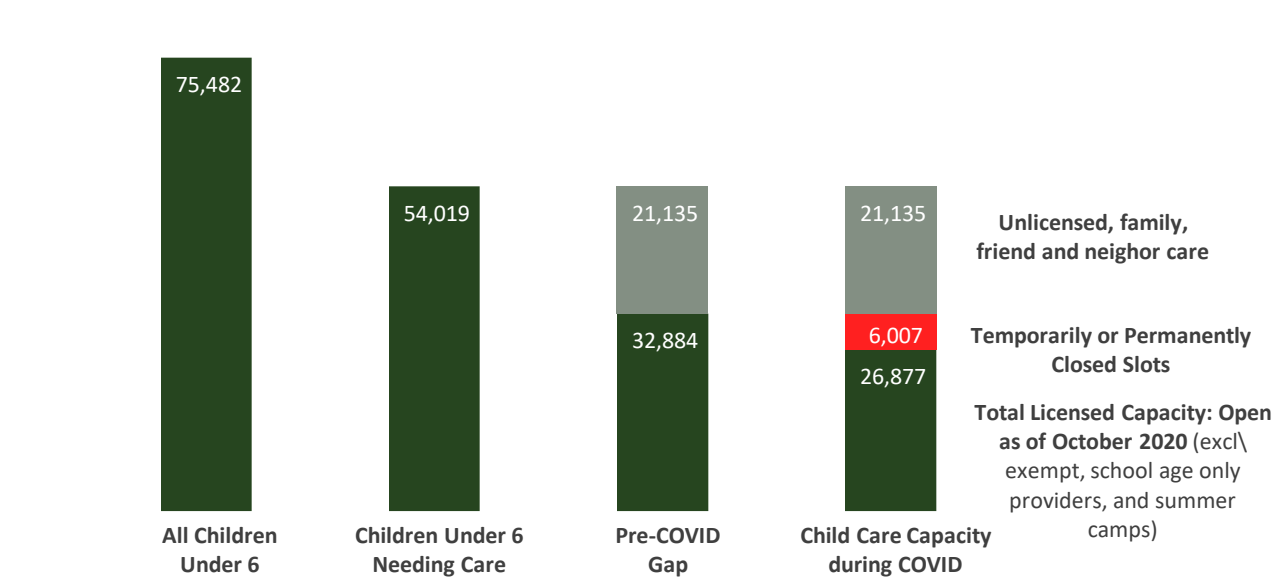
Figure 3.8: Number of Open Slots, by Type of Program, April-October 2020



Source: Child Care Aware of America (2020)

While the majority of slots had re-opened as of October, roughly 182 centers were temporarily or permanently closed, accounting for up to 6,000 slots (see Figure 3.9).⁹¹ It is important to note that 50 locations had surrendered their licenses and permanently closed due to the pandemic. Combined with the pre-existing capacity gap, the unmet need was more than 27,000, slightly greater than the available licensed capacity.

Figure 3.9: Licensed Child Care Capacity in New Hampshire, October 2020



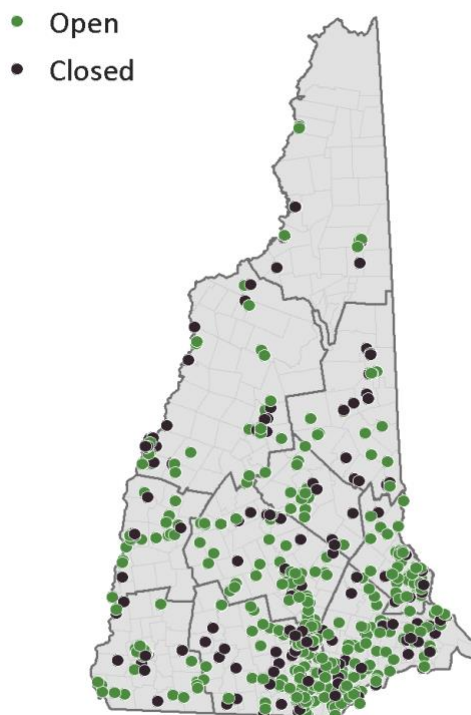
Source: Child Care Aware of America (2020)

⁹¹ During the point-in-time of analysis of October 2020 data, there were 182 centers that were either “closed” or “unknown” status, totaling up to 6,000 child care slots. These slots are the upper bound of the additional need for New Hampshire families as it is possible that those centers with unknown status were operating. There were only 50 centers in New Hampshire that have been confirmed as permanently closed.

Reductions in capacity can be viewed geographically in order to see differential effects across the state:

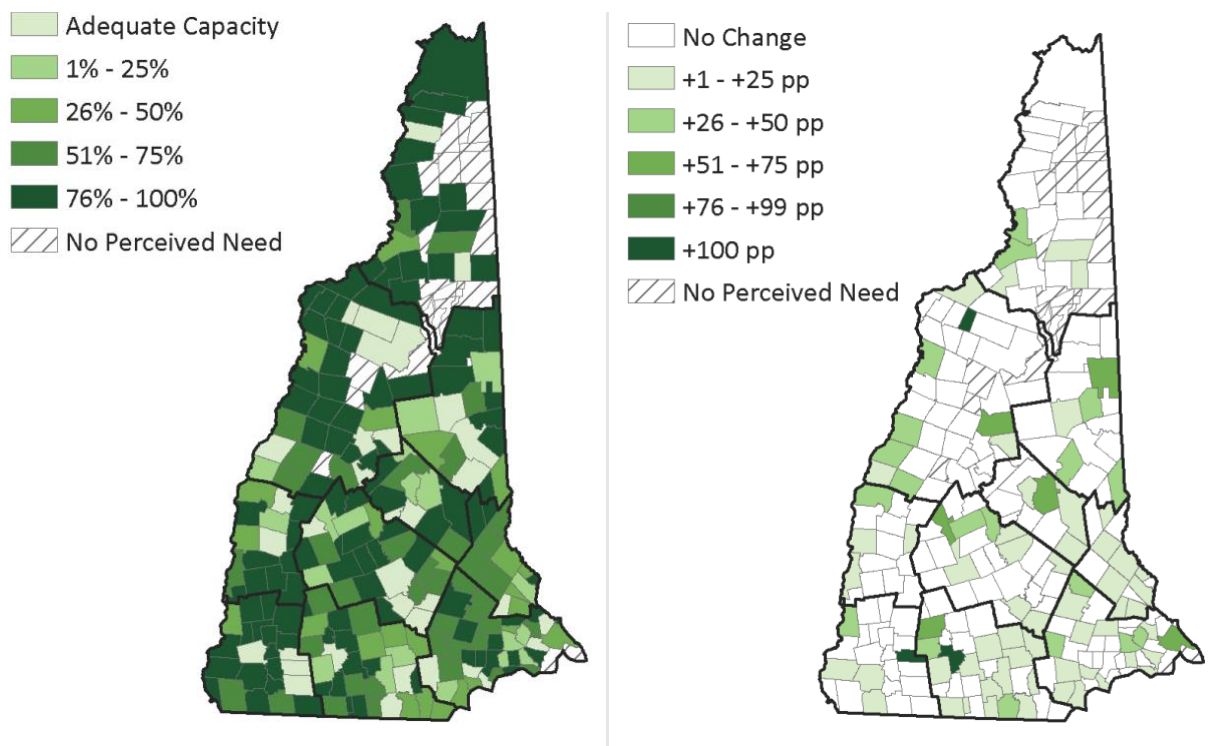
- Figure 3.10 displays slots that were temporarily or permanently closed as a result of COVID-19 as of October 2020.
- Figure 3.11 again displays unmet child care need by town prior to COVID-19, while Figure 3.12 shows the increase in percentage points in unmet need as a result of closures as of October 2020 in order to isolate the locations where the unmet child care need has increased by the greatest amount.

Figure 3.10: Licensed Child Care Facility Operating Status, October 2020



Source: Child Care Aware of New Hampshire (2020)

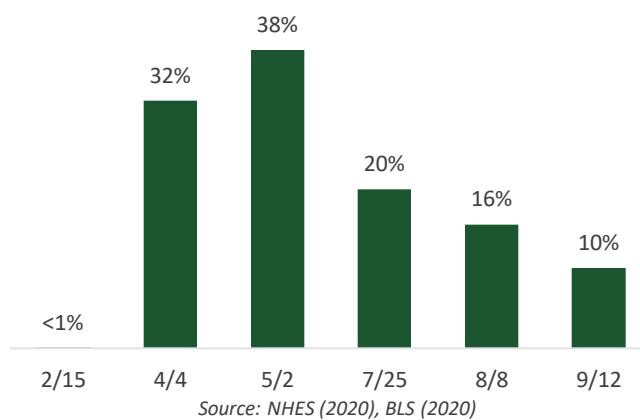
Figure 3.11: Unmet Need by Town (Pre-COVID) Figure 3.12: Change in Unmet Need by Town due to COVID-19 Closures



Source: Child Care Aware of New Hampshire (2020), U.S. Census Bureau (2018)

These closings also impact child care workers within the state. Nationally, only six percent of child care providers were able to access funds through the federal Paycheck Protection Program, with the industry receiving less than five percent of the distributed total funds.⁹² As of March 2020, there were approximately 5,700 employees working in child care centers in New Hampshire, and the unemployment rate was near zero (reflecting structural workforce shortage). As closures impacted the industry, the estimated unemployment rate in the child day care services sector grew as high as 38

Figure 3.13: Child Day Care Services Unemployment Rate, Feb - Sep 2020



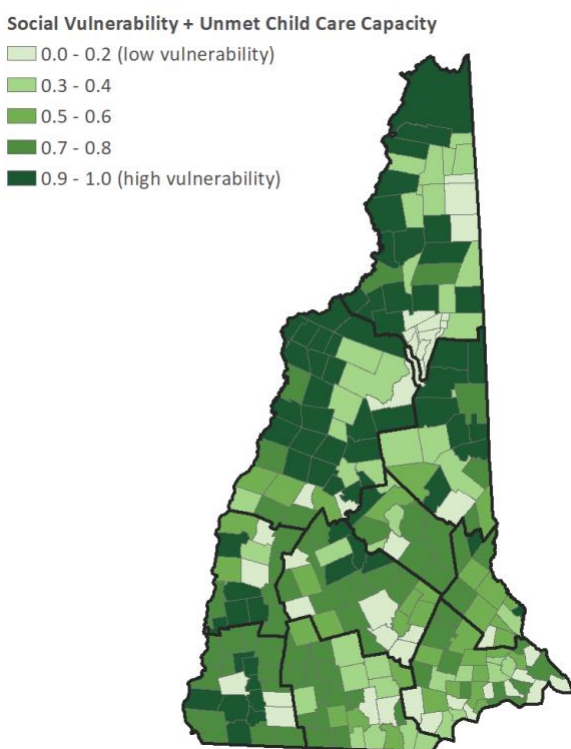
⁹² Simon Workman and Steven Jessen-Howard. (2020). The True Cost of Providing Safe Child Care During the Coronavirus Pandemic. Center for American Progress. <https://www.americanprogress.org/issues/early-childhood/reports/2020/09/03/489900/true-cost-providing-safe-child-care-coronavirus-pandemic/>

percent based on analysis of unemployment claims (see Figure 3.13).⁹³ By September 2020, that rate had fallen to 10 percent. In New Hampshire, the unemployment rate may have stabilized due to Child Care Recovery and Stabilization Program grants disbursed to child care providers via GOFERR.

Child care demand

The reduction in available slots means that alternative care arrangements may be needed for up to 6,000 children under six. While some parents will be able to coordinate care through flexible work schedules, informal family/friend networks, in-home care, or some alternative arrangement, numerous families may need to leave the workforce or reduce hours in order to care for children.

Figure 3.14: Social Vulnerability with Unmet Child Care Capacity (Oct 2020) by Town



Source: ESI (2020), NH DHHS (2019), Child Care Aware of New Hampshire (2020)

Areas with greater social vulnerability may also struggle to respond to reduced child care capacity as a result of the COVID-19 pandemic. Single parent households and low-income households with inadequate child care options may have limited financial or work flexibility to attain care. Towns in Carroll and Belknap Counties appear to have elevated levels of social vulnerability interacting with child care needs, along with communities across multiple counties along the western edge of the state.

Employed caregivers may have also seen disruptions to their work life and availability on a short- or long-term basis due to the disruptions in the availability of child care. A national survey from Morning Consult conducted in June 2020 among households with children under five asked families to describe the way in which they were providing care for children previously enrolled in formal child care.⁹⁴ While a majority had found some type of informal or alternative care arrangement, more than one-third indicated that they were addressing child care through a means

that impacted their availability for work. These approaches, highlighted in Figure 3.15, include alternating or shifting work hours, reducing hours, or taking paid or unpaid leave, represent 34 percent of responses.

⁹³ The unemployment claims analysis to estimate child day care services unemployment rates over time is based on the same methods of analysis detailed in Section 2 for labor market impacts.

⁹⁴ Linda Smith and Sara Tracey. (2020). Child Care in COVID-19: Another Look at What Parents Want. Bipartisan Policy Center. <https://bipartisanpolicy.org/blog/child-care-in-covid-another-look/>

Figure 3.15: Alternative Family Approaches to Providing Child Care

	Percent
A family member or relative is caring for my child at this time	32%
Continuing to use previous care arrangement	17%
Alternating work hours with someone in my household to provide child care	13%
Working fewer hours to provide child care	8%
Other	8%
Working outside of normal business hours to provide child care	5%
Hired informal care (such as a nanny or babysitter)	5%
Taking unpaid leave to provide child care	4%
Taking paid leave to provide child care	4%
A friend or neighbor is caring for my child at this time	3%

Source: Morning Consult National Survey (2020)

While supply impacts from the pandemic are relatively straightforward (reflected in provider closures and their impact on available capacity), the impacts on child care demand are more complex. Various factors such as unemployment, stay-at-home orders, health concerns, and new economic constraints could contribute to a potential decrease in overall demand for formal child care, at least on a short-term basis. On the other hand, factors like center closings, reduced reliance on informal caregivers, and desired re-entry into the labor force could potentially increase demand for formal care, of which there may be fewer options.

When families with children under five were asked by Morning Consult about their level of concern with various scenarios surrounding child care, the largest proportion expressed concern about exposure to the virus, suggesting a potential reduction in demand due to health concerns. However, around 50 percent cited concerns about availability (highlighted in gray in Figure 3.16 below), such as limited hours, closures, availability for all children, and affordability.

Figure 3.16: Level of Concern with Potential Issues Surrounding Child Care



	Very or somewhat	Not very or at all
My family will be more likely to be exposed to COVID-19	77%	17%
My child care arrangement will have limited hours	53%	38%
My child care arrangement will close	52%	38%
I will not be able to afford child care	51%	41%
I will not be able to find care for all of my children	48%	42%
My child's teacher will not be the same	45%	44%

Source: Morning Consult National Survey (2020)

The nuance of these competing and compounding factors, and their potential to shift over time as health, economic conditions, and household preferences change, makes analyzing the impact of the

pandemic on child care demand as a whole challenging. The Carsey School of Public Policy at the University of New Hampshire provided an analysis of the range of potential factors increasing or decreasing child care demand during the pandemic, which is reproduced as Figure 3.17 below.⁹⁵

Figure 3.17: Factors Influencing Child Care Demand during COVID-19

Factors Increasing Demand 	Factors Decreasing Demand 
Parents re-employed Reduced reliance on at-risk informal caregivers School age children out of school Concerns about socioemotional development	Parents unemployed Increased working from home and flexibility Domino effect of remote learning Increased preference for in-home care Health concerns Family economic constraints

Source: University of New Hampshire, Carsey School of Public Policy (2020)

School Age Children

In addition to the traditional population of young children in need of child care, school closures and remote schooling associated with the pandemic have created a new set of challenges for parents of school age children aged 6-12 and their ability to participate in the labor force. For the purposes of this report, the below analysis focuses on school closures as a significant barrier to work for New Hampshire families.⁹⁶

On March 15, 2020, Governor Sununu signed an emergency order closing all in-person public school instruction starting March 16. This order was ultimately carried through the end of the 2019-2020 school year. In August, the Governor extended and amended the order— permitting public schools to operate through in-person, remote, or hybrid schedules—for the 2020-2021 school year.

This approach enabled individual districts to define their approach to schooling for Fall 2020. While district-level plans evolved as conditions changed, analysis of the various approaches in different parts of the state (based on research into publicly-posted district plans) helped to shed light on the extent to which parents in the workforce may have been impacted by school closures and remote learning. This analysis focused on students at the elementary and middle school level, as children above 12 are assumed to require limited parental involvement with remote schooling.

Figure 3.18 shows the reopening status for districts across the state as of September 2020. Thirty-five percent of schools were classified as fully in-person while 13 percent were fully remote, and 46 percent had a hybrid schedule in place with a mix of in-person and remote learning.⁹⁷ As a result, parents in the

⁹⁵ Jess Carson and Marybeth Mattingly. (2020). COVID-19 Didn't Create a Child Care Crisis, But Hastened and Inflamed It. Carsey School of Public Policy. <https://carsey.unh.edu/publication/child-care-crisis-COVID-19>

⁹⁶ However, it is important to note that there are approximately 10,200 licensed "School Age Children" slots to care for children outside of school hours. As of October 2020, roughly 87 percent of licensed slots were temporarily or permanently closed.

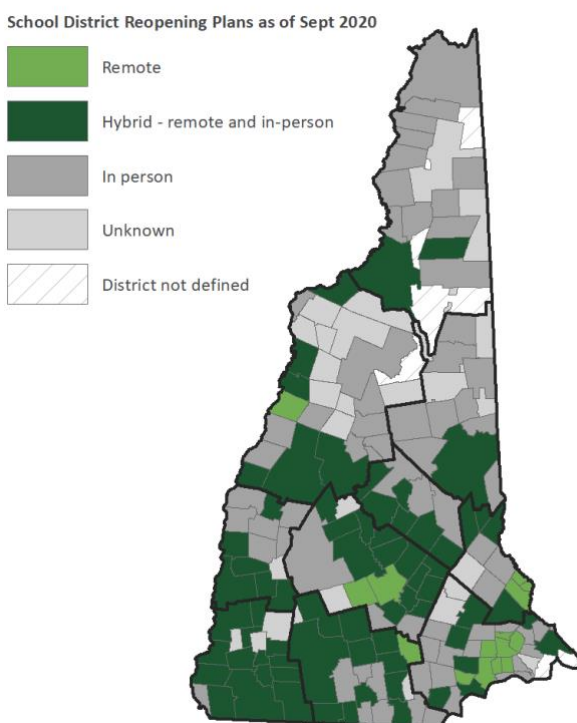
⁹⁷ Status for the remaining districts could not be defined based on publicly available information at the time of the analysis.

majority of districts (at least 59 percent) were dealing with the implications of partial or full-time remote learning at the start of the school year.

Next, enrollment data for elementary and middle school students within each of the remote or hybrid schools were combined with data on parental employment status within each school district to estimate which workers may be impacted by remote learning.⁹⁸

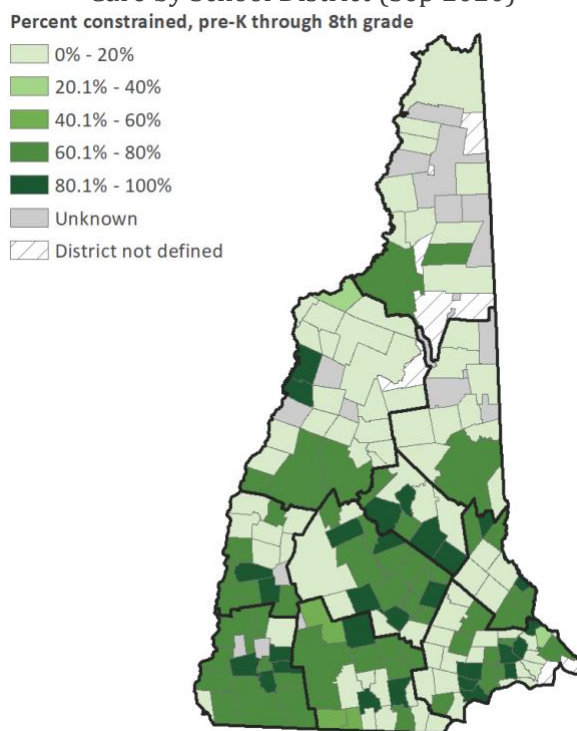
Figure 3.19 displays the proportion of households with K-8 children that are estimated to be constrained using this approach, while Figure 3.20 below aggregates this analysis by county. Across the state, it is estimated that nearly 58,000 students (49 percent), in an estimated 34,000 households, would need care during the time typically spent at school based on the remote or hybrid status of their school.

Figure 3.18: School District Reopening Status (Sep 2020)



Source: ESI (2020)

Figure 3.19: Est. School Age Children Needing Care by School District (Sep 2020)



Source: U.S. Census Bureau (2018), New Hampshire Department of Education (2019), ESI (2020)

Significant variation is seen in these proportions across different areas of the state, with districts in northern New Hampshire, where schools were more likely to be open for in-person learning, tending to have the lowest proportion of constrained families.

Districts in the southern portion of the state tended to have the highest proportion of constrained families, with the highest proportions seen in Cheshire (70 percent), Merrimack (66 percent), and

⁹⁸ The number of school age children was based on enrollment in elementary and middle schools as of October 2019. Parents were considered to be "constrained" if both parents were in the workforce in two-parent households, or one parent in the case of a single parent household.

Hillsborough (59 percent) Counties. Rockingham County, while located in the southeastern portion of the state, had a significant number of districts utilizing in-person learning as of September, as well as one of the lowest proportions of constrained families in the state (33 percent).

Figure 3.20: Estimated School Age Children Needing Care by County, 2020

County	Elementary & Middle School Students	Est. Students Needing Care	Percent Needing Care
Hillsborough	36,414	21,472	59%
Rockingham	28,354	9,398	33%
Merrimack	12,938	8,584	66%
Cheshire	7,224	5,051	70%
Strafford	10,359	4,371	42%
Grafton	7,150	2,592	36%
Sullivan	5,159	2,085	40%
Belknap	3,407	1,931	57%
Carroll	4,639	1,191	26%
Coos	2,502	1,040	42%
Total	118,146	57,717	49%

Source: U.S. Census Bureau (2018), New Hampshire Department of Education (2019), ESI (2020)

Implications for Families

These alternate school schedules add new constraints to families around the country who are now faced with finding care for their school age children. Nationwide, 45 percent of families indicated that one of the parents within the household would provide care for their school age children while 38 percent of families reported they would need outside care should schools not open for full-time, in-person instruction. Of these families needing outside care, 75 percent noted that they would not be able to afford to pay for additional care.⁹⁹ The burden of caregiving falls disproportionately on women, highlighted by job gains over the summer that mostly benefited men.¹⁰⁰

Reasons for unemployment cited in the claims data reviewed in Section 2 indicate that approximately six percent of total New Hampshire unemployment across the course of the pandemic has been attributable to school closings. Nearly four-fifths of these claimants (79 percent) were women.

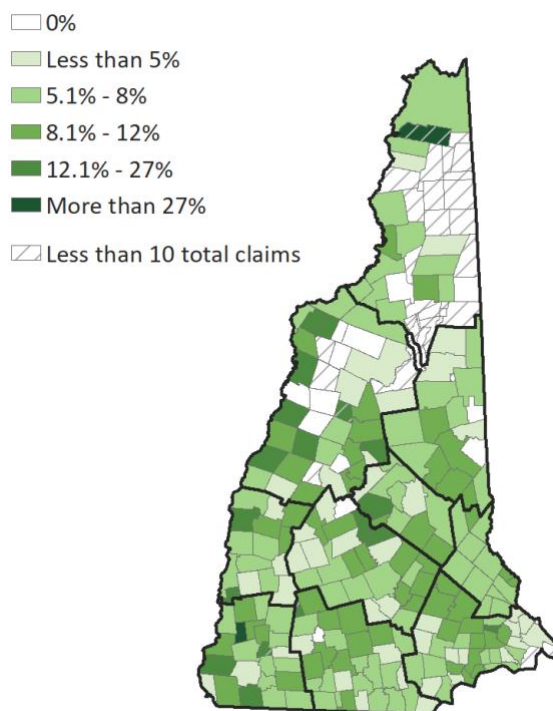
⁹⁹ Linda Smith and Sara Tracey. (2020). Child Care in COVID-19: Another Look at What Parents Want. Bipartisan Policy Center. <https://bipartisanpolicy.org/blog/child-care-in-covid-another-look/>

¹⁰⁰ Michael Madowitz and Diana Boesch. (2020). The Shambolic Response to the Public Health and Economic Crisis has Women on the Brink as the Job Recovery Stalls. Center for American Progress. <https://www.americanprogress.org/issues/economy/reports/2020/10/22/492179/shambolic-response-public-health-economic-crisis-women-brink-job-recovery-stalls/>

Figure 3.21 maps the proportion of unemployment claims attributable to school closings by town as of September 2020. Patterns are generally consistent with the analysis of school status undertaken above, with higher concentrations in the southern, western, and south-central portions of the state.

Finally, it is important to note that single parents face a near-impossible choice balancing the need to care for their children while also needing to generate income to support their families. While the Families First Coronavirus Recovery Act (FFCRA) requires certain employers to allow their employees up to 12 weeks of partially paid leave to care for a child whose school or child care provider has closed, up to 106 million private sector workers do not qualify for this leave, and the provision expired on December 31, 2020.¹⁰¹ As health challenges continue, and are likely to stretch well into 2021, temporary leave may be insufficient for working families whose children need care, and women could continue to be re-employed at lower rates than men.

Figure 3.21: “School Closing” as Reason for Unemployment by Town (Sep 2020)



Source: NHES (2020), ESI (2020)

3.3. Potential Impacts on Labor Availability and Productivity

The issues surrounding child care are not isolated to New Hampshire. Across the country, the lack of adequate care has been shown to reduce productivity, decrease hours of work, and diminish career opportunities for parents.^{102,103} Expanding access to affordable child care is essential for maintaining parental workforce attachment, especially for mothers. While estimates of the size of the relationship between child care costs and employment vary across studies, the research literature is clear that decreasing child care costs results in increased employment, with larger effects evident for low-income and single mothers.¹⁰⁴ It also important to sustain and increase supports to child care providers to

¹⁰¹ Diana Boesch. (2020). The Urgent Case for Permanent Paid Leave. Center for American Progress.

<https://www.americanprogress.org/issues/women/reports/2020/09/01/489914/urgent-case-permanent-paid-leave/>

¹⁰² Clive Belfield. (2018). The Economic Impacts of Insufficient Child Care on Working Families. Ready Nation.

https://stron.gation.s3.amazonaws.com/documents/522/3c5cd46-eda2-4723-9e8e-f20511cc9f0f.pdf?1542205790&inline;%20filename=%22The%20Economic%20Impacts%20of%20Insufficient%20Child%20Care%20on%20Working%20Families.pdf%22

¹⁰³ Forry, N.D., & Hofferth, S.L. (2011). Maintaining Work: The Influence of Child Care Subsidies on Child Care—Related Work Disruptions. *Journal of Family Issues*, 32(3), 346-368

¹⁰⁴ Han and Waldfogel. (2001). <https://onlinelibrary.wiley.com/doi/abs/10.1111/0038-4941.00042>

Morrissey, T. W. (2017). Child care and parent labor force participation: a review of the research literature. *Review of Economics of the Household*, 15(1), 1-24. <https://link.springer.com/article/10.1007/s11150-016-9331-3>

ensure an adequate supply of high-quality child care options. Since improved productivity and increased hours of work are the two primary ways in which economies experience growth, access to affordable child care has important implications for the economy as a whole.

Child care challenges translate into real costs for working parents, businesses, and taxpayers. A 2019 national study estimated that working parents lose an average of \$3,350 in earnings annually, while businesses lose \$1,150 through recruitment and lost revenue costs.¹⁰⁵ Through this reduced activity, the tax base is lowered by \$630 per working parent through reduced income tax. In sum, it is estimated that the United States' child care crisis costs roughly \$57 billion annually due to lost earnings, productivity, and revenue.

Conversely, investments in early learning have been shown to improve local businesses, create jobs, and grow the overall economy. One study found that for every \$1 invested in pre-K in Pennsylvania, there is a \$1.79 increase in new spending in the state.¹⁰⁶ The return on investment can be even higher, estimated in one study as between \$4-\$9 and \$7-\$12 in another study for each dollar spent on high quality early childhood programs.¹⁰⁷ In addition, the availability of affordable child care may attract and retain skilled workers for businesses in a region or state. In a survey conducted prior to the pandemic, nearly one in five parents reported that they quit a job, school, or training activity or that they were unable to take a job or participate in education or training because of problems arranging for child care.¹⁰⁸

These national benchmarks can inform order of magnitude estimates of the economic loss in New Hampshire associated with the child care constraints from COVID-19 reviewed above.

Potential Economic Impact of COVID-Related Child Care Issues

As illustrated, child care constraints already present in New Hampshire have been further exacerbated by the pandemic. While the most impactful scenarios resulted in a complete exit of the labor market, numerous families have also reduced or altered their participation in the workforce. Even for those families that are able to retain employment and work from home, reduced productivity resulting from balancing work and home responsibilities can have negative impacts on the state economy. The potential economic magnitude of these issues is explored in turn below.

Marcia Meyes et al. (2002). Child care subsidies and the employment of welfare recipients.

<https://link.springer.com/article/10.1353/dem.2002.0008>

Ruppanner, Moller, & Sayer. 2019. <<https://journals.sagepub.com/doi/10.1177/2378023119860277>>

¹⁰⁵ (2018). Want to Grow the Economy? Fix the Child Care Crisis. Ready Nation.

[https://strongnation.s3.amazonaws.com/documents/602/83bb2275-ce07-4d74-bcee-](https://strongnation.s3.amazonaws.com/documents/602/83bb2275-ce07-4d74-bcee-ff6178daf6bd.pdf?1547054862&inline;filename=Want%20to%20Grow%20the%20Economy?%20Fix%20the%20Child%20Care%20Crisis.pdf%22)

[ff6178daf6bd.pdf?1547054862&inline;filename=Want%20to%20Grow%20the%20Economy?%20Fix%20the%20Child%20Care%20Crisis.pdf%22](https://strongnation.s3.amazonaws.com/documents/602/83bb2275-ce07-4d74-bcee-ff6178daf6bd.pdf?1547054862&inline;filename=Want%20to%20Grow%20the%20Economy?%20Fix%20the%20Child%20Care%20Crisis.pdf%22)

¹⁰⁶ (2014). Strengthening Pennsylvania Businesses through Investments in Pre-Kindergarten. ReadyNation. <http://www.prekforpa.org/wp-content/uploads/2014/04/PA-Multiplier-Report-4-25-14.pdf>

¹⁰⁷ <https://www.impact.upenn.edu/early-childhood-toolkit/why-invest/what-is-the-return-on-investment/>

¹⁰⁸ Karoly, L. & Steiner, E., et al. (2020). Understanding the New Hampshire Birth through Five System.

https://mypages.unh.edu/sites/default/files/pdg/files/nh_b-5_needs_assessment_pdg.pdf

CARES Unemployment due to School Closure

Throughout the course of the pandemic, nearly 8,500 New Hampshire individuals have listed their reason for unemployment as a school closure. During the peak of the pandemic, roughly 6,300 of these individuals were unemployed.

In income terms, these individuals were temporarily better off due to the \$600 weekly federal unemployment supplement through the CARES Act, which increased their total weekly take-home pay from roughly \$2.3 million to \$5.3 million. However, as the supplemental pandemic payments sunsetted, 3,300 individuals remained unemployed due to school closures. Since the expiration of the supplemental payments in July, these individuals are worse off in aggregate, with an estimated aggregate income of \$735,000 through state unemployment payments rather than the \$1.1 million they would have earned, a 33 percent reduction. This weekly reduction of \$375,000 in take home pay affects more than the families unemployed because of closures, as it reduces the disposable income that these households have to spend, which spills over to reductions in demand for New Hampshire businesses.

School closure-related unemployment also has a substantial impact on New Hampshire's GDP. While state unemployment payments help households meet their basic needs, from a measurement standpoint they are internal transfers within the New Hampshire economy. From an economic productivity standpoint, the full salary loss from these unemployed workers (which totals \$1.34 million per week on a pre-tax basis) represents lost productivity from labor that is not taking place, reducing New Hampshire's overall GDP. Extrapolating these weekly impacts across the course of the fall semester (15 weeks) produces a total GDP loss of about \$20 million, which would grow to \$56 million across the full school year (assuming 42 weeks), from the unavailability of these unemployed workers.

Reduced participation / productivity due to remote learning

Beyond the individuals that left the workforce at some point due to school closures, numerous families are finding ways to continue their participation in the labor force while simultaneously caring for their school age children. However, these households may not be able to sustain the same number of hours or overall productivity as before the pandemic due to their child care responsibilities. Like unemployment associated with school closures, gender disparities are evident in the impact of these care responsibilities on availability for work. A June 2020 survey found that for households with school age children (6-12) in which both parents were able to telework, women reduced their hours by an average of 1.8 hours per week, while men reduced their hours by 0.2 hours per week.¹⁰⁹

Analysis of school district plans as of September 2020 undertaken above estimate that the parents of nearly 58,000 elementary and middle-school students faced workforce constraints due to remote or hybrid schooling. Based on the average of 1.73 students per household, an estimated 34,000 households are potentially impacted, only a small portion of which are captured in the 3,300 workers unemployed due to schooling constraints. Conservatively assuming that all of these households are able to telework and suffer only combined loss of 2 hours per week suggested by the survey data above, the productivity

¹⁰⁹ Caitlyn Collins et al. (2020). COVID-19 and the gender gap in work hours. *Feminist Frontiers*.
<https://onlinelibrary.wiley.com/doi/epdf/10.1111/gwao.12506>

loss from this lost time (based on new Hampshire's median wage of around \$20) totals around \$1 million per week.

Extrapolating these weekly impacts across the course of the fall semester produces a GDP loss of about \$15 million, which would grow to \$42 million across the full school year, from the reduced availability of these workers due to remote schooling. This estimate is conservative in that it accounts only for the number of hours lost assuming a two-parent household. For the 32 percent of households with a single adult in the labor market, it is expected that the number of hours lost would be greater.

Reduced participation / productivity due to child care (children under six)

As of October 2020, there were up to 6,000 child care slots either temporarily or permanently closed requiring parents to find alternative care arrangements for their children.¹¹⁰ Survey data reviewed above indicates that 42 percent of households unable to use their previous care arrangement compensated by altering their workforce participation (through fewer hours, alternating work hours with another household member, working outside normal hours, or taking paid or unpaid leave to provide care). Applying this share to the reduction in slots indicates that approximately 2,500 households would need to provide care for their young children while working. Productivity losses for guardians of children under five during the pandemic are estimated at 2.3 hours per week, with women again bearing the majority of that average loss (1.8 hours).¹¹¹

Applying this loss to each of the households suggests an economic loss of about \$115,000 per week to the state economy (down from more than \$600,000 per week using the same assumptions during the height of the pandemic when only roughly 5 percent of licensed capacity was open). This approach is highly conservative, since it assumes only a modest loss of availability for each household, when, as indicated by unemployment data, some parents have had to take leave entirely. In addition, as discussed throughout this report, the lack of available and affordable child care is a major constraint to workforce participation overall, with the reduction in slots exacerbating the problems of families who did not have satisfactory care arrangements prior to COVID.

¹¹⁰ During the point-in-time of analysis of October 2020 data, there were 182 centers that were either "closed" or "unknown" status, totaling up to 6,000 child care slots. These slots were the upper bound of the additional need for New Hampshire families as it is possible that those centers with unknown status were operating. There were only 50 centers in New Hampshire that have been confirmed as permanently closed.

¹¹¹ *Ibid*

3.4. Licensed Child Care Gap Analysis by Town Typology

Prior to the pandemic, New Hampshire had an unmet need for licensed child care for children under six of 39 percent (approximately 21,000 slots). By October, the potential addition of 6,000 temporarily or permanently closed licensed slots increased the statewide unmet need to roughly 50 percent.

Figure 3.22 below calculates by town typology the average proportion of child care need for children under six that is unmet by licensed capacity pre-COVID and as of October 2020. Differentials at both points in time are evident by geographic, economic, and social characteristics. The strongest correlate is a negative relationship between population density and unmet need.

- Unmet need was highest in communities with lower population density, approaching 80 percent in the lowest density communities pre-COVID and in all communities below the median density as of October 2020.
- At the county level, the highest rate of unmet need was seen in Coos County, while the largest increases from pre-COVID levels were seen in Carroll, Coos, and Grafton Counties.
- Communities reliant on the Leisure and Hospitality industry had the highest levels of unmet need, both pre-COVID and as of October 2020, with levels also elevated in goods-producing communities.
- Social vulnerability was only modestly correlated with the unmet need, while median income did not show a clear relationship.

Figure 3.22: Percent of Unmet Child Care Need, by Typology, 2020

	Pre-COVID	October 2020	Net Increase
New Hampshire	39%	50%	11%
County			
Belknap	37%	47%	10%
Carroll	24%	52%	27%
Cheshire	48%	56%	8%
Coos	52%	71%	20%
Grafton	40%	59%	19%
Hillsborough	40%	51%	11%
Merrimack	28%	39%	11%
Rockingham	40%	51%	11%
Strafford	40%	45%	5%
Sullivan	50%	56%	6%
Density			
Low	78%	82%	4%
Mid-Low	61%	77%	16%
Mid-High	59%	69%	10%
High	30%	41%	11%
Income			
Low	35%	46%	11%
Mid-Low	42%	49%	7%
Mid-High	43%	57%	14%
High	36%	48%	12%
Social Vulnerability Index			
Low	39%	50%	11%
Mid-Low	37%	48%	11%
Mid-High	38%	50%	11%
High	43%	55%	12%
Industry Concentration			
Education & Health Services	33%	45%	11%
Goods-producing	49%	59%	10%
Leisure & Hospitality	61%	69%	7%
Trade, Transport, Utilities	43%	57%	14%
Other	8%	13%	6%

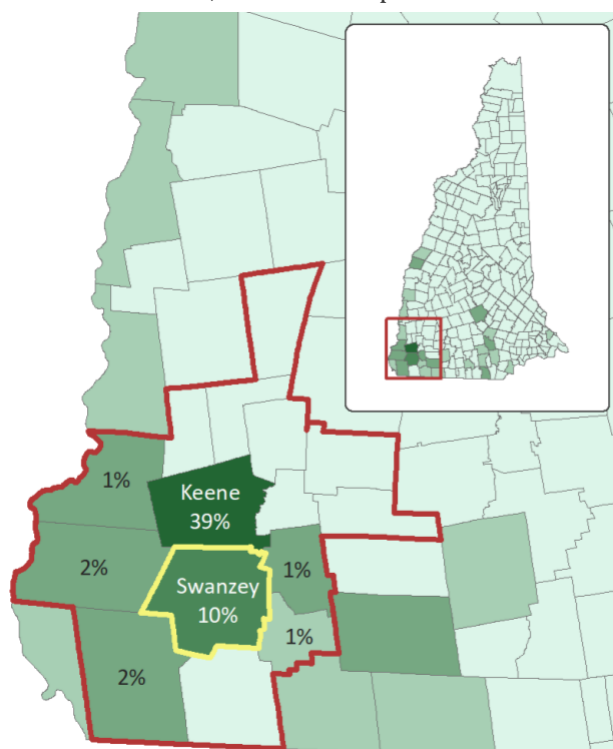
Source: ESI (2020), Child Care Aware of America (2020)

Analyzing Unmet Need for Child Care by Town and Labor Market Areas

The spatial analysis of child care need becomes more nuanced to interpret at each subsequent level of geography. State and county level analyses provide fairly reliable estimates of child care need relative to supply, though families near state and county borders may be using providers outside of their home geographies. This potential outflow across geographical borders may reduce the unmet need in practice (or increase it where an inflow is present). When analyzing this metric at the town level, these cross-border issues increase, particularly for smaller communities, where scale may dictate that providers can serve the needs of multiple communities. Therefore, it is important to look more closely at the relationships between jurisdictions to understand if needs are being met within neighboring communities.

A logical link between communities to consider in the analysis of child care need is the labor market area (LMA), which is “an economically integrated area within which individuals can reside and find employment within a reasonable distance or can readily change jobs without changing their place of residence.”¹¹² If an LMA represents the reasonable distance a resident is likely to commute for work, then it is likely similar to the reasonable distance (and direction) that one might travel for child care while working. Therefore, the child care capacity of a town’s corresponding LMA should also be considered when analyzing each town’s unmet child care need.

Figure 3.23: Employment Location for Swanze y Residents, Keene Micropolitan LMA



Source: U.S. Census Bureau (2018), ESI (2020)

For example, Swanze y in Cheshire County has approximately 82 percent unmet need for its nearly 400 children under the age of six. However, approximately 39 percent of working residents of Swanze y, which is located in the Keene Micropolitan LMA, work in adjacent Keene. Just 10 percent of working residents live and work in Swanze y, while nearly half work in a different town within the LMA (see Figure 3.23). The child care capacity for the entire LMA (approximately 46 percent) is thus another relevant measure of Swanze y’s unmet need for care.

Each town in New Hampshire belongs to one LMA, meaning the LMA-level unmet child care need can be calculated by aggregating the number of licensed slots and number of children needing care by town within each LMA. Figure 3.24 displays the unmet need prior to COVID-19 for each LMA.

¹¹² (n.d.). Local Area Unemployment Statistics FAQs. <https://www.bls.gov/lau/laufaq.htm#Q06>

Figure 3.24: Child Care Need by Labor Market Area, Pre-COVID and as of October 2020

Labor Market Area	# Towns	Children Needing Care	Pre-COVID Unmet Need	Oct 2020 Unmet Need
Haverhill NH	4	217	68%	87%
Raymond NH	4	1,118	79%	85%
Littleton NH-VT	17	1,052	67%	83%
Charlestown NH	5	416	56%	74%
Belmont NH	4	694	67%	73%
Berlin NH Micro NECTA	7	470	51%	73%
Hillsborough NH	6	673	72%	72%
Conway NH-ME	25	731	32%	72%
Franklin NH	5	1,000	51%	69%
Peterborough NH	11	848	55%	66%
Newport NH	4	487	55%	58%
Claremont NH Micro NECTA	2	627	51%	58%
Haverhill-Newburyport-Amesbury MA-NH NECTA Div	13	2,431	49%	55%
Keene NH Micro Brattleboro VT-NH ¹¹³	16	2,516	46%	54%
Meredith NH	4	548	53%	53%
Plymouth NH	17	843	37%	51%
Portsmouth NH-ME Metro NECTA	13	4,010	35%	49%
Nashua NH-MA NECTA Div				
Lowell-Billerica-Chelmsford MA-NH NECTA Div	21	13,710	37%	48%
Lawrence-Methuen-Salem MA-NH NECTA Div ¹¹⁴				
Lebanon NH-VT Micro NECTA	14	1,578	24%	47%
Manchester NH Metro NECTA	11	9,640	36%	46%
Dover-Durham NH-ME Metro NECTA	13	4,747	40%	45%
Laconia NH Micro NECTA	2	847	17%	38%
New London NH	8	449	24%	35%
Concord NH Micro NECTA	12	3,740	20%	31%
Wolfeboro NH	6	543	12%	30%
Colebrook NH-VT	15	84	0%	0%

Source: U.S. Census Bureau (2018), Child Care Aware of America (2020), NHES (2020)

¹¹³ Due to interstate crossovers, three LMAs contained only one town each from New Hampshire. For the purposes of the child care gap analysis by town, these LMAs and their corresponding towns were combined with adjacent, larger LMAs. Brattleboro VT-NH LMA was combined with Keene NH Micropolitan LMA, while Lowell-Billerica-Chelmsford MA-NH and Lawrence-Methuen-Salem MA-NH NECTA Divisions were combined with Nashua NH-MA NECTA Division.

¹¹⁴ See above.

To incorporate both the individual town-level unmet need and the broader LMA unmet need, the two metrics were multiplied to produce a weighted unmet need percentage per town. Then, the measure was normalized by calculating each town's share of its LMA's total children in need of care, which was then multiplied by the weighted unmet need. This calculation produced a normalized measure by which towns were sorted from most in need of care to least. Figure 3.25 displays the top 50 towns in terms of child care need prior to the pandemic, as well as each town's typology detail.

When analyzing the top towns in need of child care by their typologies, a few insights emerge:

- 23 of the top towns in need of child care (46 percent) were located in one of three counties:
 - Cheshire County (16 percent);
 - Rockingham County (16 percent); or
 - Grafton County (14 percent);
- 31 towns (62 percent) had low or mid-low median household income levels; and
- 20 towns (40 percent) relied heavily on the Education and Health Services industry for employment.

Figure 3.25: Highest Unmet Child Care Need with Typology Detail, Pre-COVID

Town	County	Density	Income	SVI	Emp Comp	Children Needing Care	% LMA Children	Pre-COVID	
								Town Unmet Need	LMA Unmet Need
Raymond	Rockingham	High	Mid-High	Low	Trade, Transport, Utilities	606	54%	87%	79%
Claremont	Sullivan	High	Low	Mid-High	Trade, Transport, Utilities	614	98%	50%	51%
Henniker	Merrimack	Mid-High	High	Low	Educ & Health Services	336	50%	66%	72%
Sunapee	Sullivan	Mid-High	Mid-Low	Mid-Low	Educ & Health Services	217	45%	85%	55%
Berlin	Coos	Mid-High	Low	High	Educ & Health Services	309	66%	62%	51%
Gilmanton	Belknap	Mid-Low	Mid-Low	Mid-Low	Educ & Health Services	212	31%	100%	67%
Littleton	Grafton	Mid-High	Low	High	Trade, Transport, Utilities	383	36%	78%	67%
Bath	Grafton	Low	Low	High	Educ & Health Services	59	27%	100%	68%
Northfield	Merrimack	Mid-High	Mid-Low	Mid-High	Goods-producing	350	35%	97%	51%
Meredith	Belknap	Mid-High	Mid-Low	Mid-High	Leisure & Hospitality	292	53%	51%	53%
Charlestown	Sullivan	Mid-High	Low	Mid-High	Goods-producing	183	44%	57%	56%
Alton	Belknap	Mid-High	Mid-High	Mid-Low	Trade, Transport, Utilities	161	23%	87%	67%
Monroe	Grafton	Mid-Low	Mid-Low	High	Goods-producing	43	20%	100%	68%
Haverhill	Grafton	Mid-High	Low	High	Educ & Health Services	113	52%	38%	68%
Rindge	Cheshire	Mid-High	Mid-High	Mid-Low	Trade, Transport, Utilities	196	23%	95%	55%
Hillsborough	Hillsborough	Mid-High	Mid-High	Mid-Low	Goods-producing	185	27%	59%	72%
Nottingham	Rockingham	Mid-High	High	Low	Educ & Health Services	269	24%	61%	79%
Barnstead	Belknap	Mid-High	Mid-High	Mid-Low	Educ & Health Services	175	25%	65%	67%
Deerfield	Rockingham	Mid-High	High	Mid-Low	Goods-producing	159	14%	90%	79%
Franklin	Merrimack	High	Low	Mid-High	Goods-producing	374	37%	48%	51%
New Hampton	Belknap	Mid-Low	Mid-Low	Mid-High	Educ & Health Services	91	17%	100%	53%
Stoddard	Cheshire	Low	Mid-High	Mid-Low	Other	78	12%	100%	72%
Manchester	Hillsborough	High	Low	High	Educ & Health Services	5,180	54%	40%	36%
Lempster	Sullivan	Mid-Low	Mid-Low	Mid-High	Goods-producing	66	14%	100%	55%
Walpole	Cheshire	Mid-High	Mid-High	Mid-Low	Goods-producing	147	35%	31%	56%
Swanzey	Cheshire	Mid-High	Mid-Low	Mid-High	Trade, Transport, Utilities	397	16%	82%	46%
Kingston	Rockingham	High	High	Low	Educ & Health Services	348	14%	80%	49%
Fitzwilliam	Cheshire	Mid-Low	Mid-Low	Mid-High	Trade, Transport, Utilities	117	14%	71%	55%
Thornton	Grafton	Mid-Low	Mid-Low	High	Educ & Health Services	131	16%	93%	37%
Sandown	Rockingham	High	High	Low	Goods-producing	337	14%	78%	49%
Northumberland	Coos	Mid-Low	Low	High	Educ & Health Services	152	14%	54%	67%
Bethlehem	Grafton	Low	Low	High	Educ & Health Services	79	8%	100%	67%
Deering	Hillsborough	Mid-Low	Mid-Low	Low	Educ & Health Services	46	7%	100%	72%
Ashland	Grafton	Mid-High	Low	High	Educ & Health Services	108	13%	100%	37%
Milan	Coos	Low	Low	High	Goods-producing	43	9%	100%	51%
Whitefield	Coos	Mid-Low	Low	High	Educ & Health Services	91	9%	80%	67%
Moultonborough	Carroll	Mid-Low	Mid-Low	Mid-High	Leisure & Hospitality	150	27%	32%	53%
Alstead	Cheshire	Mid-Low	Low	Mid-Low	Educ & Health Services	34	8%	100%	56%
New Ipswich	Hillsborough	Mid-High	Mid-High	Mid-Low	Goods-producing	107	13%	65%	55%
Bennington	Hillsborough	Mid-High	Mid-Low	Mid-Low	Goods-producing	69	8%	100%	55%
Nashua	Hillsborough	High	Mid-High	Mid-High	Trade, Transport, Utilities	3,820	28%	42%	37%
Winchester	Cheshire	Mid-High	Low	Mid-High	Goods-producing	313	12%	73%	46%
Sanbornton	Belknap	Mid-Low	Mid-High	Mid-High	Leisure & Hospitality	101	10%	78%	51%
Hampton	Rockingham	High	Mid-High	Low	Leisure & Hospitality	485	12%	91%	35%
Goshen	Sullivan	Mid-Low	Mid-Low	Mid-Low	Other	34	7%	100%	55%
Langdon	Sullivan	Mid-Low	Mid-High	Mid-High	Educ & Health Services	28	7%	100%	56%
Chesterfield	Cheshire	Mid-High	Mid-Low	Mid-High	Trade, Transport, Utilities	221	9%	91%	46%
Northwood	Rockingham	Mid-High	High	Low	Educ & Health Services	84	8%	61%	79%
Carroll	Coos	Low	Low	High	Leisure & Hospitality	55	5%	100%	67%
Newton	Rockingham	High	High	Low	Goods-producing	228	9%	75%	49%

Source: ESI (2020), U.S. Census Bureau (2018), Child Care Aware of America (2020)

As previously stated, New Hampshire's unmet child care need changed from 39 percent to roughly 50 percent by October 2020, due to the temporary or permanent loss of up to 6,000 licensed slots statewide. Analyzing unmet child care need as of October 2020 by town can both reinforce existing findings from the pre-COVID unmet need analysis, as well as reveal new findings, suggesting that the pandemic may have contributed to worsening unmet needs for child care in certain areas. Figure 3.26 displays the top 50 towns in terms of child care need as of October 2020, as well as each town's typology detail.

Of the top 50 towns with unmet need as of October 2020, some insights persisted from the pre-COVID analysis:

- 25 towns (50 percent) were located in one of three counties:
 - Grafton County (increased from 14 to 20 percent);
 - Belknap County (16 percent); or
 - Rockingham County (decreased from 16 to 14 percent);
- 31 towns (62 percent) had low or mid-low median household income levels; and
- 23 towns (46 percent, increased from 40 percent pre-COVID) relied heavily on the Education and Health Services industry for employment.

Additional insights regarding the top 50 towns with unmet child care need as of October 2020 include:

- 16 towns (32 percent) had high social vulnerability, whereas the pre-COVID social vulnerability distribution was more evenly represented among the top 50 towns; and
- 8 towns (16 percent) appeared among the top 50 towns with unmet child care need as of October 2020 but not during the pre-COVID period of analysis. These towns are highlighted in Figure 3.26.
- Perhaps the most noteworthy newcomer to the list is Conway, which rose from a ranking of 53 before COVID to five in the October 2020 period, with unmet need in the town increasing from 21 percent to 83 percent for its approximately 360 children in need of care.

Figure 3.26: Highest Unmet Child Care Need with Typology Detail, October 2020

Town	County	Density	Income	SVI	Emp Comp	Children Needing Care	% LMA Children	Oct 2020	
								Town Unmet Need	LMA Unmet Need
Raymond	Rockingham	High	Mid-High	Low	Trade, Transport, Utilities	606	54%	90%	85%
Berlin	Coos	Mid-High	Low	High	Educ & Health Services	309	66%	82%	73%
Haverhill	Grafton	Mid-High	Low	High	Educ & Health Services	113	52%	74%	87%
Claremont	Sullivan	High	Low	Mid-High	Trade, Transport, Utilities	614	98%	57%	58%
Conway	Carroll	Mid-High	Low	High	Trade, Transport, Utilities	357	49%	83%	72%
Littleton	Grafton	Mid-High	Low	High	Trade, Transport, Utilities	383	36%	93%	83%
Northfield	Merrimack	Mid-High	Mid-Low	Mid-High	Goods-producing	350	35%	100%	69%
Franklin	Merrimack	High	Low	Mid-High	Goods-producing	374	37%	93%	69%
Henniker	Merrimack	Mid-High	High	Low	Educ & Health Services	336	50%	66%	72%
Bath	Grafton	Low	Low	High	Educ & Health Services	59	27%	100%	87%
Sunapee	Sullivan	Mid-High	Mid-Low	Mid-Low	Educ & Health Services	217	45%	91%	58%
Gilmanton	Belknap	Mid-Low	Mid-Low	Mid-Low	Educ & Health Services	212	31%	100%	73%
Charlestown	Sullivan	Mid-High	Low	Mid-High	Goods-producing	183	44%	64%	74%
Walpole	Cheshire	Mid-High	Mid-High	Mid-Low	Goods-producing	147	35%	71%	74%
Monroe	Grafton	Mid-Low	Mid-Low	High	Goods-producing	43	20%	100%	87%
Alton	Belknap	Mid-High	Mid-High	Mid-Low	Trade, Transport, Utilities	161	23%	100%	73%
Barnstead	Belknap	Mid-High	Mid-High	Mid-Low	Educ & Health Services	175	25%	80%	73%
Rindge	Cheshire	Mid-High	Mid-High	Mid-Low	Trade, Transport, Utilities	196	23%	95%	66%
Meredith	Belknap	Mid-High	Mid-Low	Mid-High	Leisure & Hospitality	292	53%	51%	53%
Nottingham	Rockingham	Mid-High	High	Low	Educ & Health Services	269	24%	61%	85%
Deerfield	Rockingham	Mid-High	High	Mid-Low	Goods-producing	159	14%	100%	85%
Hillsborough	Hillsborough	Mid-High	Mid-High	Mid-Low	Goods-producing	185	27%	59%	72%
Manchester	Hillsborough	High	Low	High	Educ & Health Services	5,180	54%	46%	46%
Madison	Carroll	Mid-Low	Mid-Low	High	Educ & Health Services	107	15%	100%	72%
Northumberland	Coos	Mid-Low	Low	High	Educ & Health Services	152	14%	80%	83%
New Hampton	Belknap	Mid-Low	Mid-Low	Mid-High	Educ & Health Services	91	17%	100%	53%
Stoddard	Cheshire	Low	Mid-High	Mid-Low	Other	78	12%	100%	72%
Swanzy	Cheshire	Mid-High	Mid-Low	Mid-High	Trade, Transport, Utilities	397	16%	95%	54%
Nashua	Hillsborough	High	Mid-High	Mid-High	Trade, Transport, Utilities	3,820	28%	60%	48%
Lempster	Sullivan	Mid-Low	Mid-Low	Mid-High	Goods-producing	66	14%	100%	58%
Gilford	Belknap	Mid-High	Mid-High	Mid-High	Trade, Transport, Utilities	236	28%	72%	38%
Thornton	Grafton	Mid-Low	Mid-Low	High	Educ & Health Services	131	16%	93%	51%
Whitefield	Coos	Mid-Low	Low	High	Educ & Health Services	91	9%	100%	83%
New Ipswich	Hillsborough	Mid-High	Mid-High	Mid-Low	Goods-producing	107	13%	84%	66%
Campton	Grafton	Mid-Low	Mid-Low	High	Leisure & Hospitality	130	15%	87%	51%
Milan	Coos	Low	Low	High	Goods-producing	43	9%	100%	73%
Laconia	Belknap	High	Low	Mid-High	Educ & Health Services	611	72%	24%	38%
Ashland	Grafton	Mid-High	Low	High	Educ & Health Services	108	13%	100%	51%
Fitzwilliam	Cheshire	Mid-Low	Mid-Low	Mid-High	Trade, Transport, Utilities	117	14%	71%	66%
Kingston	Rockingham	High	High	Low	Educ & Health Services	348	14%	80%	55%
Bethlehem	Grafton	Low	Low	High	Educ & Health Services	79	8%	100%	83%
Alstead	Cheshire	Mid-Low	Low	Mid-Low	Educ & Health Services	34	8%	100%	74%
Enfield	Grafton	Mid-High	Mid-High	Mid-Low	Educ & Health Services	253	16%	80%	47%
Sandown	Rockingham	High	High	Low	Goods-producing	337	14%	78%	55%
Lebanon	Grafton	High	Mid-Low	Mid-Low	Educ & Health Services	709	45%	28%	47%
Northwood	Rockingham	Mid-High	High	Low	Educ & Health Services	84	8%	89%	85%
Hampton	Rockingham	High	Mid-High	Low	Leisure & Hospitality	485	12%	95%	49%
Sanbornton	Belknap	Mid-Low	Mid-High	Mid-High	Leisure & Hospitality	101	10%	78%	69%
Bennington	Hillsborough	Mid-High	Mid-Low	Mid-Low	Goods-producing	69	8%	100%	66%
Lancaster	Coos	Mid-Low	Low	High	Educ & Health Services	117	11%	58%	83%

Source: ESI (2020), U.S. Census Bureau (2018), Child Care Aware of America (2020)

4. Benefit Cliff Workforce Constraints

A benefit cliff occurs when individuals or families who receive public benefits see a reduction or loss of these benefits due to new or increased income, such that the increased income does not fully compensate for the loss of those public benefits. In essence, these benefit cliffs disincentivize individuals from seeking better employment opportunities and higher wages due to the offsetting hardship caused by sudden loss of benefits. “Cliff effects” occur when families experience or can expect to experience an increase in earnings that counterintuitively results in their overall finances suffering. This may cause families to forgo valuable employment opportunities and not only impacts those individuals and families facing these choices, but can also lead to a less inclusive economy, sustain and promote generational poverty, and reduce overall economic activity.

Prior sections detailed constraints on the New Hampshire workforce that were either created (unemployment) or exacerbated (child care constraints) by the pandemic. In contrast, benefit cliffs represent a sustained limitation on New Hampshire’s workforce that pre-dates the current crisis. While labor market conditions following the pandemic will differ from those that preceded it, analysis of the constraints that New Hampshire working families face through benefit cliffs in a more typical policy environment remain highly relevant to conditions in the state over the longer term.

This analysis benefits from the availability of anonymized administrative microdata on program beneficiaries in New Hampshire, which enables systematic analysis of the decisions faced by individual households that can be aggregated by program, household type, and location. This section details the development of a household-level simulation of potential benefit cliffs to understand the situations in which policy design may be a barrier to workforce participation and economic recovery. The analysis proceeds in the following sequence:

- **Section 4.1: Key Benefit Programs** describes key support programs in New Hampshire analyzed;
- **Section 4.2: Identifying Benefit Cliffs** describes the interaction between earnings and net resources for a household as a means to understand the incidence of benefit cliffs;
- **Section 4.3: Cliff Effects by Household Type** details the analysis of benefit cliffs across programs and household types to understand which aspects create the greatest challenges for New Hampshire’s citizens and its economy; and
- **Section 4.4: Benefit Cliff Analysis by Town Typology** details benefit cliff trends for similar towns grouped by geography, density, income, industry concentration, and social vulnerability.

4.1. Benefit Programs and Participating Households

New Hampshire's households participate in a variety of federal and state support programs. While this analysis seeks to develop a model for analyzing a comprehensive range of public benefit policies accessible by New Hampshire households, the discussion focuses on six programs for which either state governments have considerable statutory authority to adjust or represent significant distinct programs through which many New Hampshire residents receive crucial supports. Each of these programs is widely impactful on New Hampshire's households, including working families:

- **Medicaid** provides eligible recipients with no-cost health insurance, and supported 178,342 individuals with standard Medicaid and Granite Advantage as of December 31, 2019. Of those, 10,659 are low-income, non-disabled, working-age adults.¹¹⁵
- **Temporary Assistance for Needy Families (TANF)**, provided cash assistance to 7,836 individuals, including 5,990 children, as of December 31, 2019.¹¹⁶
- **Supplemental Nutrition Assistance Program (SNAP)**, a program administered at the state level to distribute federally funded nutrition assistance to low-income families in the form of EBT cards, supported 72,461 New Hampshire residents in December 2019. It has proved so crucial during the COVID pandemic that the federal government expanded it to accommodate more families.¹¹⁷
- **Child Care and Development Fund (CCDF)**, called the Child Care Scholarship program in New Hampshire, is supported by funds received from the federal government through a block grant and served 3,236 New Hampshire families in January 2020.¹¹⁸
- **US HUD's Section 8 Housing Choice Voucher Program (HCVP), Section 8 project-based rental assistance, and Public Housing (all three programs referred to collectively as "Housing" throughout the following sections)**, are federally funded and administered by a mix of local and/or statewide public housing authorities and provide rental housing subsidies. In 2020, approximately 18,600 New Hampshire households received rental subsidies through one of these programs.¹¹⁹
- **Low Income Home Energy Assistance Program (LIHEAP)**, another program that is federally funded and administered at the state level, assists households with energy costs in various ways, such as bill payment assistance and weatherization efforts. The program certified 28,727 applications in program year 2019-2020.¹²⁰

In addition to these six focal programs, the model includes Head Start, the National School Lunch Program (NSLP), the School Breakfast Program (SBP), the Summer Food Service Program (SFSP), the Special Supplemental Nutrition Program for Women, Infant and Children (WIC), Supplemental Security Income (SSI), federal tax credits (including premium tax credits, also called ACA subsidies), New

¹¹⁵ New Hampshire Department of Health and Human Services (2020)

¹¹⁶ Federal Temporary Assistance for Needy Families (TANF) block grant funds New Hampshire's Financial Assistance to Needy Families (FANF) which encompass programs four programs. . The two TANF programs whose program rules are included in this study are the New Hampshire Employment Program (NHEP) and Family Assistance Program (FAP). The remaining two FANF programs are Interim Disabled Parent (IDP) and Families with Older Children (FWOC). Throughout the remainder of this chapter, the TANF-funded programs are referred to collectively as TANF programs.

¹¹⁷ United States Department of Agriculture SNAP Data Tables (2020)

¹¹⁸ New Hampshire Department of Health and Human Services (2020)

¹¹⁹ New Hampshire Housing Finance Authority (2020), US Department of Housing and Urban Development (2020)

¹²⁰ New Hampshire Office of Strategic Initiatives (2020)

Hampshire's State Supplement Program (SSP, supplementing the federal SSI program), New Hampshire's Electric Assistance Program (EAP), the Lifeline telephone/internet subsidy program, child support, and public transportation options.

While this analysis focuses on Medicaid, TANF, SNAP, CCDF, Housing, and LIHEAP as programs of particular interest, these programs interact with each other and other programs within the model in crucial ways, and therefore the impacts of these six programs cannot be considered in isolation. (For example, SSI receipt confers eligibility for Medicaid, Medicaid participation confers eligibility for WIC, TANF receipt confers eligibility for SNAP, and SNAP participation confers eligibility for NSLP and SBP.)

Dataset

This study seeks to identify disincentives to entering the workforce or increasing one's workforce participation using data from the New HEIGHTS Integrated Eligibility System, which manages enrollment and eligibility for Medicaid and other medical assistance programs, SNAP, TANF, and the Child Care Scholarship program (CCDF).¹²¹ The analysis uses the New HEIGHTS data to estimate who among these benefit recipients could be reasonably expected to enter the workforce, work more hours, or work for higher wages (if opportunities arise), if it were not for disincentives contained in the structure of these benefit programs, discussed below. Families within the New HEIGHTS system who could not reasonably be expected to increase their participation in the workforce (due to an incapacitating disability and other reasons) were excluded from this analysis.¹²²

The size of the resulting dataset following these exclusions is 61,888 households as of June 2020, encompassing 86,294 adults and 63,766 children. Within these families, 61,633 households included individuals who received Medicaid, 11,786 households received SNAP, 2,727 households received CCDF subsidies, and 1,653 households received TANF or family cash assistance.

In addition to the programs included in the New HEIGHTS system, households were randomly assigned as participating in a housing subsidy program and LIHEAP based on state- and local-level data.¹²³ Based on this random assignment, 7,683 families are modeled as receiving rental housing subsidies, while 34,301 families are modeled as receiving LIHEAP and EAP subsidies. Using a similar approach, families were also assigned participation in WIC and the Lifeline program.

¹²¹ Initially, the analysis was intended to be completed on a data extract from New HEIGHTS for open cases as of February 28, 2020; however, upon the onset of the COVID-19 pandemic, the analysis instead used a data extract of open cases as of June 30, 2020.

¹²² Exclusions for this reason consisted of families that included children with disabilities; families that included elderly individuals; families with more than four adults or more than five children in the home; and families in which all adults in the home were nonworking students and/or adults with an incapacitating disability, defined as being enrolled in a disability-specific program and not working any hours. Additional exclusions based on methodological or other considerations include families with pregnant household members (which will likely increase family size by an undetermined amount and require too many other unknown factors affecting work schedules) and families with refugee household members (who likely are relying on programs outside the scope of this study).

¹²³ Housing subsidy programs include the Section 8 Housing Choice Voucher program (HCV), the Section 8 Project-Based Rental Assistance program (Project-based Section 8), and Public Housing programs. Random assignment of families receiving such housing subsidies from the New HEIGHTS sample was based on a study finding that approximately 64% of households receiving housing subsidies also receive at least one other subsidy program. Therefore, 64% of the units per town were randomly assigned to New HEIGHTS families from each town. The number of units per program per town was provided by New Hampshire Housing Finance Authority. LIHEAP participation was randomly assigned to New HEIGHTS families based on an assumed statewide take-up rate of 63% in the 2018-2019 program year. This take-up rate was calculated as the number of applications certified in New Hampshire for LIHEAP in the 2018-2019 program year (29,989) divided by the number of families below the eligible income limit in New Hampshire according to 2018 ACS estimates.

4.2. Identifying Benefit Cliffs

Nearly all of the programs mentioned above are means-tested. Benefits provided by means-tested programs decline when the income of benefit recipients rise, a feature commonly described as “phasing out.” When families lose eligibility for a benefit due to a rise in income, and when the loss of the benefit represents a monetary loss greater than the rise in income, the event is labeled as a “benefit cliff.”

Benefit cliffs can also be thought of as high effective marginal tax rates, in that the family’s financial bottom line suffers from higher income and/or earnings.

Calculating Net Resources

The benefits available to low-income families in New Hampshire can affect both their expenses and resources: certain benefits, such as TANF and SNAP, provide cash or cash-like assistance and should therefore be included as resources in efforts to model family finances; while other benefits, such as childcare subsidies, housing subsidies, LIHEAP, and health insurance assistance programs (such as Medicaid or premium tax credits), reduce the family’s overall expenses and therefore are modeled as reductions in expenses. A family’s “net resources,” or total resources minus total expenses, is the key parameter of interest when understanding the cliff effect. “Net resources” can also be thought of as a family’s financial bottom line.

As previously mentioned, benefit cliffs disincentivize individuals from seeking better employment opportunities and higher wages due to dips in net resources caused by sudden loss of benefits. This not only impacts those individuals and families facing these choices but also can lead to a less inclusive economy, sustain and promote generational poverty, and reduce overall economic activity. In the face of benefit cliffs and an opportunity to earn higher income, one of two outcomes will occur, either of which is problematic:

- 1) The individual or family takes the higher income, and on net, is financially worse-off than before due to the reduction in benefits, or
- 2) The individual or family does not take the higher wage and therefore does not improve their economic position or earnings horizon, while their potential employer and the state economy forgo potential growth in activity.

To use New HEIGHTS system data in order to identify the impact of benefit cliffs across the programs of interest, the model employed a marginal framework based on the methodologies pioneered through the development of the National Center for Children in Poverty’s Family Resource Simulator online tool. This simulator calculates a family’s “net resources” by comparing the value of a family’s income and monetary equivalent of the public benefits they receive against expenses for basic needs like rent, child care, food, and transportation.

The basic formula for the net resources measure is as follows:

$$\begin{aligned} \textbf{Resources} = & \text{earnings} + \text{interest on savings} + \text{TANF} + \text{SNAP} + \text{SSI} + \text{SSP} \\ & + \text{child support} + \text{EITC} + \text{refundable portion of CTC} \end{aligned}$$

$$\begin{aligned} \textbf{Expenses} = & (\text{federal, state, and local income taxes} - \text{nonrefundable credits}) \\ & + \text{payroll taxes} + \text{sales taxes} + (\text{child care costs} - \text{CCDF subsidies}) \\ & + (\text{rent} - \text{housing subsidies}) + (\text{utility costs} - \text{LIHEAP}) \\ & + (\text{food costs} - \text{WIC} - \text{free/reduced price meals}) \\ & + \text{transportation costs} \\ & + (\text{health care costs if not on Medicaid} - \text{ACA subsidies}) + \text{disability} \\ & - \text{related costs} + \text{debt payments} + \text{miscellaneous expenses} \end{aligned}$$

$$\textbf{Net Resources} = \text{Resources} - \text{Expenses}$$

By calculating this measure across incrementally increasing incomes, it is possible to pinpoint when benefit cliffs occur: in other words, when net resources fall instead of rise as income steadily increases.

The research team derived the formulas used in this analysis to calculate the above estimations of family resources, expenses, and net resources through their experience developing and maintaining The Family Resource Simulator (FRS), an online tool developed by NCCP in 2004 to model the progression of net resources and impact of benefit cliffs for one hypothetical family at a time. This analysis represents the first time, to the extent of the research team's awareness, that these methodologies have been applied to a large data set of actual families. By calculating net resources for the universe of families that include individuals who can be reasonably expected to be able to work more hours or achieve higher wages – given the opportunities to do so – this adaptation of the FRS model can calculate how close individual families are to facing the various benefit cliffs in these programs and how severely these benefit cliffs may impact their finances. Moreover, this analysis can demonstrate the impact of specific benefit cliffs in the aggregate and compare the impacts that these policy rules may have on New Hampshire families in the future.

The Path of Benefit Cliffs

Prior to analysis of the aggregate impact of benefit cliffs, it is illustrative to focus on an example family from the New HEIGHTS system data that would experience benefit cliffs as their income rises.

Example: Laconia single parent household with three children

Figure 4.1 below shows the actual scenario of a single-parent household with one young child and two other school-aged children living in Laconia. The parent is currently not in participating in the labor force and receives benefits through child care subsidies (CCDF), food assistance (SNAP), Medicaid, and TANF. The model also assigns housing assistance and WIC receipt to this family—as detailed above, the model randomly assigned participation in the three major HUD rental assistance programs based on take-up rates by geography. Additionally, while the New HEIGHTS system data did not include any information on participation in the WIC program, there is a high likelihood that families that receive WIC benefits also participate in the SNAP program. In order to account for the probability of a family receiving WIC benefits, the model randomly assigned those eligible for WIC based on the national take-up rate.

Similarly, the model randomly assigned access to employer health insurance coverage across the sample, including for this family. (Families not randomly assigned employer coverage are modeled as purchasing health insurance off the healthcare marketplace and able to access premium tax credits, when eligible.) Additionally, this family was randomly assigned participation in the widely-used federally subsidized school meal programs (National School Lunch Program and the School Breakfast Program), as well as the Lifeline telephone subsidy program, which helps reduce phone bills for low-income families.

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The modeling first estimates net resources for this family at the current earnings levels, and then models successive scenarios in which their earnings are raised by a constant increment (\$1,000) to understand the impact.

While the public benefits that this family receives clearly support their ability to pay for basic expenses, they also face the prospect of benefit cliffs that may hamper their economic mobility and security. The model employed in this study can measure both the proximity from the point at which a family is able to pay for basic expenses, either positive or negative, as well as the potential impact of benefit cliffs on their ability to pay for basic expenses. The model estimates that, at the outset, the combination of earnings and benefits this family receives is still insufficient to cover the basic needs of the family, as net resources are negative (approximately \$4,025 away from “breaking even” at \$0 earnings).¹²⁵

- This family was chosen partially because it is one of the rare families in the data sample to benefit from at least five of the six programs of interest in this study, including four programs we know the family benefited from and two programs randomly assigned to the family. (As explained below, the model does not assign LIHEAP to any family receiving housing assistance.) While in this sense it is not illustrative of the majority of New Hampshire families included in New HEIGHTS – there are only 22 families in the sample receiving CCDF, SNAP, Medicaid, and TANF, and also randomly assigned housing assistance – it is helpful to see how these programs potentially interact with increases in earnings and with each other more comprehensively than with a family that does not have access to this combination of benefits.
- Should the adult in this household begin working, which is modeled by increasing the number of hours worked per week, the family will be successively better off until the parent reaches average annual earnings of \$4,000, when the parent works close to 6 hours per week.
- At this point, the family faces its first cliff as the parent starts working a shift that no longer can be confined to her children’s school day, after considering commuting time. This requires additional child care. Even though the parent’s child care is subsidized by CCDF (called the Child Care Scholarship program in New Hampshire), child care providers in New Hampshire can charge

¹²⁴ Random assignments were also made for other programs not included in the New HEIGHTS system data based on national and state take-up rates or calculated based on data available within the dataset. These programs include Head Start and Early Head Start, which this family was not randomly assigned. Random assignment also conferred the availability of employer-provided health insurance; families not assigned employer-provided health insurance coverage are assumed to purchase health insurance off the health insurance marketplace and have that insurance subsidized by premium tax credits, also called ACA subsidies).

¹²⁵ While positive net resources potentially represents savings, a negative net resources amount can be conceptualized as either the debt that a family needs to incur to adequately afford the bundle of family expenses that the model estimates they will need to live in a safe, healthy environment conducive to meeting standard expectations of child development (dissavings) or, alternatively, the monetary equivalent of how much the family would have to cut back on those expenses based on their income; examples of lowering expense costs based on low family budgets include doubling up or sending children to substandard child care settings that may not be healthy or support their educational development.

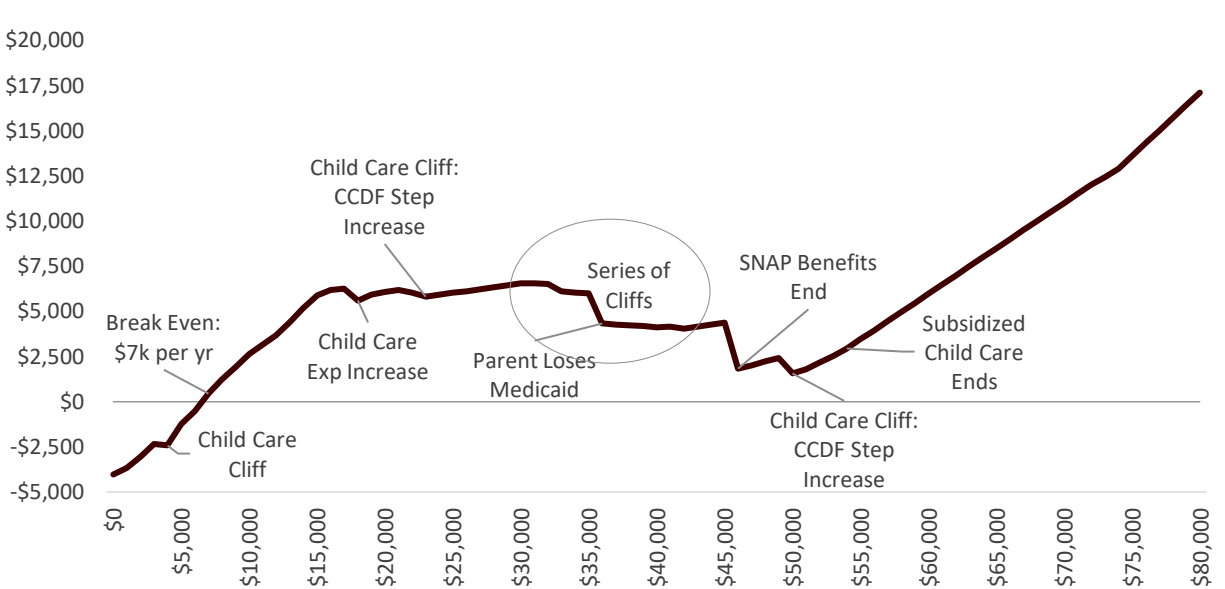
the difference between the maximum state subsidy and their market rate for identical care, meaning that this family's child care costs go up by that difference when child care need increases.

- The family will “break even” in net resources when the adult earns around \$7,000 per year. At this point, the family will continue to be better off until its next cliff at \$18,000, when child care again increases expenses substantially. At this point the parent is already paying a slightly greater share of their income via parent contributions (compared to previous income levels) to participate in New Hampshire's CCDF program, but child care costs jump significantly because the parent's work schedule requires full-time care compared to part-time care. This results in a net loss of \$640.
- The next cliff, at \$22,000, results less from one of the six programs of interest, but from a combination of other increased expenses, declining benefits, declining tax credits, and increasing payroll taxes. While the monetary value of none of these programs decline by more than \$1,000 on their own and likewise no specific expense increases on its own by more than \$1,000, they combine to result in a net loss of \$154. The primary reasons why these factors combine to result in a net loss at this point, and not earlier, is that the family is making enough earnings that the value of the federal earned income tax credit (EITC) is starting to decline with progressively higher incomes.
- With an additional \$1,000, at \$23,000 the family experiences yet another cliff, because the family's earnings now move them up one “step” in New Hampshire's CCDF program, requiring them to pay a greater share of their earnings as a parent contribution to child care. While this is the primary driver of the decline in net resources at this income level, it does not alone lead to an increase in expenses over \$1,000. However, the increase of \$830 in child care expenses that it triggers combines with other gradually declining benefits, including declines in SNAP benefits and TANF cash assistance, to result in a net loss of \$210.
- As can be seen from the graph below, net resource gains are extremely modest between \$23,000 and \$31,000. While net resources do not decline in this range, they increase at an average of only \$93 per every \$1,000 in annual wages. Similar to what is described above, this results from a combination of increasing parent contributions for CCDF-subsidized child care, declining SNAP benefits, declining TANF cash assistance, declining EITC, and increased payroll taxes.
- While the combination of earnings and public benefits barely allows this family to experience a net increase in net resources, beginning at \$32,000, the nonrefundable federal tax credits it receives no longer completely counteract their federal tax bill, resulting in an additional increase in taxes this family would face per each additional dollar earned beyond that point. Combined with the other factors above, the family faces a series of “cliffs”—when additional earnings result in lower net resources—from \$32,000 to about \$42,000.
- Within this span, family income exceeds the Medicaid income limit for adults at \$36,000, or just over 138 percent of the Federal Poverty Line, resulting in a switch to employer-provided insurance and the resulting monthly premium payments. With the other factors, this results in a net loss of \$1,667 at that income level.
- At \$46,000, the family loses eligibility for SNAP, which has a gross income limit of 185 percent of the Federal Poverty Line (FPL). While families can also experience gradual declines off SNAP, the impact of losing this benefit is significant for this family primarily because they incur high child care costs. The loss of SNAP alone means that the family loses \$1,380 in benefits compared to

how much they received at \$45,000. Additionally, because children in this family receive free school lunch and breakfast as long as they receive SNAP, the family no longer benefits from these meal subsidies, an event which the model estimates will increase annual food expenses by about \$1,500 along. While these losses are somewhat mitigated by gains in other programs and tax credits, the resulting loss in net resources is \$2,555.

- Lastly, at \$50,000, the family experiences its last benefit cliff in this model, when earnings level pushes the family into another subsequent CCDF “step,” resulting in a net loss of \$855. At \$54,000, the parent contributions for CCDF participation begin to match the unsubsidized cost of child care – the amount that the family would pay without subsidies – so the model anticipates this family would no longer receive subsidized care and would begin paying market rates.

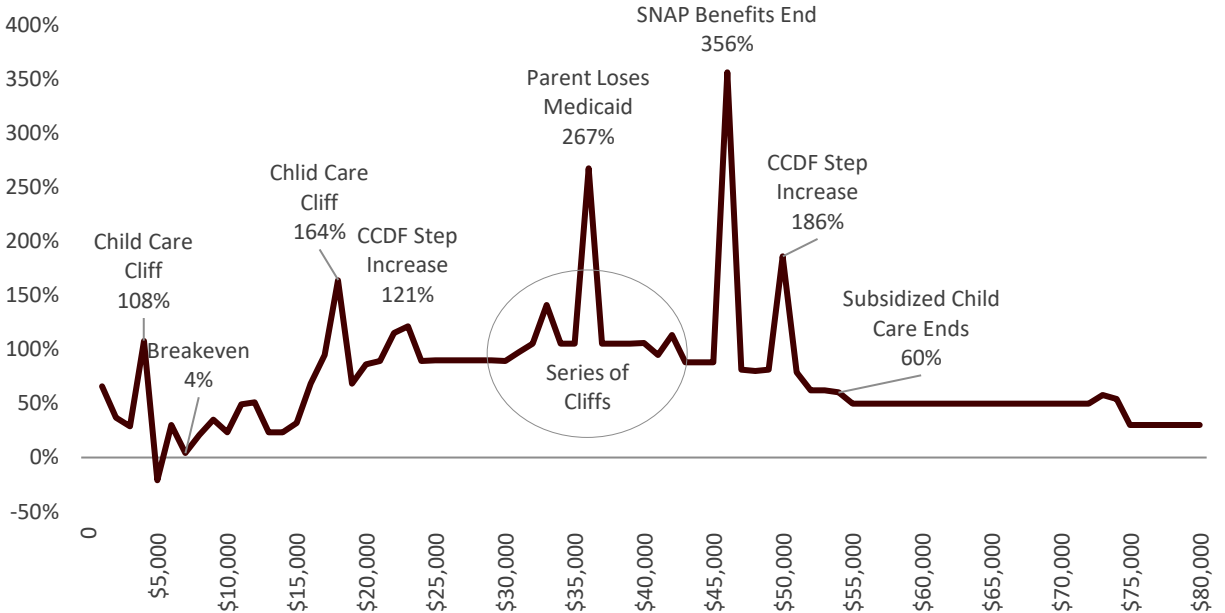
Figure 4.1: Cliffs Encountered as Earnings Increase, Laconia Single-Parent Household with 3 Children



Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

On the path toward financial stability, another way of visualizing the benefit cliffs families face is by comparing the marginal tax rates they pay as incomes rise (see Figure 4.2 below). The reasons for each marginal tax rate exceeding 100 percent, also referred to as a benefit cliff, are described in the bullets above.

Figure 4.2: Effective Marginal Tax Rates on Earnings



Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Program Elements that Can Lead to Benefit Cliffs

Medicaid

While there are a range of Medicaid programs available in New Hampshire with varying eligibility criteria, most people enrolled in the program face one of two limits based primarily on age: ¹²⁶

- The adult Medicaid limit is effectively 138 percent of the federal poverty level; and
- The child Medicaid limit is effectively 318 percent of the federal poverty level.

Additionally, anyone receiving SSI cash assistance can enroll in Medicaid, and because SSI is provided to either individuals or to a married couple, a member of a household on SSI can continue to receive Medicaid even if other household members are no longer eligible for Medicaid when the entire household income is above the Medicaid limit for their age group.

When people lose eligibility for Medicaid, the model assumes that they will then purchase insurance either from their employer or from the healthcare marketplace, with marketplace coverage subsidized by sliding-scale premium tax credits (ACA subsidies for marketplace insurance). The healthcare cliff is therefore the difference between the zero-cost health insurance individuals receive from Medicaid and the cost of private insurance, less any premium tax credits in the case of individuals purchasing marketplace insurance. Because the model includes the sliding-scale premium tax credit when the households lose Medicaid and enter the healthcare marketplace for coverage, the term “healthcare”

¹²⁶ These limits are inclusive of the 5% MAGI disregard

will be used throughout this analysis to refer to cliffs arising from either the loss of Medicaid or subsequent decreases in ACA subsidies as income increases.

Supplemental Nutrition Assistance Program (SNAP)

The SNAP program has two primary income thresholds: the net income limit and the gross income limit. Because families can only claim SNAP benefits if net income is at or below 100 percent FPL (the net income limit), and New Hampshire's SNAP gross income limit is 185%, if the expenses that families can deduct from gross income based on SNAP rules exceed the value of 85 percent FPL ($185\% - 100\% = 85\%$), they face a benefit cliff at 185 percent FPL.

SNAP benefit cliffs emerge primarily among two groups:

- Families with very high child or dependent care costs; and
- Families that include household members with disabilities.

These cliffs largely result from reductions in gross income that families can make through the uncapped dependent care deduction, which covers child care costs, and the shelter deduction, which is not capped among households that include people with disabilities. Because these expenses can amount to thousands of dollars in reduced income, and therefore significant increases in SNAP benefits, the loss of SNAP benefits at 185 percent FPL can be dramatic.¹²⁷

When families with school age children lose eligibility for SNAP, they are also modeled as losing the ability for their children to receive free meals through federally subsidized school lunch (NSLP) and school breakfast (SBP). Any child in a family that receives SNAP benefits is categorically eligible to receive these free meals, so the loss of SNAP is compounded by the increase in food costs that these families will face as a result of paying for these meals.¹²⁸

Child Care and Development Fund (CCDF)

Among recipients of New Hampshire's CCDF, child care costs are covered via three cost components:

- A state payment, or the amount the state pays providers to provide child care for eligible families, which decreases from a maximum rate, or state payment rate (SPR) as rising parent incomes result in higher sliding scale parent payments, described immediately below;
- A sliding scale parent payment, which increase via "steps" as income rises among recipients, which may never exceed the SPR; and
- A parent co-pay (in other states sometimes referred to as an overage payment), an amount that providers may charge to cover the difference between the SPR and the market rate of child care.

When a parent's working hours increase and there is not a parent available to take care of children, the amount of child care needed increases, and the cost of child care subsequently increases. Similarly, full-time workers will require more care than part-time workers. As parents move upward in the sliding scale

¹²⁷ As discussed below in the Policy Considerations section, many states have recognized the importance of mitigating SNAP benefit cliffs for families in these groups and have as a result raised the SNAP gross limit to 200%, the maximum limit allowable by federal law.

¹²⁸ Schools and school districts with a high percentage of SNAP-eligible families can mitigate these cliffs by opting to provide free meals to all students, through a related federal program, but very few schools opted into this program in New Hampshire pre-COVID.

payment, their out-of-pocket child care costs will increase, which, as in the example above, can create benefit cliffs for those families.

Because this analysis focuses on the barriers and costs to both labor force entry and expanded participation, in addition to including families that are currently enrolled in the CCDF program, the model simulates the increased child care costs incurred once labor force participation is increased. While many of these cliffs are not technically the product of a benefit program, they are a significant barrier to employment for many families and necessary for calculating the true net resource loss associated with increased labor force participation. For this reason, throughout this analysis, CCDF cliffs as well as cliffs resulting from increased market-rate child care costs are identified as “child care” cliffs.

Temporary Assistance to Needy Families (TANF)

The TANF cash assistance programs—called Financial Assistance to Needy Families (FANF) in New Hampshire—is composed of the New Hampshire Employment Program (NHEP), Family Assistance Program (FAP), Interim Disabled Parent (IDP) program, and the Families with Older Children (FWOC) program. Unlike other selected programs of interest described above, including SNAP, Medicaid, and CCDF, the eligibility rules for these programs do not lead to “benefit cliffs” in the strictest definition of that term; TANF cash assistance declines gradually with income and is not categorically tied to eligibility for other programs with higher income limits.

The maximum amount of TANF cash assistance that New Hampshire provides low-income residents is one of the most generous in the nation. When families on TANF start earning enough that they no longer are eligible for the maximum amount of TANF cash assistance, their TANF grant declines at approximately 50 cents per every dollar earned. Programmatically, this is the result of the 50 percent earned income disregard afforded to TANF families to determine their cash assistance amount. Even though these declines can never, on their own, account for a net financial loss greater than the gain a family could experience from higher wages or working more hours, the reduction in TANF cash assistance can combine with reductions in benefits from other means-tested programs, resulting in a net financial loss. TANF has the largest marginal “tax rate” among several widely used programs: at up to 50 cents for each additional dollar earned, it carries a tax higher than SNAP (up to 36 cents for each additional dollar earned for eligible families) and the three housing programs included in the model (up to 30 cents for each additional dollar earned across project-based Section 8, the Housing Choice Voucher Program, and Public Housing).

Housing assistance programs

The below analyses of New HEIGHTS system data also assess the impacts of the three primary federally administered HUD rental assistance programs to households that do not necessarily include elderly or disabled family members: the Section 8 Housing Choice Voucher program (HCVP), the Section 8 Project-Based Rental Assistance program (Project-based Section 8), and Public Housing. While each of these programs cover different types of housing stock available to low-income families, the rental assistance benefits that families participating in these programs are determined primarily by an identical formula.

While enrollment into these housing programs is restricted to individuals falling below certain income limits, income limits do not apply to recipients of these programs, except in rare cases. Families receiving rental assistance generally pay a rent equivalent to 30 percent of their income (after

deductions), capped at payment standards determined by the relevant public housing authority,¹²⁹ plus, in the case of the HCVF program, the difference between the market rate of their housing unit compared to that payment standard. Similar to the TANF programs described above, rental assistance declines gradually with income and these benefits are not categorically related to other programs. This aspect of housing programs means that, like TANF, recipients in these programs do not face benefit cliffs attributable to this single program, but, when increases in rent combine with other incremental changes like declining TANF cash assistance or SNAP benefits, a slight gain in income can result in an overall financial loss for a family.

Low Income Home Energy Assistance Program (LIHEAP)

The federally funded LIHEAP program (known as the Fuel Assistance Program, or FAP, in New Hampshire) provides subsidies to low-income families to support energy costs related to heating or cooling. State agencies have significant authority to determine eligibility rules and the structure of any associated sliding scales within LIHEAP programs. New Hampshire's FAP program uses a step-based sliding scale system similar to its CCDF program and provides assistance to families making incomes up to 200 percent of the federal poverty level. When income exceeds that amount, families are no longer eligible for LIHEAP benefits; based on current policy, this can result in the loss of over \$500 in energy subsidies per year due to a marginal increase in income. This is a "benefit cliff" in the strictest definition of that term, but one with significantly less monetary impact than benefit cliffs in programs such as SNAP or Medicaid.

Other relevant programs that can result in benefit cliffs

Beyond the six programs of interest, other means-tested programs also decline with higher earnings and can contribute to benefit cliffs among New Hampshire families. Specifically,

- SSI, a program providing cash assistance to individuals with disabilities, declines gradually as earnings rise, at approximately 50 cents per each dollar in income.
- The value of the federal earned income tax credit (EITC) rises with income up to a certain income threshold, plateaus until another income threshold, and then gradually declines until it reaches \$0.
- Federal payroll taxes also increase with income.
- Transportation costs rise with income as parents incur more commuting costs when they work additional days per week.
- Premium tax credits, available to individuals who do not have access to affordable employer-provided health care, also decrease gradually as income rises above 130 percent FPL. Because premium tax credits were intended by the ACA partially to allow families moving off of Medicaid to gradually pay an increasing amount of their earnings toward healthcare costs, benefit cliffs attributable to premium tax credits are grouped with the cliffs attributable to losses in Medicaid benefits. Collectively, cliffs resulting from either program are referred to as "healthcare cliffs."

¹²⁹ In the case of Public Housing, families whose income exceeds initial eligibility standards are charged the greater between fair market rent and the value of the housing subsidy supporting the unit.

- School and summer meal programs provide subsidized food to low-income families receiving SNAP benefits as well as families who do not receive SNAP benefits but who have income below thresholds of 130 percent FPL (for free meals) and 185% (for reduced-price meals).

While the declines in income or resources that these programs represent are included in the calculations below, they are not included as one of the six programs of interest within this analysis.

4.3. Cliff Effects by Household Type

The analysis below reviews the total number of benefit cliffs identified by the household-based simulation of all families within the New HEIGHTS dataset by program and household type.¹³⁰ There are four household type classifications used throughout this analysis: households with no children, single adult households with children, two adult households with children, and three- or four-adult households with children. After summarizing the cliffs for all households (*Benefits Cliffs Summary* below), the analysis is further segmented into two groups based on labor force participation: households without earnings (*Benefit Cliffs: Households without Earnings*) and households with earnings (*Benefit Cliffs: Households with Earnings*).

Where frequently occurring cliffs are identified by both household type and earnings status, more granular analysis is used to better understand the nature of the cliff, situations where it most frequently occurs, and potential detrimental effects. These analyses are included in Section 5 of this report.

It is important to note that throughout this analysis, both the “distance” to cliff and “magnitude” of cliff are discussed. The distance to the cliff is defined as the additional earnings or income needed to encounter the cliff. The magnitude of the cliff is defined as the negative change in net resources due to the cliff.

Benefit Cliffs Summary

There are 61,888 New HEIGHTS households in this analysis. Each of these households were enrolled in at least one of four programs included in the New HEIGHTS system during the time of the study: Medicaid, SNAP, TANF, or CCDF. Of these households, 94 percent (58,074) experienced at least one benefit cliff during the simulation. As previously detailed, in addition to the programs included in the New HEIGHTS system, households were randomly assigned into housing subsidy programs (“Housing”) and LIHEAP to estimate cliff effects for these programs as well.

¹³⁰ This analysis uses the terms “household” and “family” interchangeably.

Figure 4.3: Households Facing Cliffs by Program and Family Type

	Healthcare ¹³¹	Child Care	SNAP	TANF	Housing	LIHEAP	Total Families
No children	24,322	0	41	0	41	185	24,338
Single adult with children	16,732	8,010	4,360	620	1,220	1,691	16,867
Two adults with children	14,452	9,711	1,857	52	793	909	14,942
Three or more adults with children	1,907	307	182	8	146	246	1,927
Total Families Facing Cliff	57,413	18,028	6,440	680	2,200	3,031	58,074
Program Enrollment	61,633	25,824	11,786	1,653	7,683	34,301	61,888
Cliff Prevalence by Program	93%	70%	55%	41%	29%	9%	94%

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

In order to identify and measure benefit cliffs, this analysis simulated an increase in household earnings for the 61,888 families within the New HEIGHTS system assessed as being potentially responsive to higher wage offers or expanded work schedules. For each family, the simulation increased earnings up to \$80,000 above the household's initial earnings in increments of \$1,000, creating approximately 4.95 million iterations in which a cliff could potentially occur. Of these 4.95 million instances, 145,007 cliffs are encountered. In this analysis, a cliff results when the additional \$1,000 in incremental earnings results in greater than \$1,000 in losses due to either a complete loss of a public benefit, a decline in the value of a public benefit, an increase in costs, or some combination of these three. Of the 145,007 cliffs identified, a cliff was created, in part or in sum, by the loss or reduction of at least one of the six programs of interest—or in the case of child care, an increase in total expenses based on additional hours worked—for 95 percent of cliffs (138,043).¹³²

As discussed in Section 4.2 above, while programs like Medicaid can cause 100 percent of a cliff, many of the cliffs to be analyzed in this report result from the interaction of several programs. By design and with few exceptions, TANF, Housing, and LIHEAP programs will not result in significant benefit cliffs in isolation. While these programs on their own will increase the effective tax rate of every additional dollar earned by households, they will not typically result in an effective tax rate of over 100 percent. Therefore, the cliffs analyzed within this report are often the result of the interaction of multiple programs. In order to present the results of this analysis in a manageable way, the program of interest

¹³¹ As will be seen throughout the analysis, given the cutoffs for Medicaid, the majority of households will lose Medicaid within the first \$80,000 of additional earnings. However, \$80,000 is actually below the NH Medicaid limit for children in larger families and therefore families with very low incomes will not lose Medicaid with an additional \$80,000 in income. After accounting for these larger families, the remaining families who do not face Medicaid cliffs include at least one family member who is either receiving SSI or is an adult student and does not earn any income at the New HEIGHTS observation in the dataset. The model never models earnings from work for these individuals, as the model does not confer additional work hours to students, and we cannot reasonably assign additional working hours to individuals with disabilities without knowing the limitations they face due to the nature of their disability. Among individuals receiving SSI, except for cases in which these individuals are married to an individual who does not receive SSI (income from spouses counts toward SSI benefit calculations), these individuals will remain on Medicaid regardless of any other household members' increases in income. In the case of adult students, while many adult students in the New HEIGHTS data set will be covered by child Medicaid limits or covered by parental health insurance, adult students exceeding the age for qualifying as a dependent on parental insurance have their Medicaid eligibility assessed separately. As we do not confer additional work hours for students, it is possible that some adult students will never lose Medicaid eligibility as other household members earn more.

¹³² The remaining five percent are not analyzed within this framework but potentially occur from a combination of changes in EITC, SSI, or payroll taxes.

that contributed the highest percentage of net resource loss is identified as the “cause” for the cliff; however, all six programs of interest that contributed to any cliff will be included in the granular analyses discussed in Section 5.

Figure 4.4 below shows the primary cause of each cliff by program and household type.

- Fifty-six percent of cliffs are caused by the loss of healthcare benefits (76,729) and 33 percent are due to increases in child care costs (45,935). For the remaining 10 percent of cliffs, the largest proportion of the cliff was due to the loss or reduction of SNAP (5 percent), housing (2 percent), LIHEAP (2 percent), or TANF (1 percent) benefits.
- Families with children are subject to the vast majority of cliffs identified throughout this analysis, with the exception of healthcare cliffs, which are distributed between household types.

Figure 4.4: Total Cliffs Encountered, by Program and Family Type

Family Type	Healthcare	Child Care	SNAP	TANF	Housing	LIHEAP	Total Cliffs
No children	25,199	0	59	0	78	190	25,526
Single adult with children	28,253	17,550	4,717	1,705	1,443	1,746	55,414
Two adults with children	20,547	27,678	2,281	148	1,031	957	52,642
Three + adults with children	2,730	707	323	14	395	292	4,461
Total	76,729	45,935	7,380	1,867	2,947	3,185	138,043
Percent Total	56%	33%	5%	1%	2%	2%	100%

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

By program, the number of households and cliffs are summarized below:

- **Healthcare:** Nearly all households (93 percent) enrolled in healthcare benefits eventually lose their eligibility at some point in the simulation.¹³³ Health care expenses increase when an adult or child in the household goes from Medicaid coverage to employer-provided or marketplace health insurance. However, these cliffs are relatively far off, on average \$30,174 additional earnings away (see Figure 4.5 below). To a lesser extent, health care expenses can also increase when the value of the premium tax credit declines.
- **Child care:** Of the 25,824 households requiring care for young children, 70 percent will face a cliff related to increases in child care costs.¹³⁴ However, unlike healthcare, these cliffs, on average, are both the closest in proximity (\$16,543 earnings away) and highest in magnitude (-\$2,434) (See Figure 4.5 below).
- **SNAP:** Of the 11,786 households enrolled in SNAP, 55 percent will experience at least one cliff. While these cliffs are comparatively the furthest away on average (\$30,573), their magnitude is substantial (-\$2,002).
- **TANF:** TANF has the smallest participation among these programs of interest (1,653 households). Of these, 41 percent (680 families) will face at least one TANF-related cliff. However, along with

¹³³ As will be seen throughout the analysis, given the cutoffs for Medicaid, the majority of households will lose Medicaid within the first \$80,000 of additional earnings. However, the \$80,000 additional income is actually below the NH Medicaid limit for children in larger families and therefore these families will not lose Medicaid at this higher income. However, there are also families in the data that include incapacitated adults in SSI (when there are other adults in the home who are not incapacitated), and they will always be on Medicaid, regardless of income. Therefore, while close to 100 percent of families will reach a Medicaid cliff within this simulation, it will not be 100 percent of families.

¹³⁴ The analysis below will detail the difference in cliffs between families enrolled in CCDF compared to those not in the program.

low program enrollment, the average cliff magnitude (-\$83) is a fraction of other program cliffs' and on average relatively far off (\$26,391).

- **Housing:** Of the 7,683 households assigned to a housing program, 29 percent (2,200) experienced at least one cliff with an average magnitude of -\$449.
- **LIHEAP:** Of the 34,301 households assigned to LIHEAP, only 9 percent experienced at least one cliff, with an average magnitude of -\$158.

Figure 4.5: Total Cliffs Encountered in Household Simulation by Average Proximity and Magnitude

	Number of Households with Cliff	Number of Cliffs	Average Cliffs per Household	Percent	Proximity to Cliff	Magnitude of Cliff
Healthcare	57,413	76,729	1.34	55.58%	\$30,174	-\$1,619
Child Care	18,028	45,935	2.55	33.28%	\$16,543	-\$2,434
SNAP	6,440	7,380	1.15	5.35%	\$30,573	-\$2,002
TANF	680	1,867	2.75	1.35%	\$26,391	-\$83
Housing	2,200	2,947	1.34	2.13%	\$27,832	-\$449
LIHEAP	3,031	3,185	1.05	2.31%	\$26,129	-\$158
Total	58,074	138,043	2.38		\$25,622	-\$1,677

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Analysis Categorizations

Families: Composition and earnings status

As previously mentioned, families are analyzed based on two categorizations in the following sections: their initial earnings status and their household type categorization. The initial earnings differentiation is meaningful because of the distinction in decision-making between households entering the labor market and those expanding workforce participation. Analytically, households with no earnings all start at the same base and encounter cliffs at the approximate same distance from \$0 earnings based on their household type.

Cliffs: Risk quartiles

In the same way that broad level of analysis on families does not reveal the full story, looking only at the number of cliffs will not uncover the true barriers they place on employment. Families may give more thorough consideration to cliffs that are immediately approaching, as opposed to those that are further away, and thus less likely to be reached in the imminent future. In the same way, families may be more discerning around cliffs that will result in a larger net resource loss compared to those with less impact on the household's financial stability. In order to account for these considerations, this analysis focuses on two elements influencing the overall risk of a given cliff:

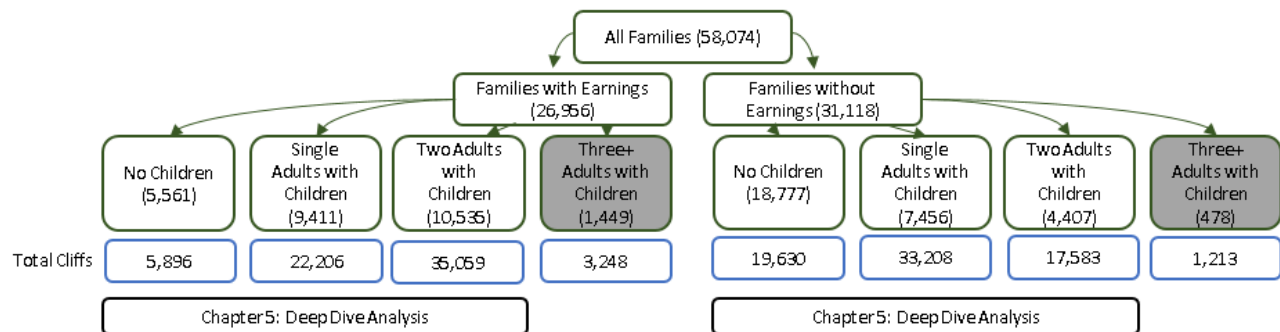
- The magnitude of the cliff (the reduction in net resources)
- The household's distance from the cliff (additional earnings to reach the cliff)

To understand the risks associated with each cliff, standardized measures of magnitude and distance were calculated and summed for each cliff to construct an overall risk index. **Cliffs with a risk index in the in the fourth quartile are considered high risk.**

The next two sections provide summary statistics for the 31,118 families (54 percent of the sample) with no initial earnings followed by summary analysis for the 26,956 families (46 percent of the sample) with at least one adult currently employed.

Section 5 will do a “deeper dive” into programs that result in the greatest number of cliffs and/or cliff risk for each family type. As seen in Figure 4.6 below, no deep dive analyses are undertaken for families with three or more adults and children given the low number of households and cliffs within this population.

Figure 4.6: Total Cliffs Encountered, by Program and Family Type



Benefit Cliffs Summary: Households without Earnings

There are over 31,000 households in the dataset with no initial earnings potentially facing 71,634 total cliffs. Because these households begin with \$0 earnings in the simulation, many of the cliffs they face will be encountered at the same income levels, based on household type and structure. The key difference between families with earnings and without earnings is that families not currently employed are guaranteed to have at least one household member move from not working at all to starting work, so that the costs of starting work can be identified more easily. For this reason, this analysis focuses first on these households, where program interactions and cluster points will give substantial insight into how and where the cliffs emerge. Additionally, these income levels provide important insight into labor market decision making for households either not participating in the labor force, marginally attached to the labor force, or currently unemployed. The decision to actively look for, or accept, employment is complicated by the potential cliffs to be encountered once the family receives wages. Figure 4.7 below shows the composition of these households and the number of potential cliffs faced by household type.

- The majority of these households (60 percent) have no children, while 24 percent are single adult households with children, and 14 percent contain two adults with children.
- The majority of cliffs are faced by the households with children. Single adults who have no children face an average of 4.5 potential cliffs per household, and households composed of two adults with children face an average of 4.0 potential cliffs.

Figure 4.7: Number of Households and Cliffs for Households, by Family Type, No Earnings

Family Type	Number of Households	Total Cliffs	Avg Cliffs per Household
No children	18,777	19,630	1.0
Single adult with children	7,456	33,208	4.5
Two adults with children	4,407	17,583	4.0
Three + adults with children	478	1,213	2.5
All households without earnings	31,118	71,634	2.3

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Figure 4.8 below shows the percentage distribution of cliffs by program type and household composition, as well as the total number of cliffs (inclusive of repeated cliffs within the same program).

- Nearly all households without earnings (upwards of 99 percent) face at least one potential healthcare cliff, with more than 40,000 total cliffs (56 percent of all cliffs) represented in the simulation.
- Cliffs from child care expenses account for 32 percent of total cliffs within households with no earnings (with more than 23,000 cliffs), with the vast majority in single adult with children (60 percent) and two adults with children (39 percent) households.
- SNAP (5.5 percent), TANF (2.1 percent), housing (2.0 percent), and LIHEAP (1.8 percent) are less common, accounting for roughly 11 percent of all 71,634 cliffs.

Figure 4.8: Total Cliffs Faced by Program and Family Type, No Earnings

Family Type	Households	Healthcare	Child Care	SNAP	TANF	Housing	LIHEAP	Total Cliffs
No children	18,777	19,440	0	49	0	38	103	19,630
Single adult with children	7,456	13,870	13,794	2,739	1,380	764	661	33,208
Two adults with children	4,407	6,505	9,160	1,018	88	433	379	17,583
Three + adults with children	478	628	109	128	9	217	122	1,213
All households without earnings	31,118	40,443	23,063	3,934	1,477	1,452	1,265	71,634

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Figure 4.8 above shows the most prevalent cliffs for households with no earnings. Key insights into these family type-cliff combinations include:

Households with no children

- One hundred percent of households without children (18,777 households) will reach a healthcare cliff at some point within the simulation. Because these households are starting with no initial earnings, these cliffs will be encountered at approximately \$18,000 (138 percent FPL) or \$9 per hour among single adults without children.
- Of the six programs of interest, 86 percent of cliffs for these families are due to the loss of healthcare benefits (with no interaction from the other five programs of interest). Thirteen percent of these cliffs are due to a combination of loss or reduction of healthcare and housing

benefits. However, the healthcare portion of these cliffs account for 83 percent of the overall net resource loss for this family type.

Single adult households with children

Healthcare

- Healthcare cliffs are the most common cliff for single adult households with children with 99 percent of families reaching a cliff at some point in the simulation. However, these cliffs are considered to be primarily low risk given the increase in wage needed to encounter them.
- At \$24,000 and \$30,000 (138% of the FPL for a family of two or three, respectively) an adult loses Medicaid, while children lose Medicaid benefits at \$54,000 and \$68,000 (328% of the FPL for a family of two or three, respectively).
- Of the six programs of interest, 73 percent of healthcare cliffs are based on changes in Medicaid the value of the premium tax credit with no interaction from the other five programs of interest. Ten percent are due to a combination of healthcare benefit loss and SNAP reduction or loss. Seven percent are due to a combination of healthcare benefit loss and reduction or loss of housing subsidy.

Child Care

- Eighty-one percent of these households will face a child care cliff should they enter the labor force. Of the cliffs faced by these households, 71 percent are considered high risk as the household will be faced with additional child care costs immediately once entering the workforce.
- The majority of these cliffs happen when the adult enters the labor force and are met at increments of \$1,000, \$4,000, \$5,000, \$9,000 and \$18,000 annual earnings.
- For families enrolled in the CCDF program, the average net resource loss from the cliff is -\$1,315 compared to -\$2,536 for families not in the program.

SNAP

- Of the SNAP cliffs encountered by families not currently working, 70 percent are encountered by single adult households with children.
- The majority of these cliffs (71 percent) are clustered around four income levels: \$32,000 for a family of two, \$40,000 for a family of three, and \$48,000 for a family of four. Additional clustering around \$22,000 results not from SNAP gross income limits but from “combination cliffs” due to SNAP benefit reduction, increased commuter costs, phase-out of the federal EITC, and stepwise decreases in LIHEAP, if eligible.
- Sixty-four percent of cliffs are based on changes in SNAP (with no interaction from the other five programs of interest). Thirteen percent are due to a combination of SNAP and LIHEAP reduction or loss. Eight percent are due to a combination of loss of SNAP and healthcare benefits.

TANF

- Of the TANF cliffs encountered by families not currently working, 93 percent are encountered by single adult households with children.

- Unlike other programs analyzed for single adult households with children, there are very few cliffs (4 percent) in which TANF was the only program of interest contributing to the cliff (with no interaction from the other five programs of interest).
- SNAP interactions (including all combinations between SNAP, TANF, and other programs) contributed to 94 percent of TANF cliffs, with 29 percent caused by a combination of TANF, SNAP, and housing subsidy reduction.

Housing

- Of the housing cliffs encountered by families not currently working, 53 percent are encountered by single adult households with children.
- Similar to SNAP, 59 percent of single adult households with children will encounter a cliff at \$22,000, \$32,000, or \$40,000 earnings levels.
- Of the six programs of interest, 57 percent of housing cliffs are based on changes in housing benefits (with no interaction from the other five programs of interest). An interaction with SNAP contributes, at least partially, to 33 percent of cliffs.

LIHEAP

- Of the LIHEAP cliffs encountered by families not currently working, 52 percent are encountered by single adult households with children.
- Two LIHEAP cliff clusters emerged driven by the program eligibility limit of 200% of the FPL (at \$34,000 for a family of two and \$43,000 for a family of three), accounting for 64 percent of cliffs.
- Of the six programs of interest, 28 percent of LIHEAP cliffs are attributed to changes in LIHEAP benefits (with no interaction from the other five programs of interest). Roughly half of LIHEAP cliffs are due to a combination of the loss of LIHEAP and healthcare benefits.

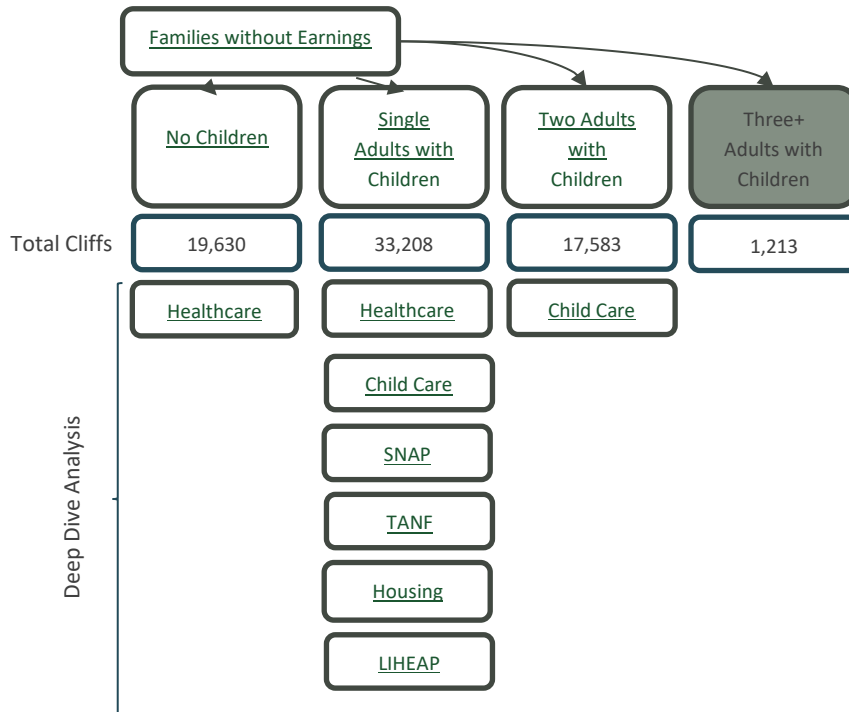
Two adult households with children

Child Care

- Approximately 68 percent of these families will face a child care cliff, with 34 percent of these cliffs considered high risk.
- Participation in CCDF is extremely uncommon among this household type, with only one percent currently enrolled in the program.

Consistent with the most prevalent and significant cliffs by program and household type summarized above, Chapter 5 will analyze each of these situations on a more granular level. To go directly to a specific deep dive analysis for families with no initial earnings, click on the program in the figure below.

Figure 4.9: Deep Dive Analysis for Families with No Initial Earnings



Source: NCCP (2020), ESI (2020)

Benefit Cliffs Summary: Households with Earnings

Forty-six percent of households (26,956) in the dataset had initial earnings, with average initial earnings of \$29,404. Figure 4.10 below shows the number of households in the dataset within each of these household types and the average earnings among each type.

Figure 4.10: Number of Households and Average Earnings, by Family Type, Earnings

Family Type	Number of Households	Average Initial Earnings
No children	5,561	\$10,456
Single adult with children	9,411	\$21,306
Two adults with children	10,535	\$37,111
Three or more adults with children	1,449	\$35,974
All households with earnings	26,956	\$29,404

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Collectively, these households face a total of 66,409 cliffs over the course of the simulation.¹³⁵ Figure 4.11 below shows the total number of potential cliffs faced by household type.

- For households with no children, 98 percent (5,759) of the 5,896 cliffs experienced are due to changes in Medicaid eligibility and result in a healthcare cliff.
- Single adult households with children experience the largest share of cliffs in all programs except child care: healthcare (40 percent), SNAP (57 percent), TANF (83 percent), housing (45 percent), and LIHEAP (57 percent).
- Increases in child care costs are responsible for the majority (53 percent) of cliffs for households with two adults and children, accounting for 81 percent of all child care cliffs.

Figure 4.11: Number of Households and Total Cliffs Faced by Program and Family Type, Earnings

Family Type	Households	Healthcare	Child Care	SNAP	TANF	Housing	LIHEAP	Total Cliffs
No children	5,561	5,759	0	10	0	40	87	5,896
Single adult with children	9,411	14,383	3,756	1,978	325	679	1,085	22,206
Two adults with children	10,535	14,042	18,518	1,263	60	598	578	35,059
Three + adults with children	1,449	2,102	598	195	5	178	170	3,248
All households with earnings	26,956	36,286	22,872	3,446	390	1,495	1,920	66,409

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Figure 4.11 above shows the most prevalent cliffs for households with initial earnings. Key insights into these family type-cliff combinations include:

¹³⁵ Note that it is possible for households to face cliffs derived from the same program multiple times throughout the simulation as their earnings increase. For example, as explained above, families covered under Medicaid will face a cliff when adults lose the benefit, and a second Medicaid cliff at a higher earnings level when children are no longer eligible.

Households with no children

- Nearly all cliffs for households with no children are healthcare cliffs. LIHEAP, Housing, and SNAP cliffs are relatively rare in households of this type.
- Nearly half of healthcare cliffs (48 percent) are considered high-risk cliffs. These high-risk cliffs are primarily driven by proximity, with a large concentration (93 percent) of these households encountering the cliff within an earnings increase of \$8,000 (or a raise of \$4 per hour for a full-time worker).
- Eighty-four percent of high-risk cliffs for these families are attributable to the loss of healthcare benefits, with no interaction from the other five programs of interest. Fourteen percent of these cliffs are due to a combination of loss or reduction of healthcare and housing benefits. However, the healthcare portion of these cliffs account for 84 percent of the overall net resource loss for this family type.

Single adult households with children

Healthcare

- Healthcare cliffs are the most common cliffs for single adult households with children, with 18.5 percent considered high risk. Eighty-nine percent of these high-risk cliffs occur within a \$10,000 increase in earnings.
- Fifty-eight percent of healthcare cliffs are based on changes in Medicaid/marketplace subsidy eligibility (with no interaction from the other five programs of interest). Fourteen percent are due to a combination of healthcare loss and SNAP reduction or loss. Seven percent are due to a combination of loss or reduction of healthcare benefit and housing subsidy.

Child Care

- Twenty percent of these households will face a child care cliff should they expand their labor force participation. Roughly half of these households (47 percent) are enrolled in CCDF. These families will face, on average, 2.7 cliffs per households with an average net resource loss of -\$572.
- The remaining 53 percent of households are not enrolled in CCDF. These families will face roughly 1.3 child care cliffs per households with a significantly higher average net resource loss of -\$2,903.

SNAP

- SNAP represents neither the most common nor the highest risk cliff for single adult households with children. However, of the cliffs encountered by families with earnings, 57 percent are met by single adult households with children.
- Approximately 34 percent of these cliffs are considered to be high risk. These cliffs are relatively evenly distributed by proximity; however, patterns do emerge in the average earnings level of families as they reach a cliff, clustering between \$31,000 and \$44,000. This clustering is associated with the program's gross income limit of 185 percent FPL, which is around \$32,000 for a family of two and \$40,000 for a family of three.
- Sixty-two percent of cliffs are based on changes in SNAP (with no interaction from the other five programs of interest). Sixteen percent are due to a combination of SNAP and child care costs.

- Seven percent of these cliffs are due to a combination of loss of SNAP and healthcare subsidy. This combination also results in the largest average net resource loss.

LIHEAP

- Of the LIHEAP cliffs encountered by families with earnings, 57 percent are encountered by single adult households with children. The majority of LIHEAP cliffs occur between \$38,000 and \$40,000 in earnings.
- Roughly half of LIHEAP cliffs are due to changes in LIHEAP benefits (with no interaction from the other five programs of interest). Approximately 23 percent of LIHEAP cliffs are due to a combination of the loss of LIHEAP and healthcare benefits.
- The largest average net resource loss occurs when there is an interaction of SNAP and LIHEAP reductions. However, these cliffs are relatively rare.

Housing

- Of the housing cliffs encountered by families with earnings, 45 percent are encountered by single adult households with children.
- Fifty-six percent of housing cliffs are based on changes in housing benefits with no interaction from the other five programs of interest. An interaction with SNAP contributes, at least partially, to 20 percent of cliffs.

TANF

- TANF cliffs are rare for families with earnings, comprising roughly 0.5 percent of all cliffs faced by these families. Of these cliffs, 83 percent are encountered by single adult households with children.
- Unlike other programs analyzed for single adult households with children, there are very few cliffs (7 percent) in which TANF was the only program of interest contributing to the cliff.
- SNAP interactions (including all combinations between SNAP, TANF, and other programs) contributed to 89 percent of TANF cliffs, with 37 percent caused by a combination of TANF, SNAP, and housing subsidy reduction.

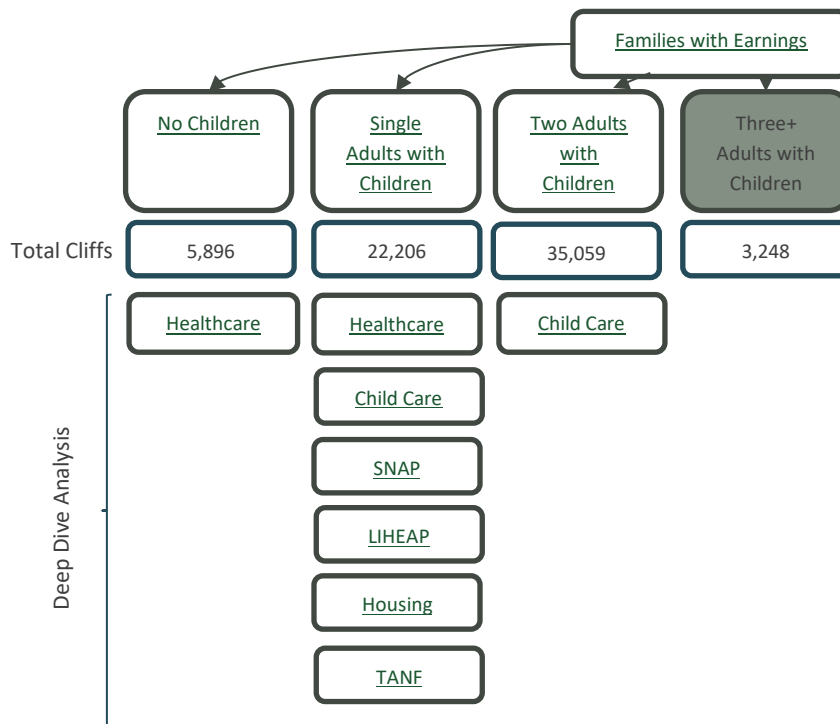
Two adult households with children

Child Care

- Approximately 64 percent of these families will face a child care cliff, with the majority of these cliffs considered high risk.
- As previously mentioned, child care cliffs occur from both the loss of CCDF benefit as well as the increased cost of child care based on labor force participation changes. However, CCDF is far less common among this household type, with 98 percent of high-risk cliffs emerging from families that do not receive CCDF subsidies.

Consistent with the most prevalent and significant cliffs by program and household type summarized above, Chapter 5 will analyze each of these situations on a more granular level. To go directly to a specific deep dive analysis for families with initial earnings, click on the program in Figure 4.12 below.

Figure 4.12: Deep Dive Analysis for Families with Initial Earnings



Source: NCCP (2020), ESI (2020)

4.4. Benefit Cliffs Analysis by Town Typology

As displayed throughout this section, benefit cliffs impact different types of households in a variety of ways, based on household income, family structure, and program enrollment interactions. However, the risk and prevalence of benefit cliffs vary by location and type of community as well. Therefore, the following analysis of benefit cliffs by program and town typology helps to illustrate the communities that are potentially most affected by benefit cliffs.

To analyze each town's level of risk for each program of interest, as it relates to other New Hampshire towns, a score for each program of interest was calculated, accounting for both prevalence of program-specific cliffs within the town as well as average risk level of these cliffs. This calculation produced a comparable measure for each program by which towns are sorted from highest risk to least. Lists of the top 25 at-risk towns are produced for each program of interest, and then a final, overall risk list was produced by combining each town's program-specific scores.¹³⁶

Overall, towns with the highest levels of risk for benefit cliffs tended to have lower median household income levels, higher social vulnerability, and more reliance on goods-producing and Education and Health Services industries for employment than other towns in the state. Additionally, many of the most at-risk towns for overall benefit cliffs appeared in more than one list of the highest-risk towns for program-specific cliffs, as well. To see benefit cliff data for all towns within New Hampshire, please visit the [Interactive Appendix](#).

¹³⁶ For the town-specific analysis of cliff risks, LIHEAP was not included as a program of interest, as LIHEAP enrollment was randomly assigned to New HEIGHTS cases based on a statewide, rather than local, take-up rate. Therefore, this analysis cannot reach significant conclusions about LIHEAP cliff prevalence and risk at the town level.

Healthcare Cliffs

When analyzing the top towns with healthcare cliff risks by their typologies, some commonalities among the top 25 towns emerged:

- Nearly half of the towns (48 percent) are located in either Coos County (20 percent) or Grafton County (28 percent);
- Twenty-one towns (84 percent) had low median household income levels;
- Fourteen towns (56 percent) had high social vulnerability; and
- Nearly one-third of towns (32 percent) relied heavily on goods-producing industries for employment.

Figure 4.13: Highest Risk of Healthcare Cliffs with Typology Detail

Town	County	Density	Income	SVI	Emp Comp	Total Households	Healthcare Cliffs	Avg Healthcare Risk Score
Lisbon	Grafton	Mid-Low	Low	High	Goods-producing	612	188	0.35
Stratford	Coos	Low	Low	High	Goods-producing	292	73	0.37
Effingham	Carroll	Mid-Low	Low	High	Goods-producing	605	162	0.35
Lincoln	Grafton	Low	Low	High	Leisure & Hospitality	530	142	0.34
Franklin	Merrimack	High	Low	Mid-High	Goods-producing	3,760	927	0.35
Lancaster	Coos	Mid-Low	Low	High	Educ & Health Services	1,349	324	0.36
Troy	Cheshire	Mid-High	Mid-Low	Mid-High	Leisure & Hospitality	829	194	0.36
Claremont	Sullivan	High	Low	Mid-High	Trade, Transport, Utilities	5,467	1,294	0.36
Colebrook	Coos	Mid-Low	Low	High	Educ & Health Services	942	224	0.35
Tilton	Belknap	High	Low	High	Trade, Transport, Utilities	1,451	339	0.36
Bristol	Grafton	Mid-High	Low	Mid-High	Goods-producing	1,232	285	0.36
Manchester	Hillsborough	High	Low	High	Educ & Health Services	45,461	10,446	0.35
Northfield	Merrimack	Mid-High	Mid-Low	Mid-High	Goods-producing	1,849	421	0.36
Berlin	Coos	Mid-High	Low	High	Educ & Health Services	3,914	896	0.35
Laconia	Belknap	High	Low	Mid-High	Educ & Health Services	6,985	1,581	0.36
Rumney	Grafton	Mid-Low	Low	High	Goods-producing	607	130	0.37
Ossipee	Carroll	Mid-Low	Low	Mid-High	Trade, Transport, Utilities	1,925	423	0.35
Goshen	Sullivan	Mid-Low	Mid-Low	Mid-Low	Other	290	63	0.35
Grafton	Grafton	Low	Low	Mid-Low	Other	488	107	0.35
Tamworth	Carroll	Mid-Low	Low	High	Leisure & Hospitality	1,377	305	0.35
Bath	Grafton	Low	Low	High	Educ & Health Services	367	80	0.35
Newport	Sullivan	Mid-High	Low	Mid-High	Goods-producing	2,727	583	0.36
Belmont	Belknap	High	Mid-Low	Mid-High	Trade, Transport, Utilities	2,894	626	0.35
Woodstock	Grafton	Low	Low	High	Leisure & Hospitality	480	105	0.35
Whitefield	Coos	Mid-Low	Low	High	Educ & Health Services	1,051	226	0.35

Source: U.S. Census Bureau (2018), ESI (2020), New HEIGHTS (2020)

TANF Cliffs

Among the towns with the highest risk for TANF cliffs, the following insights emerged:

- Forty-four percent of towns are located in either Coos County (24 percent) or Merrimack County (20 percent);
- Seventeen towns (68 percent) had low median household income levels;
- Eighty percent of towns had mid-high or high social vulnerability; and
- Seventy-two percent of towns relied heavily on either goods-producing (32 percent) or Education and Health Services industries for employment.

Figure 4.14: Highest Risk of TANF Cliffs with Typology Detail

Town	County	Density	Income	SVI	Emp Comp	Total Households	TANF Cliffs	Avg TANF Risk Score
Stratford	Coos	Low	Low	High	Goods-producing	292	11	0.38
Laconia	Belknap	High	Low	Mid-High	Educ & Health Services	6,985	132	0.32
Winchester	Cheshire	Mid-High	Low	Mid-High	Goods-producing	1,748	32	0.32
Claremont	Sullivan	High	Low	Mid-High	Trade, Transport, Utilities	5,467	95	0.32
Lancaster	Coos	Mid-Low	Low	High	Educ & Health Services	1,349	22	0.32
Clarksville	Coos	Low	Low	Mid-High	Trade, Transport, Utilities	151	2	0.38
Keene	Cheshire	High	Low	Mid-High	Educ & Health Services	9,346	118	0.36
Franklin	Merrimack	High	Low	Mid-High	Goods-producing	3,760	50	0.33
Stewartstown	Coos	Low	Low	High	Educ & Health Services	388	5	0.34
Berlin	Coos	Mid-High	Low	High	Educ & Health Services	3,914	52	0.33
Northumberland	Coos	Mid-Low	Low	High	Educ & Health Services	959	11	0.37
Acworth	Sullivan	Low	Mid-Low	Mid-High	Goods-producing	387	5	0.33
Pittsfield	Merrimack	Mid-High	Low	Mid-Low	Goods-producing	1,711	21	0.34
Bristol	Grafton	Mid-High	Low	Mid-High	Goods-producing	1,232	15	0.34
Hill	Merrimack	Mid-Low	Mid-High	Mid-High	Educ & Health Services	384	6	0.26
Somersworth	Strafford	High	Mid-Low	Mid-High	Trade, Transport, Utilities	4,934	55	0.35
Lisbon	Grafton	Mid-Low	Low	High	Goods-producing	612	6	0.39
Barnstead	Belknap	Mid-High	Mid-High	Mid-Low	Educ & Health Services	1,574	16	0.36
Benton	Grafton	Low	Low	High	Educ & Health Services	109	1	0.38
Henniker	Merrimack	Mid-High	High	Low	Educ & Health Services	1,795	17	0.33
Allenstown	Merrimack	High	Low	Low	Other	1,809	12	0.43
Moultonborough	Carroll	Mid-Low	Mid-Low	Mid-High	Leisure & Hospitality	1,704	11	0.44
Tilton	Belknap	High	Low	High	Trade, Transport, Utilities	1,451	12	0.32
Temple	Hillsborough	Mid-Low	High	Mid-Low	Goods-producing	508	4	0.32
Meredith	Belknap	Mid-High	Mid-Low	Mid-High	Leisure & Hospitality	2,771	19	0.37

Source: U.S. Census Bureau (2018), ESI (2020), New HEIGHTS (2020)

SNAP Cliffs

Towns with the highest levels of risk of SNAP cliffs had the following commonalities:

- Ten towns (40 percent) are located in either Cheshire (20 percent) or Grafton (20 percent) County;
- Seventy-six percent of towns had low median household income levels;
- Eighty-four percent of towns had mid-high or high social vulnerability; and
- Nearly half of the towns (48 percent) relied heavily on goods-producing industries for employment.

Figure 4.15: Highest Risk of SNAP Cliffs with Typology Detail

Town	County	Density	Income	SVI	Emp Comp	Total Households	SNAP Cliffs	Avg SNAP Risk Score
Lisbon	Grafton	Mid-Low	Low	High	Goods-producing	612	22	0.39
Claremont	Sullivan	High	Low	Mid-High	Trade, Transport, Utilities	5,467	206	0.37
Stratford	Coos	Low	Low	High	Goods-producing	292	12	0.34
Gilsum	Cheshire	Mid-Low	Mid-Low	Mid-High	Goods-producing	286	12	0.32
Franklin	Merrimack	High	Low	Mid-High	Goods-producing	3,760	124	0.36
Troy	Cheshire	Mid-High	Mid-Low	Mid-High	Leisure & Hospitality	829	25	0.37
Goshen	Sullivan	Mid-Low	Mid-Low	Mid-Low	Other	290	7	0.46
Ossipee	Carroll	Mid-Low	Low	Mid-High	Trade, Transport, Utilities	1,925	59	0.36
Effingham	Carroll	Mid-Low	Low	High	Goods-producing	605	16	0.39
Tamworth	Carroll	Mid-Low	Low	High	Leisure & Hospitality	1,377	40	0.35
Allenstown	Merrimack	High	Low	Low	Other	1,809	50	0.36
Winchester	Cheshire	Mid-High	Low	Mid-High	Goods-producing	1,748	48	0.36
Windsor	Hillsborough	Low	Mid-Low	Mid-Low	Educ & Health Services	90	2	0.45
Marlborough	Cheshire	Mid-High	Mid-Low	Mid-High	Goods-producing	926	23	0.40
Jaffrey	Cheshire	Mid-High	Mid-Low	Mid-Low	Goods-producing	2,094	54	0.38
Charlestown	Sullivan	Mid-High	Low	Mid-High	Goods-producing	2,053	54	0.37
Bristol	Grafton	Mid-High	Low	Mid-High	Goods-producing	1,232	33	0.36
Carroll	Coos	Low	Low	High	Leisure & Hospitality	303	9	0.33
Warren	Grafton	Low	Low	High	Trade, Transport, Utilities	384	11	0.34
Dorchester	Grafton	Low	Low	Mid-High	Other	129	4	0.31
Ashland	Grafton	Mid-High	Low	High	Educ & Health Services	850	21	0.39
Albany	Carroll	Low	Low	High	Goods-producing	303	9	0.32
Newport	Sullivan	Mid-High	Low	Mid-High	Goods-producing	2,727	68	0.38
Tilton	Belknap	High	Low	High	Trade, Transport, Utilities	1,451	36	0.38
Laconia	Belknap	High	Low	Mid-High	Educ & Health Services	6,985	187	0.35

Source: U.S. Census Bureau (2018), ESI (2020), New HEIGHTS (2020)

Child Care Cliffs

The top at-risk communities for child care cliffs had similar commonalities to towns with high risk for other programs; however, the top 25 towns at risk for child care cliffs are also disproportionately distributed among population density levels.

- More than one-third of towns (36 percent) had low population density;
- Nearly half of towns (48 percent) are located in either Carroll County (20 percent) or Grafton County (28 percent);
- More than two-thirds of towns (68 percent) had low median household income values;
- Eighty percent of towns had either mid-high or high social vulnerability; and
- Forty percent of towns relied heavily on goods-producing industries for employment.

Figure 4.16: Highest Risk of Child Care Cliffs with Typology Detail

Town	County	Density	Income	SVI	Emp Comp	Total Households	Child Care Cliffs	Avg Child Care Risk Score
Dorchester	Grafton	Low	Low	Mid-High	Other	129	31	0.46
Wentworth	Grafton	Low	Mid-Low	Mid-High	Goods-producing	349	63	0.45
Stratford	Coos	Low	Low	High	Goods-producing	292	54	0.44
Lisbon	Grafton	Mid-Low	Low	High	Goods-producing	612	103	0.48
Windsor	Hillsborough	Low	Mid-Low	Mid-Low	Educ & Health Services	90	13	0.55
Eaton	Carroll	Low	Mid-Low	High	Leisure & Hospitality	149	29	0.41
Chatham	Carroll	Low	Mid-Low	Mid-High	Other	145	29	0.40
Gilsum	Cheshire	Mid-Low	Mid-Low	Mid-High	Goods-producing	286	49	0.45
Bristol	Grafton	Mid-High	Low	Mid-High	Goods-producing	1,232	199	0.46
Effingham	Carroll	Mid-Low	Low	High	Goods-producing	605	98	0.45
Franklin	Merrimack	High	Low	Mid-High	Goods-producing	3,760	619	0.45
Lancaster	Coos	Mid-Low	Low	High	Educ & Health Services	1,349	212	0.46
Manchester	Hillsborough	High	Low	High	Educ & Health Services	45,461	6,816	0.47
Claremont	Sullivan	High	Low	Mid-High	Trade, Transport, Utilities	5,467	831	0.46
Pittsfield	Merrimack	Mid-High	Low	Mid-Low	Goods-producing	1,711	256	0.46
Tamworth	Carroll	Mid-Low	Low	High	Leisure & Hospitality	1,377	215	0.44
Ossipee	Carroll	Mid-Low	Low	Mid-High	Trade, Transport, Utilities	1,925	295	0.45
Benton	Grafton	Low	Low	High	Educ & Health Services	109	14	0.53
New Ipswich	Hillsborough	Mid-High	Mid-High	Mid-Low	Goods-producing	1,822	257	0.48
Woodstock	Grafton	Low	Low	High	Leisure & Hospitality	480	68	0.47
Winchester	Cheshire	Mid-High	Low	Mid-High	Goods-producing	1,748	262	0.45
Belmont	Belknap	High	Mid-Low	Mid-High	Trade, Transport, Utilities	2,894	408	0.47
Tilton	Belknap	High	Low	High	Trade, Transport, Utilities	1,451	204	0.47
Grafton	Grafton	Low	Low	Mid-Low	Other	488	66	0.48
Rindge	Cheshire	Mid-High	Mid-High	Mid-Low	Trade, Transport, Utilities	1,816	247	0.48

Source: U.S. Census Bureau (2018), ESI (2020), New HEIGHTS (2020)

Housing Cliffs

Similar to high-risk child care cliff towns, towns with the highest risk for housing cliffs also had a disproportionate distribution of population density, though in the opposite direction. However, this is likely a product of the fact that the highest concentrations of subsidized rental housing units are located in more densely populated areas.

- Eighty percent of towns had mid-high or high population density;
- Nearly half of towns (48 percent) are located in Grafton (16 percent), Hillsborough (16 percent), and Merrimack Counties (16 percent);
- More than two-thirds of towns (68 percent) had low median household income levels;
- Nearly three-quarters of towns (72 percent) had mid-high or high social vulnerability; and
- More than two-thirds of towns (68 percent) relied heavily on goods-producing (36 percent) or Education and Health Services (32 percent) industries for employment.

Figure 4.17: Highest Risk of Housing Cliffs with Typology Detail

Town	County	Density	Income	SVI	Emp Comp	Total Households	Housing Cliffs	Avg Housing Risk Score
Lisbon	Grafton	Mid-Low	Low	High	Goods-producing	612	19	0.37
Claremont	Sullivan	High	Low	Mid-High	Trade, Transport, Utilities	5,467	156	0.35
Berlin	Coos	Mid-High	Low	High	Educ & Health Services	3,914	81	0.37
Somersworth	Strafford	High	Mid-Low	Mid-High	Trade, Transport, Utilities	4,934	109	0.32
Keene	Cheshire	High	Low	Mid-High	Educ & Health Services	9,346	183	0.36
Laconia	Belknap	High	Low	Mid-High	Educ & Health Services	6,985	124	0.35
Newport	Sullivan	Mid-High	Low	Mid-High	Goods-producing	2,727	47	0.34
Boscawen	Merrimack	Mid-High	Mid-Low	Mid-Low	Educ & Health Services	1,334	17	0.43
Franklin	Merrimack	High	Low	Mid-High	Goods-producing	3,760	57	0.35
Hinsdale	Cheshire	Mid-High	Mid-Low	High	Goods-producing	1,685	25	0.35
Colebrook	Coos	Mid-Low	Low	High	Educ & Health Services	942	12	0.39
Canaan	Grafton	Mid-Low	Mid-High	Mid-Low	Educ & Health Services	1,434	18	0.39
Tilton	Belknap	High	Low	High	Trade, Transport, Utilities	1,451	21	0.34
Greenville	Hillsborough	High	Low	Low	Goods-producing	868	10	0.41
Winchester	Cheshire	Mid-High	Low	Mid-High	Goods-producing	1,748	20	0.38
Lancaster	Coos	Mid-Low	Low	High	Educ & Health Services	1,349	16	0.34
Allenstown	Merrimack	High	Low	Low	Other	1,809	17	0.43
Antrim	Hillsborough	Mid-Low	Mid-Low	Low	Other	974	12	0.33
Manchester	Hillsborough	High	Low	High	Educ & Health Services	45,461	542	0.33
Bristol	Grafton	Mid-High	Low	Mid-High	Goods-producing	1,232	13	0.35
Littleton	Grafton	Mid-High	Low	High	Trade, Transport, Utilities	2,797	26	0.35
Nashua	Hillsborough	High	Mid-High	Mid-High	Trade, Transport, Utilities	36,274	321	0.35
Portsmouth	Rockingham	High	Mid-High	Low	Other	9,998	91	0.33
Pittsfield	Merrimack	Mid-High	Low	Mid-Low	Goods-producing	1,711	13	0.39
Milton	Strafford	Mid-High	Mid-Low	Mid-High	Goods-producing	1,721	12	0.41

Source: U.S. Census Bureau (2018), ESI (2020), New HEIGHTS (2020)

All Cliff Risks

By combining the calculated risk scores for each town by program of interest, a list of the top 25 at-risk towns for benefit cliffs emerged. Notably, nine of the 25 towns appeared on at least four of the five top 25 program-specific risk lists (highlighted in Figure 4.18 below), suggesting that there are often multiple cliff-causing factors contributing to the risk in these communities, as opposed to a high concentration of risk in one program as opposed to others. In fact, only two towns from the top 25 list appeared on just one program-specific list: Lincoln (ranked 20 on the list) and Northfield (ranked 24). In both cases, the only list on which the towns appeared was for health cliff risks, which is the most prevalent program among those of interest in terms of enrollment. Only five of the top 25 towns did not appear in the health cliffs risk top 25 list.

Additional insights on the top 25 overall at-risk towns are largely similar to recurring patterns from the program-specific insights, including:

- Fifty-two percent of towns are located in either Coos (16 percent), Grafton (20 percent), or Merrimack (16 percent) County;
- Eighty-four percent of towns had low median household income levels;
- Eighty-eight percent of towns had mid-high or high social vulnerability; and
- Forty percent of towns relied heavily on goods-producing industries for employment.

Figure 4.18: Highest Risk of Benefit Cliffs with Typology Detail

Town	County	Density	Income	SVI	Emp Comp	Appears in Program-Specific Top 25 List					Total HHs	Total Cliffs	Avg Overall Risk Score
						Health	TANF	SNAP	CCDF	Housing			
Lisbon	Grafton	Mid-Low	Low	High	Goods-producing	✓	✓	✓	✓	✓	612	346	0.39
Stratford	Coos	Low	Low	High	Goods-producing	✓	✓	✓	✓		292	158	0.39
Dorchester	Grafton	Low	Low	Mid-High	Other			✓	✓		129	65	0.39
Claremont	Sullivan	High	Low	Mid-High	Trade, Transport, Utilities	✓	✓	✓	✓	✓	5,467	2,642	0.39
Franklin	Merrimack	High	Low	Mid-High	Goods-producing	✓	✓	✓	✓	✓	3,760	1,824	0.38
Effingham	Carroll	Mid-Low	Low	High	Goods-producing	✓		✓	✓		605	290	0.39
Bristol	Grafton	Mid-High	Low	Mid-High	Goods-producing	✓	✓	✓	✓	✓	1,232	563	0.39
Lancaster	Coos	Mid-Low	Low	High	Educ & Health Services	✓	✓		✓	✓	1,349	621	0.39
Tilton	Belknap	High	Low	High	Trade, Transport, Utilities	✓	✓	✓	✓	✓	1,451	622	0.39
Manchester	Hillsborough	High	Low	High	Educ & Health Services	✓			✓	✓	45,461	19,452	0.39
Laconia	Belknap	High	Low	Mid-High	Educ & Health Services	✓	✓	✓		✓	6,985	3,058	0.38
Gilsum	Cheshire	Mid-Low	Mid-Low	Mid-High	Goods-producing			✓	✓		286	121	0.39
Winchester	Cheshire	Mid-High	Low	Mid-High	Goods-producing		✓	✓	✓	✓	1,748	747	0.39
Colebrook	Coos	Mid-Low	Low	High	Educ & Health Services	✓				✓	942	403	0.39
Ossipee	Carroll	Mid-Low	Low	Mid-High	Trade, Transport, Utilities	✓		✓	✓		1,925	821	0.39
Pittsfield	Merrimack	Mid-High	Low	Mid-Low	Goods-producing		✓		✓	✓	1,711	709	0.39
Tamworth	Carroll	Mid-Low	Low	High	Leisure & Hospitality	✓		✓	✓		1,377	584	0.38
Troy	Cheshire	Mid-High	Mid-Low	Mid-High	Leisure & Hospitality	✓		✓			829	339	0.39
Newport	Sullivan	Mid-High	Low	Mid-High	Goods-producing	✓		✓		✓	2,727	1,106	0.40
Lincoln	Grafton	Low	Low	High	Leisure & Hospitality	✓					530	221	0.38
Berlin	Coos	Mid-High	Low	High	Educ & Health Services	✓	✓			✓	3,914	1,618	0.38
Grafton	Grafton	Low	Low	Mid-Low	Other	✓			✓		488	196	0.40
Belmont	Belknap	High	Mid-Low	Mid-High	Trade, Transport, Utilities	✓			✓		2,894	1,144	0.39
Northfield	Merrimack	Mid-High	Mid-Low	Mid-High	Goods-producing	✓					1,849	725	0.39
Allenstown	Merrimack	High	Low	Low	Other		✓	✓		✓	1,809	696	0.40

Source: U.S. Census Bureau (2018), ESI (2020), New HEIGHTS (2020)

5. Benefit Cliff Workforce Constraints: Deep Dive Analysis

5.1. Families with No Initial Earnings

Households with No Children

Healthcare Cliffs for Households with No Children with No Earnings

All 18,777 single adult households with no children will face a healthcare cliff during the simulation. Figure 5.1 below shows the number of benefit cliffs (inclusive of repeated cliffs) by program and risk type for this group. The difference between the total number of cliffs and the number of families facing cliffs indicate the instances when a single family faces multiple cliffs, including multiple cliffs attributed to a single program.

- Due to the substantial income increase needed for these households to reach a cliff, only 31 out of 19,440 cliffs are considered high risk. This is unlike their counterpart households with earnings, in which half of the healthcare cliffs are high risk (see Section 5.2 below).
- LIHEAP, housing, and SNAP cliffs are relatively rare in households of this type, totaling less than one percent of all cliffs.

Figure 5.1: Cliffs by Risk and Program Type, Households with No Children, No Earnings

	Healthcare	LIHEAP	Housing	SNAP	Total
Number of Families Facing Cliff	18,777	101	32	20	18,777
Risk Quartile					
1 (Low Risk)	1,032	39		3	1,074
2	12,274	13	46	35	12,368
3	6,103	51	3		6,157
4 (High Risk)	31				31
Total Number of Cliffs	19,440	103	49	38	19,630

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Eighty percent (15,698) of the 19,440 healthcare cliffs occur at or before households reach an earnings level of \$18,000, at which point a single household would reach the program cutoff for adults at 138% of the Federal Poverty Level. For these households, full-time employment paying roughly \$9 per hour (or \$18 an hour for half-time work) would render them ineligible for Medicaid. At this point, workers can either purchase health insurance through employers, purchase health insurance through healthcare marketplaces (subsidized by premium tax credits when employer coverage is unavailable or considered unaffordable) or forgo health insurance entirely. In the model used for this analysis, households are randomized as having access to employer coverage. It is also assumed that all individuals without access to employer insurance purchase health insurance from the healthcare marketplaces. As indicated above, the measure of healthcare expenses can be reduced either by Medicaid eligibility or premium tax

credits, so while the majority of healthcare cliffs are directly associated with Medicaid loss, some cliffs may also be due to significant changes in the value of sliding-scale premium tax credits.

Figure 5.2 below shows the share of cliffs for this household type attributed to healthcare that occur due to this program, and the share resulting from an interaction between healthcare and other programs.

- Eighty-six percent of the cliffs encountered coincide with the loss of healthcare benefits, with no interaction from the other five programs of interest.
- Approximately 13 percent of the cliffs encountered are due to a combination of healthcare and housing subsidy loss or reduction. Healthcare still accounts for the vast majority (83 percent) of the overall net resource loss in these combinations.

Figure 5.2: Number of Programs Contributing to Healthcare Cliffs, No Earnings

Programs	Cliffs	% Healthcare Cliff ¹³⁷	Average Cliff Size	Distance from Cliff
Healthcare	16,703	100%	-\$1,099	\$20,753
Two Programs				
Healthcare+ Housing	2,493	83%	-\$1,064	\$18,264
Healthcare + SNAP	154	89%	-\$2,123	\$23,019
Healthcare + LIHEAP	80	87%	-\$1,110	\$18,600
Three Programs				
Healthcare + SNAP + LIHEAP	5	72%	-\$1,159	\$21,800
Healthcare + Section 8 + SNAP	5	74%	-\$1,591	\$19,200
Total	19,440	98%	-\$1,228	\$5,061

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Single Adult Households with Children

The 7,456 single adult households with children not currently in the labor force face 33,208 cliffs across all six programs of interest. With the exception of child care, none of these cliffs are considered high risk, primarily given the income needed to reach these cliffs. By contrast, increased child care costs are immediate when entering the labor force. For this reason, 71 percent of child care cliffs are considered high risk for these families.

¹³⁷ Here and throughout the rest of this section, “% [Program] Cliff” refers to the percent of the cliff magnitude for which that program is responsible out of the six programs of interest, rather than the percent of the overall magnitude including factors beyond the six programs of interest.

Figure 5.3: Cliffs by Risk and Program Type, Single Adult Households with Children, No Earnings

	Healthcare	Child Care	SNAP	TANF	Housing	LIHEAP	Total
Number of Families Facing Cliff	7,391	6,086	2,453	527	657	635	7,456
Risk Quartile							
1 (Low Risk)	7,675	1,028	1,096	550	590	567	11,506
2	6,188	988	1,625	824	171	94	9,890
3	7	2,050	18	6	3		2,084
4 (High Risk)		9,728					9,728
Total Number of Cliffs	13,870	13,794	2,739	1,380	764	661	33,208
Percent High Risk	0%	71%	0%	0%	0%	0%	29%
% of Total Cliffs, All Family Types	34%	60%	70%	93%	53%	56%	46%

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Because this household type comprises 46 percent of the total number of cliffs for all families not currently employed, this analysis will focus on cliffs encountered from every program of interest. With the exception of child care cliffs, all cliffs encountered will be analyzed regardless of risk level. The child care cliff analysis will focus on the 9,728 high risk cliffs for this family type.

Healthcare Cliffs for Single Adult Households with Children with No Earnings

The most common cliff for single adult households with children is the loss of healthcare benefits. However, roughly 61 percent of these cliffs have a risk quartile of 1 or 2 (lower risk), because a substantial earnings increase is needed to encounter these cliffs.

Figure 5.4 below shows the distribution of these households by their distance from a cliff, and the associated net resource loss. Four clusters emerge for families not currently employed:

- At \$24,000 and \$30,000 (138 percent of the FPL for a family of two or three respectively) an adult loses Medicaid while children lose Medicaid benefits at the latter earning levels of \$54,000 and \$68,000 (318 percent of the FPL).

Figure 5.4: Healthcare Cliffs Clusters, Single Adult Households with Children, No Earnings

Distance from Cliff	Number of Cliffs	Average Net Resource Loss	Average Net Resources at Cliff
\$24,000	3,443	-\$964	-\$4,895
\$30,000	2,131	-\$1,054	-\$1,172
\$54,000	3,484	-\$1,832	\$11,306
\$68,000	2,553	-\$2,932	\$17,767
Cliff Clusters	11,611	-\$1,674	\$5,632
Total Cliffs	13,870	-\$1,618	\$4,894
Percent of Total	84%		

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

It is important to note that when the adult loses Medicaid during the earlier (lower income) cliffs, the family's net resources are less than the breakeven amount (-\$4,895 and -\$1,172, respectively). In the later losses (at higher incomes), the family has a larger cliff amount but is above the breakeven line, on average. In other words, at these higher incomes, their earnings create enough of a buffer that despite experiencing these benefit cliffs, the model indicates that the family will be able to afford basic expenses without drawing on savings or loans. These benefit cliffs do not represent as catastrophic a blow as a benefit cliff that a family simply cannot afford.

Figure 5.5 below shows the share of cliffs for single adult families currently not working attributed to healthcare benefits as the only program of interest contributing to the cliff (with no interaction from the other five programs of interest), and the share resulting from an interaction between healthcare and other programs of interest.

- Seventy-three percent of healthcare cliffs are based on changes in Medicaid eligibility or the premium tax credit, with an average cliff size of -\$2,275, with no interactions from other programs of interest. Because these cliffs are primarily faced later in the simulation when children in the household lose Medicaid, the average distance to encountering these cliffs is significant (more than \$58,000).
- Ten percent of cliffs (1,445) are due to a combination of reduction or loss of SNAP benefit and healthcare coverage. For these cliffs, roughly 86 percent of the magnitude in loss is due to the loss of the healthcare coverage with the remaining 14 percent due to reduction in SNAP benefit.
- Seven percent of cliffs (907) are due to a combination of loss of higher health expenses (from losing Medicaid or seeing reductions in premium tax credits) and reduction or loss of housing benefit. For these cliffs, roughly 86 percent of the magnitude in loss is due to the loss of healthcare coverage while the remaining 14 percent is due to reduction or loss of housing benefits.

Figure 5.5: Programs contributing to Healthcare Cliffs, Single Adult Households with Children, No Earnings

	Cliffs	% Healthcare Cliff	Average Cliff Size	Distance to Cliff
Healthcare	10,226	100%	-\$2,275	\$58,571
Two Programs				
Healthcare + SNAP	1,445	86%	-\$1,084	\$28,388
Healthcare + Housing	907	86%	-\$1,534	\$36,309
Healthcare + Child Care	198	87%	-\$992	\$28,389
Healthcare + TANF	58	77%	-\$1,240	\$30,121
Healthcare + LIHEAP	19	86%	-\$1,151	\$29,789
Three Programs				
Healthcare + SNAP + TANF	356	72%	-\$1,369	\$28,708
Healthcare + SNAP + Housing	192	74%	-\$1,359	\$29,859
Healthcare + SNAP + Child Care	155	82%	-\$1,143	\$31,155
Healthcare + Child Care + Housing	39	76%	-\$1,283	\$26,846
Healthcare + Child Care + TANF	28	55%	-\$1,648	\$24,857
Healthcare + TANF + Housing	8	69%	-\$1,313	\$28,500
Healthcare + SNAP + LIHEAP	6	78%	-\$1,415	\$26,500
Four Programs				
Healthcare + SNAP + Housing + TANF	68	68%	-\$1,553	\$28,765
Healthcare + SNAP + Child Care + TANF	67	72%	-\$1,486	\$31,478
Healthcare + SNAP + LIHEAP + TANF	34	66%	-\$1,721	\$30,353
Healthcare + SNAP + Child Care + Housing	19	71%	-\$1,350	\$28,421
Healthcare + Child Care + TANF + LIHEAP	2	62%	-\$1,970	\$27,000
Five Programs				
Healthcare + SNAP + Child Care + TANF + Housing	19	66%	-\$1,535	\$32,211
Healthcare + SNAP + Child Care + TANF + LIHEAP	16	65%	-\$1,734	\$30,000
Total	13,870	95%	-\$1,970	\$50,407

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Child care cliffs for single adult households with children with no earnings

Among the 7,456 single adult households with children and no earnings in New Hampshire, 81 percent (6,086) will face at least one child care cliff should they increase their earnings by entering the labor force. Of the 13,794 cliffs faced by these households, 71 percent are considered high risk (9,728 cliffs). As previously noted, the high cost of child care creates potentially prohibitive barriers to labor force entry.

Whenever a working family increases labor force participation, additional hours in the labor force can lead to a net resource loss. The same is true for single adult with children households whose adults are not currently in the labor force; however, the increased expenses for families newly entering the workforce are more dire because they are estimated to have negative net resources when they are unemployed, and for their net resources to remain negative at every child care benefit cliff they

experience. These child care cliffs represent families going deeper into debt, eating up more of their savings, or foregoing quality child care for options they can afford.

Figure 5.6 below shows the distribution of these households by their distance from a cliff, and the associated average and total net resource loss. Since all families of this type start at zero initial earnings, they each face cliffs at the same intervals of earnings levels, primarily depending on the number of children in the household:

- The majority of cliffs (76 percent) happen when the adult enters the labor force (at annual earnings of \$1,000 and \$4,000, respectively), with additional cliffs at \$5,000, \$9,000, and \$18,000 in earnings. The net resource loss at each cliff averages \$2,466.
- In addition to this incremental loss from the cliff, it is important to note that these families are already well below breakeven in terms of their net resources at any of these earnings levels, on average -\$21,339.

Figure 5.6: Distance from Child Care Cliff, Average Net Resource Loss and Total at Cliff, Single Adult Households with Children, No Earnings

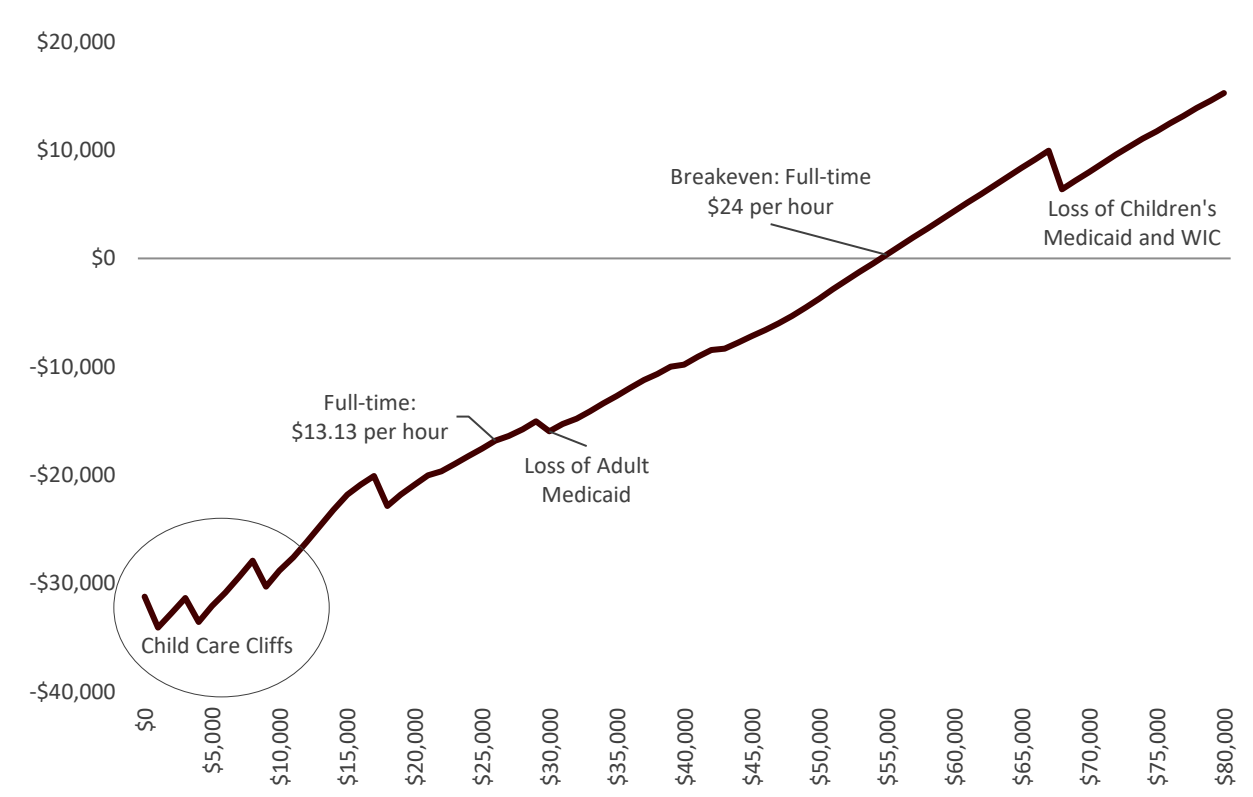
Distance from Cliff	Number of Cliffs	Average Net Resource Loss at Cliff (incremental)	Average Net Resource Total at Cliff
\$1,000	3,012	-\$1,798	-\$22,942
\$4,000	4,371	-\$2,661	-\$22,039
\$5,000	151	-\$1,639	-\$17,687
\$9,000	1,866	-\$2,587	-\$18,043
\$18,000	328	-\$5,683	-\$17,717
Total	9,728	-\$2,466	-\$21,339

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Since the majority of these cliffs (97 percent) occurs within the first \$9,000 of earnings, the barriers captured in this calculation could be addressed with sufficient earnings. At New Hampshire's 25th percentile wage of slightly over \$13 per hour, an individual working 15 hours a week would earn more than \$9,000 annually and bypass these calculated cliffs. However, unlike the households with children that had initial earnings (analyzed below), families without earnings would still be far from the breakeven point in total net resources with this level of earnings.

Figure 5.7 below illustrates the net resources for one of the approximately 6,000 households facing this scenario. For this single-adult, two-child family, entering the labor force at \$13 per hour would result in three child care cliffs if working less than 15 hours per week (circled below). Beyond these cliffs, the family would still be well below breakeven relative to typically necessary expenses. The breakeven level of net resources for this household is not reached until an annual salary of around \$48,000 (or \$24 per hour), a typical breakeven level for households of this type.

Figure 5.7: Single Adult Household with Two Children, No Initial Earnings



Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

While a small portion (7 percent) of these families participate in the CCDF program, the vast majority are not enrolled. Figure 5.8 below shows differentials in the location, number, and average net resource losses for these households based on whether they are enrolled in the CCDF program.

- The average net resource loss for households not enrolled in CCDF is around \$2,500, or 1.9 times the average among those families enrolled in the program.
- The greatest difference in loss magnitude occurs at the first cliff, where the average loss is \$1,909 for those not enrolled compared to \$421 for those enrolled.

Figure 5.8: Difference in Child Care Cliff Magnitude, by CCDF Enrollment, No Earnings

Distance from Cliff	Enrolled in CCDF Program		Not Enrolled in CCDF Program		Diff in Cliff Magnitude
	Number of Cliffs	Average Net Resource Loss	Number of Cliffs	Average Net Resource Loss	
\$1,000	226	-\$421	2,786	-\$1,909	4.5
\$4,000	305	-\$1,864	4,066	-\$2,721	1.5
\$5,000	2	-\$191	149	-\$1,658	8.7
\$9,000	17	-\$1,281	1,849	-\$2,599	2.0
\$18,000	14	-\$3,987	314	-\$5,758	1.4
Total	564	-\$1,315	9,164	-\$2,536	1.9

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

To illustrate the difference in cliffs based on enrollment in the CCDF program, Figure 5.9 below shows the path of two single adult, non-working households with one child. While their overall progressions are extremely similar, the difference between the early childcare cliffs can be seen in the first \$9,000 of earnings. The family not enrolled in the CCDF program realizes two cliffs, one for -\$1,814 at \$1,000 in earnings and a second of -\$761 at \$9,000 in earnings. The family receiving the CCDF subsidies avoids both of these cliffs and is marginally better off than the previous earnings level. Thus, while the CCDF program does not shorten the distance needed for the family to reach breakeven, it does substantially lower the financial disincentive to working more hours. This initial workforce participation may, in many cases, be a necessary (though not sufficient) step for a worker to begin a path towards greater economic opportunity over time.

Figure 5.9: Paths of Similar Families based on CCDF Enrollment Status



Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

SNAP cliffs for single adult households with children, no earnings

Single adult households with children encounter 70 percent (2,739) of SNAP cliffs realized by families not currently employed, regardless of household type. Among these, no cliffs are considered to be high risk due to the income level needed to reach them.

Figure 5.10 below compares the distribution of these households by their distance from a cliff, and the associated net resource loss. Seventy-one percent (1,950 cliffs) are clustered around four income levels. This clustering is associated with the program's gross income limit of 185 percent FPL, which is around \$32,000 for a family of two, \$40,000 for a family of three, and \$48,000 for a family of four. Additional clustering around \$22,000 result not from SNAP gross income limits but from "combination cliffs." At this income level, the following occurs:

- Families continue losing SNAP benefits at a rate of about \$240-\$360 per every \$1,000;
- Single adults shift from working four days per week to five days per week in the model, resulting in a small but significant (\$261) increase in annual commuter costs among families without access to public transportation;
- Families have entered the phase-out period of the federal EITC (which for single filers descends at \$159 per every \$1,000 for single adult families with one child, and \$210 per every \$1,000 for single-adult families with two or more children);
- Families continue paying payroll tax at \$77 per every \$1,000; and
- Families may experience a stepwise decrease in LIHEAP, which, at this income level for a family of three (the federal poverty level for this family), will decrease in the range of \$84-\$210, depending on fuel type.

The total of the four non-LIHEAP changes in expenses listed above alone constitute a loss of \$848. When the family fuel type is such that LIHEAP losses at this point exceed \$152, the family will experience a negative change in net resources. Between the programs of interest (of which only SNAP and LIHEAP change at this income level), the cliff is recorded as a SNAP cliff because the loss of SNAP is larger than the loss of LIHEAP. Notably, a similar confluence of program losses and increased expenses do not frequently occur elsewhere among this group, as at lower incomes, EITC is not yet declining, and at higher incomes, no increases in transportation costs will be recorded because the model does not include working more than 5 days per week.

Figure 5.10: SNAP Cliffs, Single Adult Households with Children, No Earnings

Distance from Cliff	Number of Cliffs	Average Net Resource Loss	Average Net Resources at Cliff
\$22,000	312	-\$72	-\$2,372
\$32,000	818	-\$997	-\$2,906
\$40,000	566	-\$2,746	-\$1,330
\$48,000	254	-\$4,071	-\$4,201
Total Cluster	1,950	-\$1,757	-\$2,532
Total Cliffs	2,739	-\$1,935	-\$2,310
Percent of Total	71%		

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Figure 5.11 below shows the share of high-risk cliffs for this household type attributed to SNAP that occur as the only program of interest contributing to the cliff, and the share resulting from an interaction between SNAP and other programs.

- Sixty-four percent of SNAP cliffs are based on changes in SNAP benefits (with no interaction from the other five programs of interest) with an average cliff size of -\$2,128.
- Thirteen percent of cliffs (353) are due to a combination of reduction or loss of SNAP and LIHEAP benefits. For these cliffs, roughly 59 percent of the magnitude in loss is due to the loss of the SNAP benefit and 41 percent due to the loss of LIHEAP.
- Eight percent of cliffs (206) are due to a combination of reduction or loss of SNAP and healthcare benefits. For these cliffs, roughly 84 percent of the magnitude in loss is due to the loss of the SNAP benefit while the remaining 16 percent is due to healthcare benefit loss.

Figure 5.11: Programs contributing to SNAP Cliffs, Single Adult Households with Children, No Earnings

	Cliffs	% SNAP Cliff	Average Cliff Size	Distance to Cliff
SNAP	1,754	100%	-\$2,128	\$36,735
Two Programs				
SNAP + LIHEAP	353	59%	-\$431	\$24,238
SNAP + Healthcare	206	87%	-\$2,484	\$37,005
SNAP + Child Care	185	94%	-\$2,814	\$40,238
SNAP + Housing	112	77%	-\$2,051	\$41,625
SNAP + TANF	6	97%	-\$2,893	\$45,000
Three Programs				
SNAP + Healthcare + LIHEAP	49	44%	-\$448	\$35,245
SNAP + Child Care + LIHEAP	23	49%	-\$368	\$23,478
SNAP + Child Care + Housing	17	70%	-\$1,689	\$43,941
SNAP + Child Care + Healthcare	15	87%	-\$2,396	\$37,867
SNAP + Healthcare + Housing	7	62%	-\$1,648	\$38,429
SNAP + LIHEAP + TANF	6	95%	-\$1,812	\$41,333
SNAP + Healthcare + TANF	2	96%	-\$5,531	\$55,000
SNAP + Child Care + TANF	1	85%	-\$2,801	\$45,000
Four Programs				
SNAP + Child Care + Healthcare + Housing	2	46%	-\$699	\$40,000
SNAP + Child Care + LIHEAP + TANF	1	85%	-\$3,676	\$54,000
Total	2,739	91%	-\$1,935	\$35,552

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

TANF cliffs for single adult households with children with no earnings

Of the 1,477 TANF cliffs encountered by families not currently employed, 93 percent (1,380) are single adult families with children.

Figure 5.12 below shows the share of cliffs for this household type attributed to TANF occurring as the only program of interest contributing to the cliff (with no interaction from the other five programs of interest), and the share resulting from an interaction between TANF and other programs.

- Unlike all other programs analyzed for single adult with children households, there were very few cliffs (3.7 percent) in which TANF was the only program of interest contributing to the cliff.
- SNAP interactions (including all combinations with SNAP) with TANF contributed to 94 percent of cliffs (1,291), with 29 percent of cliffs caused by a combination of TANF, SNAP, and housing.

Figure 5.12: Programs Contributing to TANF Cliffs, Single Adult Households with Children, No Earnings

	Programs	% TANF Cliff	Average Cliff	Distance from Cliff
TANF	51	100%	-\$33	\$35,200
Two Programs				
TANF + SNAP	177	85%	-\$93	\$23,073
TANF + LIHEAP	34	71%	-\$100	\$28,824
TANF + Child Care	14	68%	-\$54	\$19,500
TANF + Healthcare	8	71%	-\$15	\$35,625
TANF + Housing	1	77%	-\$131	\$22,000
Three Programs				
TANF + SNAP + Housing	407	68%	-\$45	\$29,776
TANF + SNAP + LIHEAP	164	63%	-\$159	\$27,591
TANF + SNAP + Healthcare	101	65%	-\$60	\$35,941
TANF + SNAP + Child Care	74	80%	-\$98	\$28,838
TANF + LIHEAP + Child Care	27	53%	-\$153	\$20,037
TANF + Housing + Healthcare	4	54%	-\$150	\$34,750
TANF + LIHEAP + Healthcare	2	55%	-\$300	\$31,500
Four Programs				
TANF + SNAP + Child Care + Housing	189	66%	-\$62	\$31,106
TANF + SNAP + Child Care + LIHEAP	68	57%	-\$168	\$26,412
TANF + SNAP + Child Care + Healthcare	25	62%	-\$88	\$35,160
TANF + SNAP + Healthcare + LIHEAP	16	39%	-\$181	\$33,375
TANF + SNAP + Healthcare + Housing	5	54%	-\$186	\$31,000
Five Programs				
TANF + SNAP + Child Care + Housing + Healthcare	13	50%	-\$197	\$29,692
Total	1,378	69%	-\$85	\$29,187

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Unlike other cliffs reviewed within this section, there is only one clustering of cliffs around an income level for TANF cliffs. At \$22,000 income, approximately 25 percent (346 cliffs) are encountered. Of these

346 cliffs, 290 have some sort of interaction with SNAP benefits, with 170 cliffs are produced from the interaction of SNAP and TANF benefits.

Housing cliffs for single adult households with children without earnings

Roughly 53 percent of housing cliffs for families not currently employed will be encountered by single adult households with children (764 cliffs). Of these cliffs, 77 percent have the lowest quartile of risk. Similar to SNAP, 59 percent of single adult households with children will encounter a cliff at \$22,000, \$32,000, or \$40,000 earnings levels.

Several identical factors occur at the \$22,000 income level as are described in the above SNAP section on this same income level, specifically the confluence of higher transportation costs, higher payroll taxes, and lower EITC amounts. In this case, however, the model does not confer any LIHEAP eligibility to families receiving housing subsidies. Rather, the amount of housing assistance families at this income level receive is declining at a rate of about \$300 per additional \$1,000 in earnings, and families that are also on SNAP see their SNAP benefits decline at about \$240 per \$1,000 at this earnings level.

Whether the cliff families face at this earnings level is classified as a housing cliff or a SNAP cliff depends on whether the decline in one is greater than the other. Due to SNAP's excess shelter deduction, the rate at which SNAP declines varies based on earnings, rent costs (inclusive of any reductions in rent due to housing assistance), and New Hampshire's SNAP-specific standard utility allowance schedule, but generally families with lower incomes face SNAP declines of up to \$240 per \$1,000, and families with higher incomes face SNAP declines of up to \$360 per \$1,000. For the housing cliffs at \$22,000, the increase in rent is higher than the decrease in SNAP, so the cliff is categorized as a housing cliff. As explained above, a family receiving both SNAP and housing assistance will experience losses in both programs as income rises. When the loss of SNAP at 185 percent is lower than \$300, that cliff will be attributable to housing at \$32,000 and \$40,000, even though the loss of eligibility for school meals is likely the primary reason why a cliff is encountered. (Because of the relationship between SNAP and school meal programs, we have not counted school meal programs as separate programs of interest.) WIC benefits also end at 185 percent FPL, likely accounting for a large portion of other combination cliffs at \$32,000 and \$40,000 attributable to housing in this analysis.

Figure 5.13: Housing Cliffs, Single Adult Households with Children, No Earnings

Distance from Cliff	Number of Cliffs	Average Net Resource Loss
\$22,000	78	-\$59
\$32,000	240	-\$265
\$40,000	132	-\$674
Total Cluster	450	-\$349
Total Cliffs	764	-\$451
Percent of Total	59%	

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Figure 5.14 below shows the share of cliffs for this household type attributed to housing occurring only due to a change in housing program benefits (with no interaction from the other five programs of interest), and the share resulting from an interaction between housing and other programs.

- For 57 percent of housing cliffs, a loss or decrease in the housing program benefit is the only program of interest contributing to the cliff (with no interaction from the other five programs of interest).
- An interaction with SNAP program contributes, at least partially, to 78 percent of cliffs attributed to a combination of programs.
- Notably, TANF interactions with housing programs did not result in any cliffs primarily attributable to housing. This is likely due to the formula for federal housing programs counting TANF cash assistance as income, so that any declines in TANF cash assistance due to rising income result in a smaller increase (or even decrease) in a family's rent contribution compared to a non-TANF family experiencing that same increase in earnings.
- Housing cliffs also do not include any interactions with LIHEAP because the model assumes that anyone receiving housing assistance pays for their heating bill as part of their rent, and therefore are not eligible for LIHEAP assistance under New Hampshire's rules.¹³⁸

Figure 5.14: Programs contributing to Housing Cliffs, Single Adult Households with Children, No Earnings

	Programs	% Housing Cliff	Average Cliff	Distance from Cliff
Housing	441	100%	-\$547	\$35,762
Two Programs				
Housing + SNAP	190	60%	-\$294	\$29,679
Housing + Healthcare	55	68%	-\$589	\$37,127
Housing + Child Care	11	65%	-\$419	\$32,909
Three Programs				
Housing + Healthcare + SNAP	32	43%	-\$247	\$32,938
Housing + Child Care + SNAP	20	46%	-\$65	\$34,850
Housing + Child Care + Healthcare	4	45%	-\$221	\$43,000
Four Programs				
Housing + Child Care + Healthcare + SNAP	11	35%	-\$28	\$36,909
Total	764	80%	-\$498	\$16,016

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

¹³⁸ It is possible that people receiving housing assistance pay their utility costs separate from the rent they pay landlords, but this is not common among HUD's Public Housing and Project-Based Section 8 programs. It is more common among HCVP residents, but for the purposes of simplicity it is assumed that all housing assistance recipients pay heat within their rent bill.

LIHEAP cliffs for single adult households with children with no earnings

Of the 1,265 LIHEAP cliffs encountered by families with no initial earnings, 52 percent (661 cliffs) are met by single adult households with children. Over 77 percent of these cliffs are considered low risk with no cliffs above average risk level.¹³⁹

- Two LIHEAP clusters emerge driven by the program eligibility limit of 200 percent FPL at \$34,000 and \$43,000, accounting for 64 percent of cliffs.

Figure 5.15: LIHEAP Cliffs, Single Adult Households with Children, No Earnings

Distance from Cliff	Number of Cliffs	Average Net Resource Loss	Average Net Resources
\$34,000	243	-\$97	-\$3,152
\$43,000	181	-\$123	\$474
Total Cluster	424	-\$108	-\$1,604
Total Cliffs	661	-\$179	-\$790
Percent of Total	64%		I

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Figure 5.16 shows the share of cliffs for this household type attributed to LIHEAP occurring primarily due to this program, and the share resulting from an interaction between LIHEAP and other programs.

- Approximately 28 percent of the LIHEAP cliffs are due to a loss of only the LIHEAP program (with no interaction from the other five programs of interest).
- Roughly half (331) are due to a combination of loss of healthcare and LIHEAP benefits. For these cliffs, the loss of LIHEAP is responsible for 76 percent of the cliff's average magnitude of -\$110.

¹³⁹ As noted above, program enrollment for LIHEAP was not included in the New HEIGHTS database and therefore families were randomly assigned their participation in the program based on program eligibility and statewide take-up rates.

Figure 5.16: Programs contributing to LIHEAP Cliffs, Single Adult Households w/Children, No Earnings

	Cliffs	% LIHEAP	Average Cliff	Distance to Cliff
LIHEAP	183	100%	-\$300	\$34,317
Two Programs				
LIHEAP + Healthcare	331	76%	-\$110	\$36,831
LIHEAP + Child Care	110	74%	-\$146	\$38,773
LIHEAP + SNAP	10	62%	-\$496	\$31,800
Three Programs				
LIHEAP + Child Care + Healthcare	17	61%	-\$301	\$39,706
LIHEAP + Child Care + SNAP	1	38%	-\$66	\$46,000
Four Programs				
LIHEAP + Child Care + Healthcare + SNAP	9	30%	-\$70	\$32,111
Total	661	81%	-\$179	\$36,405

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Two Adult Households with Children

There are 4,407 families of two adults with children with no initial earnings. These families encountered 17,583 cliffs in the simulation. Figure 5.17 below shows the number of benefit cliffs by program and risk type for this group.

- Nearly all households of this type (99 percent) face a potential healthcare cliff at some point during the simulation. However, 95 percent of these healthcare cliffs are considered to have below average risk, with only 5 percent having a high likelihood or significant magnitude.
- Approximately 68 percent of families will face a child care cliff, and of those cliffs, 34 percent are considered high risk.
- Only a small portion of families will face a net resource loss from SNAP (18 percent), LIHEAP (8 percent), housing (8 percent), and TANF (0.8 percent). In terms of cliffs, these programs make up less than 11 percent of all cliffs encountered by two adult households with children and no initial earnings.

Figure 5.17: Cliffs by Risk and Program Type, Two Adult Households with Children, No Earnings

	Child Care	Healthcare	SNAP	Housing	LIHEAP	TANF	Total
Number of Families Facing Cliff	2,990	4,359	800	331	352	35	4,407
Risk Quartile							
1 (Low Risk)	2,652	3,414	952	394	320	11	7,743
2	5,118	2,792	66	39	58	66	8,139
3	1,073	267			1	11	1,352
4 (High Risk)	317	32					349
Total Number of Cliffs	9,160	6,505	1,018	433	379	88	17,583
Percent High Risk	3%	0%	0%	0%	0%	0%	2%
% of Total Cliffs, All Family Types	40%	16%	26%	30%	30%	6%	25%

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Child care cliffs for two adult households with children with no earnings

Fifty-two percent of all cliffs encountered by this family type are child care cliffs. Given the work status of both parents (the model assumes that one parent can take care of children while the other increases labor force participation), participation in CCDF is extremely uncommon among this household type, with only one percent (43 households) enrolled in the program at the time the New HEIGHTS data was extracted for this analysis. The remaining 2,947 families encounter 8,979 child care cliffs at various earnings levels due to the increase in child care costs as one or both adults in the household enter the workforce.

Figure 5.18: Cliffs by Program Enrollment, Two Adult Households with Children, No Earnings

	Total	Not Receiving CCDF	Receiving CCDF
Families	2,990	2,947	43
Cliffs	9,160	8,979	181

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

5.2. Families with Initial Earnings

Households with No Children

The 5,561 households with no children that this model analyzes face potential benefit cliffs from healthcare, LIHEAP, housing, and SNAP programs. Figure 5.19 below shows the number of benefit cliffs (inclusive of repeated cliffs) by program and risk type for this group.

- Nearly all of the cliffs are primarily healthcare cliffs (resulting from loss of the Medicaid or reductions in the premium tax credit), which represent high-risk cliffs for nearly half (2,773 out of 5,759) of households of this type.
- LIHEAP, housing, and SNAP cliffs are relatively rare in households of this type.

Figure 5.19: Cliffs by Risk and Program Type, Households with No Children, Earnings

	Healthcare	LIHEAP	Housing	SNAP	Total
Number of Families Facing Cliff	5,545	84	21	9	5,561
Risk Quartile					
1 (Low Risk)	243	6	3	0	239
2	732	29	12	2	782
3	2,011	38	12	6	1,975
4 (High Risk)	2,773	14	13	2	2,792
Total Number of Cliffs	5,759	87	40	10	5,896

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

High-risk healthcare cliffs for households with no Children with Earnings

These high-risk cliffs are primarily driven by proximity, with a large concentration (93 percent) of these households within an earnings increase of \$8,000 (or a raise of \$4 per hour for a full-time worker) experiencing a loss of Medicaid coverage. Should these families lose this benefit, their marginal wage increases do not offset the cost of the benefit lost.

Figure 5.20 below shows the distribution of these households by their distance from a cliff and the associated net resource loss.

- On average, these families would experience a net resource loss of \$1,001 from their bottom line by accepting an increased wage of \$1,000 (a marginal tax rate of 200 percent).
- Most at-risk are households (368) within \$1,000 of this benefit cliff, with an average loss of more than \$977 in net resources.¹⁴⁰
- A smaller grouping of households is \$9,000-\$15,000 away from losing healthcare benefits. While further away, the potential net resource loss for these households is double of those losing healthcare at an earlier earnings level (-\$2,253).

¹⁴⁰ Note that a loss in net resources of \$962 implies that a household gaining \$1,000 in resources would see a cost increase of \$1,962, in this case through the private provision of health care to replace the loss of Medicaid.

Figure 5.20: High-Risk Healthcare Cliffs, Households with No Children, Earnings

Distance from Cliff	Number of Cliffs	Average Net Resource Loss
\$1,000	368	-\$977
\$2,000	411	-\$959
\$3,000	356	-\$1,041
\$4,000	275	-\$1,008
\$5,000	341	-\$956
\$6,000	308	-\$1,037
\$7,000	298	-\$1,011
\$8,000	213	-\$1,046
=<\$8,000	2,570	-\$1,001
\$9,000-\$15,000	162	-\$2,253

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Figure 5.21 below shows the share of high-risk cliffs for this household type attributed to healthcare (with no interaction from the other five programs of interest), and the share resulting from an interaction between healthcare and other benefit programs.

- Eighty-four percent of the cliffs potentially encountered are due to the loss of healthcare benefits (with no interaction from the other five programs of interest).
- Approximately 14 percent of the high-risk cliffs potentially encountered are due to a combination of healthcare and housing subsidy loss or reduction. Healthcare still accounts for the vast majority (84 percent) of the overall net resource loss in these combinations.

Figure 5.21: Number of Programs Contributing to High-Risk Healthcare Cliffs, Earnings

Programs	Cliffs	% Healthcare Cliff	Average Cliff Size	Distance from Cliff
Healthcare	2,326	100%	-\$1,209	\$5,053
Two Programs				
Healthcare + Housing	379	84%	-\$1,239	\$4,873
Healthcare + SNAP	20	90%	-\$2,778	\$7,700
Healthcare + LIHEAP	44	91%	-\$1,416	\$5,909
Three Programs				
Healthcare + SNAP + LIHEAP	3	80%	-\$1,370	\$4,667
Healthcare + Section 8 + SNAP	1	75%	-\$1,335	\$4,000
Total	2,773	98%	-\$1,228	\$5,061

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Single Adult Households with Children

The 9,411 single adult households with children analyzed face benefit cliffs across each of the six focus programs. Currently employed single adult households with children encounter the largest portion of cliffs among all family types for all programs other than child care.

Figure 5.22 below shows the number of benefit cliffs (inclusive of repeated cliffs) by program and risk type for this group:

- **Healthcare:** The vast majority of these households (99 percent) will face at least one healthcare cliff; however, only 19 percent are considered to be at high risk of losing this benefit.
- **Child Care:** While a lower number of families in this household type (20 percent) will face a child care cliff, for those that do, 50 percent will be high risk cliffs.
- **SNAP:** Around 20 percent of single adult household with children families will face a SNAP cliff. While only 34 percent of these cliffs are considered high risk, families in this household type realize approximately 57 percent of all SNAP cliffs for families with earnings.
- **LIHEAP:** There are 1,085 LIHEAP cliffs for 1,056 families, of which 176 are considered high risk. Of all family types with earnings, single adult households with children comprise of 57 percent of cliffs.
- **Housing:** There are 679 housing cliffs for 563 families, of which 173 are considered high risk. Of all family types with earnings, single adult households with children encounter 45 percent of housing cliffs.
- **TANF:** There are 325 TANF cliffs encountered by 93 families, of which 30 are considered high risk. Of all family types with earnings, single adult households with children encounter 83 percent of SNAP cliffs.

Figure 5.22: Cliffs by Risk and Program Type, Single Adult Households with Children, Earnings

	Healthcare	Child Care	SNAP	LIHEAP	Housing	TANF	Total
Number of Families Facing Cliff	9,341	1,924	1,907	1,056	563	93	9,411
Risk Quartile							
1 (Low Risk)	4,471	315	102	194	76	50	5,208
2	4,288	680	567	383	196	159	6,273
3	2,960	896	641	332	234	86	5,149
4 (High Risk)	2,664	1,865	668	176	173	30	5,576
Total Number of Cliffs	14,383	3,756	1,978	1,085	679	325	22,206
Percent High Risk	19%	50%	34%	16%	25%	9%	25%
% of Total Cliffs, All Family Types	40%	16%	57%	57%	45%	83%	33%

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Values bolded in Figure 5.22 above will be further analyzed in the following sections in order to understand where these cliffs occur and further investigate the interactions between programs for working single adult with children households. For healthcare, child care and SNAP, analysis will focus on high-risk cliffs, while LIHEAP, housing and TANF analyses will focus on all cliffs, since high risk cliffs are

limited; however, single adult households with children represent a large share of all households with cliffs within each of these programs.

Healthcare cliffs for single adults with children with earnings

The most common cliff for single adult households with children is the loss of healthcare benefits. Roughly 61 percent of these cliffs have a risk quartile of 1 or 2, indicating a substantial earnings increase is needed or the potential cliff itself is relatively shallow in terms of overall net resource loss. However, 2,664 cliffs for these households are considered high risk. Similar to families without children, high-risk healthcare cliffs are driven primary by proximity rather than magnitude, with 89 percent of high-risk cliffs occurring within the first \$10,000 increase in earnings.

Figure 5.23 below shows the distribution of these households by their distance from a cliff and the associated net resource loss.

- There are 262 households of this type within an earnings increase of \$1,000 (or a raise of \$0.50 per hour) of losing healthcare benefits, a cliff that would cost them roughly -\$1,289 in net resources.

Figure 5.23: High-Risk Healthcare Cliffs (Distance), Single Adult Households with Children, Earnings

Distance from Cliff	Number of Cliffs	Average Net Resource Loss
\$1,000	262	-\$1,126
\$2,000	255	-\$1,155
\$3,000	292	-\$1,249
\$4,000	261	-\$1,212
\$5,000	241	-\$1,184
\$6,000	270	-\$1,325
\$7,000	263	-\$1,266
\$8,000	257	-\$1,339
\$9,000	144	-\$1,627
\$10,000	123	-\$1,839
=<\$10,000	2,368	-\$1,289
>\$10,000	296	-\$2,882

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

The remaining 296 high risk cliffs are faced by families with an increase of \$11,000 to \$40,000 in earnings. While substantial increases in earnings are needed to reach these potential cliffs, families risk losing an average of \$2,882 in net resources, more than double the magnitude of loss compared to nearer cliffs.

Figure 5.24 below shows the share of high-risk cliffs for this household type attributed to healthcare as the only program of interest contributing to the cliff, and the share resulting from an interaction between healthcare benefits and other programs.

- Fifty-eight percent of healthcare cliffs are based on changes in healthcare benefits (with no interaction from the other five programs of interest) with an average cliff size of -\$1,459. These cliffs are relatively close to being encountered, at an average increase in income of \$6,000 annually leading to these cliffs.
- Fourteen percent of cliffs (384) are due to a combination of reduction or loss of SNAP and healthcare benefits. For these cliffs, roughly 86 percent of the magnitude in loss is due to the loss of the healthcare benefits with the remaining 14 percent due to reduction in SNAP benefit.
- Seven percent of cliffs (191) are due to a combination of reduction or loss of healthcare and housing benefits. For these cliffs, roughly 85 percent of the magnitude in loss is due to the loss of healthcare benefits while the remaining 15 percent is due to reduction or loss of housing benefits.

Figure 5.24: Programs contributing to Housing Cliffs, Single Adult Households with Children, Earnings

	Cliffs	% Healthcare Cliff	Average Cliff Size	Distance to Cliff
Healthcare	1,654	100%	-\$1,459	\$6,009
Two Programs				
Healthcare + SNAP	384	86%	-\$1,095	\$4,914
Healthcare + Housing	191	85%	-\$1,417	\$5,749
Healthcare + Child Care	105	84%	-\$1,167	\$4,752
Healthcare + LIHEAP	3	89%	-\$1,206	\$3,000
Healthcare + TANF	3	77%	-\$1,223	\$7,333
Three Programs				
Healthcare + SNAP + Child Care	159	81%	-\$1,229	\$5,277
Healthcare + SNAP + Housing	78	74%	-\$1,375	\$5,205
Healthcare + Child Care + Housing	24	74%	-\$1,373	\$5,083
Healthcare + SNAP + TANF	20	73%	-\$1,409	\$7,700
Healthcare + Child Care + TANF	5	55%	-\$1,740	\$8,600
Healthcare + SNAP + LIHEAP	1	78%	-\$1,399	\$2,000
Healthcare + TANF + Housing	1	72%	-\$1,498	\$7,000
Four Programs				
Healthcare + SNAP + Child Care + Housing	26	73%	-\$1,466	\$4,538
Healthcare + SNAP + Child Care + TANF	8	72%	-\$1,519	\$7,250
Healthcare + SNAP + Child Care + LIHEAP	1	29%	-\$82	\$3,000
Healthcare + Child Care + Housing + TANF	1	70%	-\$1,602	\$4,000
Total	2,664	93%	-\$1,375	\$5,710

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Child care cliffs for single adults with children, with earnings

Of the 9,411 households comprised of single adult earners with children, roughly 20 percent (1,924 families) will face at least one cliff related to child care. Importantly, these cliffs from child care costs arise in two distinct ways:

- The first type of cliff occurs when the family loses their CCDF benefit or experiences an increase in their family contribution for participating in CCDF (when a family moves to a higher “step” in New Hampshire’s CCDF program, explained below), thus reducing net benefits and increasing the overall cost of care.
- The second type of cliff occurs when a family increases their hours of work, and by doing so, increases their child care costs from additional earnings.¹⁴¹ This can occur for families both participating in the CCDF program and those that do not.

Figure 5.25 below shows an overview of the incidence and magnitude of cliffs of each of these types. Meaningful cliffs of each of these types are revealed by the simulation:

- Of the 1,924 single adult households with earnings facing child care cliffs, 902 are receiving some level of CCDF subsidy.¹⁴² Over the course of the simulation, these families face 2,441 total cliffs—averaging 2.7 cliffs per household with a \$572 average resource loss.
- In contrast, the 1,022 families that are not receiving a CCDF subsidy will face only 1,315 cliffs during the course of the simulation (roughly 1.3 per household). However, the average net resource loss will be a significantly higher impact of \$2,903.

Figure 5.25: Characteristics of Single Adult Households facing Child Care Cliffs, by CCDF Enrollment, Earnings

	All Families	Not Receiving CCDF	Receiving CCDF
Number of Families	1,924	1,022	902
Number of Cliffs	3,756	1,315	2,441
Average Number of Cliffs	1.95	1.29	2.71
Average Magnitude of Cliff	-\$1,388	-\$2,903	-\$572
Average Initial Earnings	\$15,575	\$8,140	\$19,580

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

These large discrepancies in both the number and magnitude of cliffs are caused by two primary factors. The CCDF uses a step progression, meaning that as the 902 households receiving benefits increase their earnings, the benefit is gradually reduced. Within this structure, the families enrolled in the program will face multiple, anticipated benefit reductions as their earnings increase. Some of these benefit reductions will result in cliffs like those shown above, while some are lesser than the additional income earned, and thus do not result in benefit cliffs (though still may be significant when considered as a marginal effective tax on increased earnings).

For those families not enrolled in the CCDF program, the large average magnitude of the cliff (-\$2,903) quantifies mathematically a theme that has been repeated throughout this analysis: child care is a significant barrier to work. Of the 1,022 families facing cliffs without the subsidy, 99 percent are families in which the primary wage earner is working part-time. Should one of these families consider increasing

¹⁴¹ In this simulation, any part-time earner’s hours are increased to 40 hours prior to increasing wages.

¹⁴² 1,340 single adults with children households received CCDF benefits, of which 928 faced cliffs.

their labor market participation, they will quickly be disincentivized, as any additional earnings from increased hours would make them worse off when accounting for the increase in child care costs.

Figure 5.26 below compares the incidence of potential high-risk cliffs for households of this type based on whether they are enrolled in the CCDF program.

- Families enrolled in the CCDF program will face a greater number of cliffs (2,441) compared to those not enrolled (1,315).
- While there is a smaller overall volume of cliffs for non-enrolled families, 84 percent of these cliffs are considered to be high risk compared to only 31 percent of cliffs for those enrolled in the CCDF program.

Figure 5.26: High-Risk Cliffs by Program Enrollment, Single Adult Households with Children, Earnings

	Total	Not Receiving CCDF	Receiving CCDF
Households Facing Cliffs	1,924	1,022	902
All Cliffs	3,756	1,315	2,441
High Risk Cliffs	1,380	1,108	757
Percent High Risk	37%	84%	31%

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

While the probability of being faced with a high-risk cliff is much larger for the population not receiving CCDF, the similar count of high-risk cliffs for the two groups warrants further comparison of the underlying differences in these cliffs and the characteristics of the families facing them.

Figure 5.27 below compares the distribution of these households by their distance from a cliff and the associated net resource loss. This comparison reveals the following differences:

- Thirty-eight percent of high-risk cliffs for families not enrolled in CCDF are within \$1,000 of additional earnings away from a cliff, which would result in an average net resource loss of more than \$3,802. By comparison, only 23 percent of high-risk cliffs for families enrolled in CCDF are within \$1,000 of additional earnings, and these cliffs would result in an average net resources loss more than three times lower than their counterpart (-\$1,813).
- Families within \$1,000 of additional earnings from a cliff and not enrolled in CCDF earn an average salary of just \$4,968, with the vast majority of these households working part-time. In comparison, those families within \$1,000 of a cliff that are enrolled in CCDF earn an average salary of approximately \$17,147.
- This disparity indicates that the cliffs faced by non-CCDF households serve as a far greater impediment to workforce participation than those faced by families enrolled in CCDF, indicating household decision making that is consistent with the underlying incentives.
- The highest risk cliffs for non-CCDF households represent an aggregate potential loss of \$3.5 million in net resources, an average of roughly \$3,150 across 1,108 potential cliffs faced by non-

participant households. In comparison, the aggregate potential net resource loss for the for the households within the CCDF program facing 757 cliffs are roughly \$554,000.

Figure 5.27: High-Risk Cliffs by Program Enrollment, Single Adult Households with Children, Earnings

Distance from Cliff	Not Enrolled in CCDF Program			Enrolled in CCDF Program		
	Number of Cliffs	Average Net Resources	Average Earnings at Cliff	Number of Cliffs	Average Net Resources	Average Earnings at Cliff
\$1,000	416	-\$3,802	\$4,968	173	-\$1,183	\$17,147
\$2,000	188	-\$2,538	\$8,955	136	-\$546	\$24,173
\$3,000	79	-\$2,514	\$12,852	100	-\$429	\$29,720
\$4,000	74	-\$2,412	\$14,791	99	-\$360	\$29,458
\$5,000	54	-\$2,541	\$14,863	107	-\$446	\$32,261
\$6,000	53	-\$2,675	\$15,317	62	-\$628	\$30,072
\$7,000	44	-\$2,946	\$17,956	32	-\$985	\$31,919
\$8,000	30	-\$2,672	\$17,044	25	-\$1,342	\$30,729
\$9,000	50	-\$3,143	\$17,969	11	-\$1,605	\$33,775
\$10,000	26	-\$3,203	\$21,036	4	-\$1,583	\$40,664
\$11,000	29	-\$2,875	\$21,499	2	-\$1,758	\$17,583
\$12,000	23	-\$3,145	\$23,517	2	-\$2,672	\$39,049
\$13,000	11	-\$3,444	\$21,883	1	-\$2,869	\$15,959
\$14,000	11	-\$3,175	\$27,920			
\$15,000	6	-\$3,089	\$25,053	2	-\$2,738	\$23,269
\$16,000	4	-\$4,980	\$20,282			
\$17,000	2	-\$4,439	\$27,111	1	-\$4,135	\$58,841
\$18,000	5	-\$6,532	\$25,774			
\$19,000	1	-\$6,767	\$48,098			
\$22,000	1	-\$5,640	\$40,706			
\$27,000	1	-\$6,597	\$28,275			
Total	1,108	-\$3,152	\$11,250	757	-\$732	\$26,443
Aggregate Loss		-\$3,492,551			-\$554,437	

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

SNAP cliffs for single adults with children with earnings

SNAP represents neither the most common (healthcare) nor the highest risk (child care) cliff for single adult households with children in the workforce. However, of the 3,446 cliffs encountered by families with earnings, 57 percent (1,978 cliffs) are met by single adult households with children. Within the SNAP program, 1,907 single adult households with children face 1,978 cliffs throughout the simulation.

Among these cliffs, 668 (34 percent of cliffs) are considered to be high risk. Figure 5.28 below compares the distribution of these households by their distance from a cliff, and the associated net resource loss.

- High-risk cliffs are relatively evenly distributed by proximity; however, patterns do emerge in the average earnings level of families as they reach a cliff, which clusters between \$31,000-\$44,000.

- This clustering is associated with the program's gross income limit of 185 percent FPL, which is around \$32,000 for a family of two and \$40,000 for a family of three.

Figure 5.28: High-Risk SNAP Cliffs, Single Adult Households with Children, Earnings

Distance from Cliff	Number of Cliffs	Average Net Resource Loss	Average Earnings at Cliff
\$1,000	43	-\$1,332	\$32,765
\$2,000	32	-\$1,644	\$33,463
\$3,000	49	-\$1,604	\$33,927
\$4,000	60	-\$1,929	\$35,494
\$5,000	49	-\$1,302	\$32,898
\$6,000	47	-\$2,028	\$35,826
\$7,000	39	-\$2,128	\$36,668
\$8,000	48	-\$2,217	\$36,901
\$9,000	36	-\$2,830	\$39,305
\$10,000	28	-\$2,886	\$38,385
\$11,000	32	-\$2,718	\$41,602
\$12,000	29	-\$3,736	\$42,194
\$13,000	30	-\$3,317	\$41,568
\$14,000	18	-\$4,064	\$41,585
\$15,000	19	-\$4,015	\$45,149
\$16,000	24	-\$4,144	\$43,324
\$17,000	15	-\$4,305	\$43,111
\$18,000-\$37,000	70	-\$5,720	\$48,322
Total	668	-\$2,761	\$38,527

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Figure 5.29 below shows the share of high-risk cliffs for this household type attributed to SNAP that occur due to this program (with no interaction from the other five programs of interest), and the share resulting from an interaction between SNAP and other programs.

- Sixty-two percent of SNAP cliffs are cliffs in which none of the other five programs of interest decline, with an average cliff size of -\$2,126. The high average cliff size for SNAP is due partially to SNAP's cutoff at 185 percent FPL, and partially to the loss of eligibility for free school meals that families maintain as long as they are receiving SNAP. The resulting estimated increase in family food costs can contribute to or be solely responsible for the loss of net resources exceeding \$1,000.
- Sixteen percent of cliffs (326) are due to a combination of reduction or loss of SNAP benefit and increase in child care costs. For these cliffs, roughly 94 percent of the magnitude in loss is due to the loss of the SNAP benefit with the remaining 6 percent due to child care cost increases.

- Seven percent of cliffs (145) are due to a combination of reduction or loss of SNAP and healthcare benefits. For these cliffs, roughly 84 percent of the magnitude in loss is due to the loss of the SNAP benefit while the remaining 16 percent is due to healthcare benefit loss.
- The largest average loss in net resources (-\$4,182) is when there is an interaction of SNAP and healthcare reductions combined with increased child care costs.

Figure 5.29: Programs contributing to SNAP Cliffs, Single Adult Households with Children, Earnings

	Cliffs	% SNAP Cliff	Average Cliff Size	Distance to Cliff
SNAP	1,232	100%	-\$2,126	\$19,455
Two Programs				
SNAP + Child Care	326	94%	-\$2,911	\$18,494
SNAP + Healthcare	145	84%	-\$2,123	\$17,972
SNAP + LIHEAP	86	70%	-\$1,275	\$13,256
SNAP + Housing	75	76%	-\$2,509	\$22,867
SNAP + TANF	2	96%	-\$3,957	\$47,500
Three Programs				
SNAP + Healthcare + LIHEAP	36	46%	-\$549	\$16,639
SNAP + Child Care + Housing	27	74%	-\$1,742	\$17,778
SNAP + Child Care + Healthcare	14	87%	-\$4,182	\$22,357
SNAP + Child Care + LIHEAP	14	65%	-\$1,455	\$17,714
SNAP + Child Care + TANF	1	84%	-\$2,954	\$27,000
SNAP + Healthcare + Housing	6	61%	-\$1,536	\$15,167
SNAP + Healthcare + TANF	1	38%	-\$21	\$15,000
SNAP + LIHEAP + TANF	1	94%	-\$657	\$30,000
Four Programs				
SNAP + Child Care + Healthcare + Housing	7	65%	-\$1,778	\$16,571
SNAP + Child Care + Healthcare + LIHEAP	3	48%	-\$503	\$8,333
SNAP + Child Care + LIHEAP + TANF	1	59%	-\$556	\$27,000
SNAP + Healthcare + LIHEAP + TANF	1	32%	-\$5	\$12,000
Total	1,978	93.6%	-\$2,202	\$18,979

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

LIHEAP cliffs for single adults with children with earnings

Of the 1,920 LIHEAP cliffs encountered by families with earnings, 57 percent (1,085 cliffs) are met by 1,056 single adult households with children. Only 176 cliffs are considered to be high risk. After TANF, the LIHEAP program has the second lowest average magnitude (-\$153) of cliffs when considering all families with earnings.¹⁴³

Figure 5.30 below shows the share of cliffs for this household type attributed to LIHEAP (with no interaction from the other five programs of interest), and the share resulting from an interaction between LIHEAP and these other programs.

¹⁴³ As noted above, program enrollment for LIHEAP was not included in the New HEIGHTS database and therefore families were randomly assigned their participation in the program based on program eligibility and statewide take-up rates.

- Approximately half of the LIHEAP cliffs are due to the combined loss of the LIHEAP program and other programs outside of the six programs of interest in this report. As indicated above, while LIHEAP can never alone account for the loss of over \$1,000 in subsidies with an increase of \$1,000 in earnings, the reductions due to payroll taxes, the earned income tax credit, premium tax credits, SSI, subsidies from school meal programs can all decrease as earnings rise, and transportation costs, can combine with the loss of LIHEAP to lead to a loss of \$1,000 or more with an increase in earnings. Notably, TANF and housing program interactions with LIHEAP did not result in any LIHEAP cliffs.
- Roughly 23 percent (305 cliffs) are due to a combination of loss of healthcare and LIHEAP benefits.
- The largest average loss in net resources (-\$565) is when there is an interaction of SNAP and LIHEAP reductions. However, there are only ten cliffs resulting from these program interactions.
- There are six cliffs as a result of the combination of LIHEAP, child care, healthcare, and SNAP. The average magnitude of this cliff is relatively small (-\$57). The six households facing these combination cliffs encounter, on average, 9.5 cliffs over the course of the simulation.

Figure 5.30: Programs contributing to LIHEAP Cliffs, Single Adult Households with Children, Earnings

	Cliffs	% LIHEAP	Average Cliff	Distance to Cliff
LIHEAP	545	100%	-\$118	\$18,639
Two Programs				
LIHEAP + Healthcare	305	77%	-\$131	\$18,151
LIHEAP + Child Care	192	74%	-\$140	\$16,005
LIHEAP + SNAP	10	66%	-\$565	\$23,800
Three Programs				
LIHEAP + Child Care + Healthcare	23	61%	-\$232	\$17,261
LIHEAP + Child Care + SNAP	3	48%	-\$152	\$28,000
LIHEAP + Healthcare+ SNAP	1	61%	-\$380	\$33,000
Four Programs				
LIHEAP + Child Care + Healthcare + SNAP	6	30%	-\$57	\$21,000
Total	1,085	87%	-\$132	\$18,106

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Figure 5.31 below shows the earnings levels of families facing a potential LIHEAP cliff.

- Nearly all cliffs (1,082) are reached when the family earns between \$36,000 and \$43,000, with the majority of cliffs occurring between \$38,000 and \$40,000. This clustering is driven by the LIHEAP program eligibility limit of 200 percent FPL.

Figure 5.31: LIHEAP Cliffs, Single Adult Households with Children, Earnings

Earnings at Cliff	Number of Cliffs	Average Net Resource Loss
\$36,000	36	-\$105
\$37,000	62	-\$144
\$38,000	226	-\$121
\$39,000	253	-\$139
\$40,000	257	-\$140
\$41,000	120	-\$129
\$42,000	63	-\$150
\$43,000	65	-\$119

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Housing cliffs for single adults with children with earnings

There are 679 housing cliffs for 573 single adult households with children, of which 173 are considered high risk. The cliffs encountered by these families account for nearly half (45 percent) of all housing cliffs for families with earnings (1,495 total).

Figure 5.32 below shows the share of cliffs for this household type attributed to only housing assistance programs (from the six programs of interest), and the share resulting from an interaction between housing assistance programs and the other programs of interest.

- Approximately 56 percent of housing cliffs are due to the decrease in a housing program benefit combined with other programs outside of the six programs of interest in this report. As described above, declines in housing can never on their own result in a net resource loss exceeding \$1,000, owing to its gradual decline. Notably, TANF interactions with housing programs did not result in any cliffs primarily attributable to housing. This is likely due to the formula for federal housing programs counting TANF cash assistance as income, so that any declines in TANF cash assistance due to rising income result in a smaller increase (or even decrease) in a family's rent contribution compared to a non-TANF family experiencing that same increase in earnings. Housing cliffs also do not include any interactions with LIHEAP because the model assumes that anyone receiving housing assistance pays for their heating bill as part of their rent, and therefore are not eligible for LIHEAP assistance under New Hampshire's LIHEAP rules.¹⁴⁴
- Roughly 20 percent (138 cliffs) are due to a combination that includes loss of both SNAP and housing benefits.
- The largest average losses in net resources (-\$637) is when there is an interaction of housing and healthcare losses as well as an interaction between housing and child care (-\$623) dips. However, there are only 49 and 10 cliffs resulting from these program interactions, respectively.

¹⁴⁴ It is possible that people receiving housing assistance pay their utility costs separate from the rent they pay landlords, but this is not common among HUD's Public Housing and Project-Based Section 8 programs. It is more common among HCVP residents, but for the purposes of simplicity have assumed that all housing assistance recipients pay heat within their rent bill.

- There are 47 cliffs as a result of the combination of housing, child care, healthcare, and SNAP. The average magnitude of these cliffs is relatively small (-\$60).

Figure 5.32: Programs contributing to Housing Cliffs, Single Adult Households with Children, Earnings

	Programs	% Housing Cliff	Average Cliff	Distance from Cliff
Housing	381	100%	-\$614	\$15,984
Two Programs				
Housing + SNAP	138	62%	-\$421	\$15,768
Housing + Healthcare	49	67%	-\$637	\$13,878
Housing + Child Care	10	66%	-\$623	\$20,400
Three Programs				
Housing + Healthcare + SNAP	26	43%	-\$153	\$13,538
Housing + Child Care + SNAP	24	44%	-\$83	\$20,625
Housing + Child Care + Healthcare	4	45%	-\$45	\$11,250
Four Programs				
Housing + Child Care + Healthcare + SNAP	47	35%	-\$60	\$17,723
Total	679	80%	-\$498	\$16,016

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Figure 5.33 below shows the earnings levels of families facing a potential housing cliff.

- Ninety-seven percent of housing cliffs are reached when the family earns between \$32,000 and \$44,000 (see Figure 5.33 below), with the majority of cliffs occurring between \$34,000 and \$35,000. As above, all these cliffs are “combination cliffs,” in that housing assistance on its own can never decline by more than \$1,000 on its own. In this light, it is not surprising that these incomes coincide with the income limits of SNAP (185 percent FPL in New Hampshire), reduced-price school meal eligibility for families not on SNAP (also 185 percent FPL, nationally), and free school meal eligibility for families not on SNAP (130 percent FPL, nationally).
- Average net resource loss increases as income increases, a result of how other programs that decline as earnings increase are designed – for instance, the percentage of income that parents pay for participating in New Hampshire’s CCDF program rises with income, and the value of the premium tax credit similar decreases disproportionately with income as parent premiums constitute a higher proportion of income as income rises.

Figure 5.33: Housing Cliffs, Single Adult Households with Children, Earnings

Earnings at Cliff	Number of Cliffs	Average Net Resource Loss
\$32,000	27	-\$307
\$33,000	68	-\$357
\$34,000	206	-\$452
\$35,000	110	-\$489
\$36,000	76	-\$480
\$37,000	64	-\$485
\$38,000	35	-\$514
\$39,000	11	-\$475
\$40,000	28	-\$548
\$42,000	18	-\$816
\$44,000	13	-\$1,011

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

TANF cliffs for single adults with children with earnings

For families with earnings, there are 390 TANF cliffs encountered. Of these, 83 percent (325 cliffs) are encountered by single adult households with children.

Figure 5.34 below shows the share of cliffs for this household type attributed to TANF occurring due to this program (with no interaction from the other five programs of interest), and the share resulting from an interaction between TANF and other programs of interest.

- Unlike all other programs analyzed for single adult with children households, there are very few cliffs (6.5 percent) in which TANF was the only program of interest to cause the cliff (with no interaction from the other five programs of interest).
- Only 24 cliffs are produced through the combination of TANF and one other program. Healthcare and housing resulted in no cliffs when only interacting with TANF. Interaction with SNAP produced the largest number of cliffs (14 cliffs) while child care produced both the closest (\$7,667) and largest magnitude (-\$170).
- SNAP (in any combination) contributed to 89 percent (289 cliffs) of the TANF cliffs, with 37 percent of cliffs causing by a combination of TANF, SNAP, and housing.

Figure 5.34: Programs contributing to TANF Cliffs, Single Adult Households with Children, Earnings

	Programs	% TANF Cliff	Average Cliff	Distance from Cliff
TANF	21	100%	-\$103	\$10,810
Two Programs				
TANF + SNAP	14	83%	-\$85	\$16,500
TANF + Child Care	6	58%	-\$170	\$7,667
TANF + LIHEAP	4	67%	-\$99	\$14,000
Three Programs				
TANF + SNAP + Housing	120	67%	-\$41	\$23,125
TANF + SNAP + LIHEAP	33	62%	-\$139	\$16,818
TANF + SNAP + Child Care	27	79%	-\$58	\$20,074
TANF + SNAP + Healthcare	16	65%	-\$47	\$19,125
TANF + Child Care + LIHEAP	3	52%	-\$225	\$8,667
TANF + Child Care + Housing	2	60%	-\$183	\$12,500
Four Programs				
TANF + SNAP + Child Care + Housing	43	65%	-\$51	\$20,419
TANF + SNAP + Child Care + LIHEAP	30	57%	-\$148	\$17,633
TANF + SNAP + Child Care + Healthcare	4	63%	-\$81	\$16,500
TANF + SNAP + Healthcare + Housing	1	38%	-\$128	\$24,000
TANF + SNAP + Healthcare + LIHEAP	1	55%	-\$280	\$19,000
Total	325	69%	-\$77	\$19,400

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

It is not surprising that the majority of these cliffs occur in combination, and that about half (163 out of 325) occur when a family is receiving TANF, SNAP, and housing. As indicated above, these programs independently carry marginal tax rates of up to 50 percent, up to 36 percent, and up to 30 percent, respectively. Because TANF cash assistance counts as income for both SNAP benefit and housing assistance calculations, and SNAP benefit calculations may be adjusted depending on the housing assistance a family receives, the combined impact of marginal tax rates across these three programs is not strictly additive, but when TANF, SNAP, and housing are considered in combination, they result in a combined marginal tax rate of about 78 percent on earnings across the entirety of income levels in which both programs gradually phase out. A small increase as a result of increased child care need or other taxes or expenses outside of the programs of interest could easily tip a family's marginal tax rate above 100 percent and thereby result in a benefit cliff.

Two Adult Households with Children

Families comprised of two adults with children make up the largest portion of households with earnings (10,535 households) and face more cliffs on average (3.32) and in total (35,089) than any other

household type. Figure 5.35 below shows the number potential benefit cliffs (inclusive of repeated cliffs) by program and risk type for this group.

- Nearly all (96 percent) households of this type face a potential healthcare cliff at some point during the simulation. However, 61 percent of these healthcare cliffs are considered to have below average risk, with only 20 percent having a high likelihood or significant magnitude.
- Approximately 64 percent of families will face a child care cliff, with the majority of these cliffs considered high risk.
- Only a small portion of families will face a net resource loss from SNAP (10 percent), LIHEAP (5 percent), housing (4 percent), and TANF (0.2 percent). In terms of cliffs, these programs make up less than seven percent of all cliffs encountered by two adult households with children.

Fifty-two percent of all cliffs encountered by this family type are child care cliffs. Of the 18,518 child care cliffs, 65 percent (12,121 cliffs) are considered high risk. Further, more than three-quarters (79 percent) of high-risk cliffs for this family type are related to child care expenses. For these reasons, this analysis will focus on the 12,121 high-risk child care cliffs for two adult households with children.

Figure 5.35: Cliffs by Risk and Program Type, Two Adult Households with Children, Earnings

	Child Care	Healthcare	SNAP	Housing	LIHEAP	TANF	Total
Number of Families Facing Cliff	6,721	10,093	1,057	462	557	17	10,535
Risk Quartile							
1 (Low Risk)	779	5,426	218	112	114	11	6,660
2	2,040	3,092	359	196	197	28	5,912
3	3,578	2,760	431	184	165	15	7,133
4 (High Risk)	12,121	2,764	255	106	102	6	15,354
Total Number of Cliffs	18,518	14,042	1,263	598	578	60	35,059
Percent High Risk	65%	20%	20%	18%	18%	10%	44%
% of Total Cliffs, All Family Types	81%	39%	37%	40%	30%	15%	53%

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Child care cliffs for two adult households with children

Like the single adult with children households discussed above, two adult households with children face child-care related cliffs both from the potential loss of benefits through the CCDF program and from increased child-care costs based on labor force participation changes. However, participation in CCDF is far less common among this household type, with 98 percent of high-risk cliffs among this household type emerging for families that do not receive CCDF subsidies (see Figure 5.36).

Figure 5.36: High-Risk Cliffs by Program Enrollment, Two Adult Households with Children, Earnings

	Total	Not Receiving CCDF	Receiving CCDF
Families	5,819	5,651	168
High Risk Cliffs	12,121	11,832	289

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

While the CCDF program's off-ramps reduce the overall magnitude of cliffs for those enrolled, the program is not widespread in scope and limited to those that initially earn under 220 percent FPL. Although families can continue to receive child care scholarship assistance if their incomes increase, up to a limit of 85 percent of state median income, only approximately 3,700 families with a total of 5,000 children are served through the CCDF program (out of roughly 55,000 children in New Hampshire in need of child care).

Accordingly, the majority of cliffs for this household type occur when families increase their labor force participation and incur additional child care costs. Child care considerations for two adult households are more complex to analyze than those of single adult households, which face cliffs primarily as the single earner increases from part-time to full-time employment. Two adult families with children have a multitude of potential employment scenarios (one parent working part-time, one parent working full-time, both parents working part-time, both parents working full-time, and one parent working full-time with the other working part-time). As the cost of child care is directly related to hours worked, families with higher levels of labor force participation will have higher costs, all else equal.

6. Summary and Policy Considerations

The preceding sections detailed various barriers to labor force participation facing New Hampshire's families. While some of these challenges may prove to be short-term and tied directly to the unprecedented situation created by COVID-19 pandemic, many were revealed to be structural, and were highlighted or deepened by the pandemic and the associated economic damage.

Through two rich administrative datasets, this analysis has examined these constraints beyond the typical macroeconomic perspective using the lens of the individuals and families faced with these complicated labor market choices. This summary section synthesizes the key takeaways from the unemployment, child care, and benefit cliffs analyses. Then, using these insights as a guide, it offers considerations for New Hampshire's policy makers seeking to alleviate these potential constraints on New Hampshire's workforce recovery.

6.1. Summary of Workforce Constraints

Unemployment (Section 2)

The nature of the COVID-19 crisis has produced differential effects from prior economic downturns. Service-oriented, client-facing business were disproportionately impacted by health concerns and limited tourism and travel activity, a contrast to the previous recession which struck hardest in sectors like construction and manufacturing. As the pandemic has proceeded, New Hampshire has begun to recover a large portion of the job losses realized during the peak of the crisis. Within this recovery, significant disparities exist:

- Unemployment remains significantly elevated in sectors like hospitality and retail;
- Geographic differentials are material, as towns in Grafton and Carroll Counties that had the largest initial surges remain the locations seeing some of the greatest levels of sustained unemployment;
- Women have suffered the majority of unemployment and detachment from the workplace, due to both the nature of the sectors most impacted, and the disproportionate share of care responsibilities associated with the pandemic borne by women.

While a resolution to the health crisis may alleviate the immediate conditions driving unemployment in the most impacted sectors, the length and depth of the crisis is likely to permanently shutter a large number of businesses, and potentially leave a non-trivial portion of its labor force unemployed. While demand should rebound over the long-term, the regions and industries most impacted may experience a new normal that differs from the historically tight labor market that was prevalent across the state prior to the pandemic.

Importantly, analysis of the reasons for unemployment and characteristics of the unemployed have highlighted disparities that, while worsened by the pandemic, are related to more long-lasting, structural components of the economy. Unemployment stemming from school closings, family, and health needs resulted in a lengthy duration of unemployment and disproportionately affected women. These extended detachments from the labor force may have enduring effects on the labor force

participation, earnings, and career trajectories of these women once the health situation is controlled. Further, these circumstances underscore the barriers that women, in particular low-income women, face when balancing child care responsibilities and family needs with labor force participation opportunities.

Child Care (Section 3)

Findings from the unemployment analysis are supported by a detailed analysis of child care constraints on New Hampshire's workforce. The lack of affordable, accessible, and quality care can create significant barriers to work, especially for women, single-parent households, and low-income families.

- Formalized child care capacity addresses roughly 60 percent of the estimated child care need for children under the age of six in New Hampshire.
- Furthermore, even when there is enough capacity, available options do not always meet the needs of families, and the cost of child care is a significant concern for many.
- Additionally, because 60 percent of families do not meet the income eligibility requirements for New Hampshire's Child Care Scholarship (CCDF), partnerships between business, government, and community could help bridge the child care gap and help alleviate this barrier to employment.

These issues were exacerbated by the COVID-19 pandemic, which also created a new set of child care issues through the unprecedented educational disruption for school age children.

- As of September 2020, approximately 59 percent of school districts in the state were classified as fully remote or employing a hybrid method of in-person and remote learning. As of January 2021, 62 percent of schools in the state are continuing to operate in a fully remote or hybrid format.¹⁴⁵
- These conditions create potential constraints for thousands of New Hampshire families that need to manage work while supervising school for their children, with targeted concentrations among school districts in the southern portion of the state, which had high rates of hybrid or remote learning for students.

These child care constraints can reduce productivity, decrease hours of work, and diminish career opportunities for parents. Drawing on national research, this analysis quantified potential economic effects from child care constraints in New Hampshire exacerbated by the pandemic, as parents either exited the labor market entirely or reduced or altered their workforce participation to balance work and home responsibilities.

The economic loss from individuals citing school closure as reason for unemployment is estimated at \$1.3 million per week, as businesses lose workers and individuals earn and in turn spend less throughout the economy. Economic losses from individuals reducing workforce participation and productivity in response to the need to assist school age children with remote learning are conservatively estimated at \$1 million per week, largely driven by the reduction of work hours. Finally, economic losses for those reducing their workforce participation and productivity due to COVID-related child care constraints for

¹⁴⁵ This is based on the responses from 390 out of 632 schools in the state. New Hampshire Department of Health and Human Services (2021). COVID-19 schools dashboard. Retrieved from <https://www.nh.gov/covid19/dashboard/schools.htm#dash>

young children are estimated at \$115,000 per week, down from an estimated \$600,000 per week during the height of the pandemic when closures were much more widespread.

Benefit Cliffs (Section 4)

Detailed analysis of benefit program design has identified a number of situations in which New Hampshire households supported by benefit programs face a potential “benefit cliff” in which they risk decreasing their net household resources if they increase their earnings. Household-level modeling of participant data was combined with a risk assessment framework to identify the program, households and earnings situations in which benefit cliffs are most likely to occur and where they have the greatest potential detrimental effects across six programs: healthcare (including Medicaid), child care (including CCDF), SNAP, TANF, housing assistance (including project-based Section 8, Housing Choice Voucher Program, and Public Housing), and LIHEAP.

Modeling indicated significant differences in the cliff risk and most impacted household types between the focus programs:

- Cliffs related to the loss of healthcare benefits were present for almost all households across the simulation but were often classified as “low risk” because they are not imminent for many families. Healthcare cliffs present the greatest risk for households with no children, who will bear significant health insurance costs if earnings growth makes them ineligible for Medicaid.
- Child care cliffs propose significant potential risks to many households with children, most notably single parent households with children (with or without earnings) and two parent households with children with earnings. These cliff effects are significantly mitigated for families participating in the CCDF program, though many challenges stem from the cost of child care relative to potential earnings, rather than any specific program design feature.
- Significant potential cliffs in the SNAP program are isolated to households with children with incomes near the cutoff of 185 percent FPL. Loss of SNAP also typically results in families losing access to free, federally subsidized school lunches or breakfasts, exacerbating any benefit cliffs families face at 185 percent FPL from losing SNAP alone. Prior to losing access to SNAP benefits, the gradually declining SNAP benefit had significant interactions with other programs, contributing to additional healthcare, housing, TANF, and LIHEAP cliffs.
- Roughly two percent of all cliffs in the simulation are attributed to changes in housing assistance benefits while two percent of all cliffs are attributed to changes in LIHEAP benefits. These cliffs emerge in combination with SNAP, healthcare, and child care.
- The TANF program generates the smallest number of cliffs, which also emerge in combination with declines in benefits from other programs. Seventy-four percent of these cliffs are encountered by single adult families with children currently in the workforce.

The benefit cliff analysis aligns with the previous child care analysis in surfacing the importance of this issue as a barrier to employment. Cliffs related to child care were identified as the most urgent among the programs for many household types, with 78 percent of child care cliffs for single adult households with no initial earnings, 39 percent of cliffs for wage-earning single adult households, and 63 percent of cliffs for wage-earning two adult households considered high risk. These high-risk cliffs reflect the reality that for many workers with children, it makes more financial sense to stay out of the labor force than to

bear high child care costs. For single adult families not currently in the labor force, working could often make them comparatively better off, but entering the labor force may keep their net household resources well below breakeven.

As noted above, the analysis indicates that participation in New Hampshire's CCDF program (the Child Care Scholarship program) does not fully eliminate potential benefit cliffs or broader child care cost challenges, but does substantially reduce their magnitude, potentially encouraging workforce participation. However, the program is limited, based on income eligibility and funding restraints, curbing its impact in its current form.

Figure 6.1: Summary of Benefit Cliffs by Program

Program	Enrollment	Unique Families Facing Cliffs	Common Cliffs	Nature of Cliff	Most Impacted Household Types
Healthcare	61,633	57,413	Adults 138% FPL Children 318% FPL	Sudden benefit Loss	ALL
Child Care	25,824	18,028	Single parent joining workforce Second adult w/children joining workforce Stepwise declines in CCDF program	HH Cost Increase	All households w/ children
SNAP	11,786	6,440	185% FPL	Gradual decline up to sudden benefit loss	Single Adult w/Children
TANF	1,653	680	Combination w/SNAP, Housing	Gradual decline	Single Adult w/Children (without earnings)
Housing	7,683	2,200	Combination w/SNAP, TANF	Gradual decline	All households w/ children
LIHEAP	34,301	3,031	Stepwise declines, common cliffs at 100% FPL, 200% FPL, Combination w/ Healthcare or Child Care	Step decrease up to sudden benefit loss	Single Adult w/Children

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

6.2. Policy Considerations

New Hampshire's economy and its workforce face a variety of potential constraints as the state seeks to rebuild economic activity. Effects from the COVID-19 pandemic, while temporary in duration, have revealed, created, or exacerbated broad structural challenges for the state. These challenges interact with pre-existing challenges faced by communities and potential slow growth of the workforce based on New Hampshire's long-term demographic trends.

Unemployment Recommendations

This analysis has highlighted a range of additional situations in which different communities or populations in New Hampshire face particular challenges that impact their economic and workforce prospects. Policy efforts targeted to these issues may yield beneficial returns to the state. These include:

Impacted sectors and geographies

While employment levels are on firmer footing in many sectors and areas of the state, certain sectors and areas face far greater challenges over the longer term. While many of these economic challenges

fall outside of the framework of household labor market decisions, the analyses in this report identified target areas of ongoing concern.

Supporting Communities in Service-Concentrated Industries

For those service-sector businesses that have been able to continue operations throughout the course of the pandemic, the ongoing surge of COVID cases threaten additional shut downs or set of restrictions, potentially forcing businesses in already-shaky positions to close. In order to prevent a subsequent round of business closings and additional job loss, mitigative actions need to be taken now. New Hampshire could consider initiatives to increase these businesses' net margins by lowering their costs of doing business through easing financial and regulatory burdens.

Supporting Startup Business

Demand should eventually return when health conditions improve, which in a frictionless market would bring activity and employment back to previous levels in impacted sectors like hospitality and retail. However, many businesses, particularly in the Accommodation and Food Services sector, which operate on low margins and cannot survive an extended downturn of this nature, will have closed their doors permanently. While opportunities will exist for new businesses to fill this market demand, increase economic activity, and reemploy workers, there are significant financial and time barriers to opening a new business. New Hampshire could consider implementing initiatives, such as subsidized loan programs for previous or new business owners, that focus on removing these barriers to help the private market function more effectively.

Utilizing Short-Time Compensation

Economic theory explains that, unlike typical markets in which decreased demand results in lowered prices, when the demand for labor falls, employers will lay off a portion of their workforce rather than lower wages across the board, resulting in cyclical unemployment. The short-time compensation program is designed to distribute the negative effects of a recession to all employees: instead of laying off a few employees, all employees' hours are reduced. When the total demand for labor is reduced, the short-time compensation program allows employers to reduce their employees' total hours of work rather than laying off a select few while others continue to work, hours unchanged. The program covers a percentage of wages lost due to reduction in overall hours. While this program is available to employers in New Hampshire and was utilized during the beginning of the pandemic (roughly 4,000 employees were enrolled in the program), current usage has declined (roughly 1,000 employees are currently enrolled). The expansion or promotion of this program could result in decreased unemployment and allow employers to weather the downturn without a large disruption in their workforce.

Supporting Unemployed Workers

Where other recovery efforts may be insufficient to address the damage done in certain sectors and communities, the state may seek to consider additional supports for retraining unemployed workers by looking to provide targeted training assistance and supports for workers in hospitality and retail and also for any unemployed worker seeking a career in health care. Supplemental payments through the CARES Act were able to stabilize the earnings of many households that found themselves out of work due to circumstances beyond their control. This helped families keep necessary supports in place and helped to

keep spending flowing through the economy. While the enhanced unemployment payments through the CARES Act are unsustainable, New Hampshire may consider additional retraining supports to assist unemployed workers transition across sectors. Federal policy will also be important to monitor on this front.

Child Care and Benefit Cliffs Recommendations

Through every analytical lens used in this report, child care emerged as a significant barrier to labor force participation, particularly for low-income households and women. Child care issues were significant prior to the pandemic, which has caused demand to increase and supply to decline, exacerbating these conditions. Importantly, these “temporary” circumstances could lead to long-term detachment from the labor force concentrated among women, disrupting future work opportunities, potential career paths, and earnings potential. In the context of New Hampshire’s long-term challenges in developing a sufficient workforce to grow its economy, finding ways to reduce the disincentives to workforce participation for prime working-age women should be a top priority.

The high costs of child care and the potential cliffs that arise from increased child care need – the latter often a consequence of working more hours – are mitigated by child care considerations across different benefit programs, which can be crucial to supporting a family’s ability to pay for child care. CCDF provides subsidies that support the provision of child care, and SNAP, HUD’s housing assistance programs, and New Hampshire’s TANF programs allow families to claim child care deductions to increase the value of the benefits they receive, smoothing out changes in child care costs on the part of working families. CCDF, along with SNAP, TANF, Housing Assistance, and LIHEAP – the six programs of interest – also provide crucial supports for families to pay for basic family expenses. Below, this section explores a range of different potential policy or supply-side changes that could reduce the benefit cliffs that families might face with increases to earnings. Both changes that New Hampshire state government could implement on its own as well as some changes that could only realistically be performed with outside support from the federal government, private actors, or a combination of both are considered. Where possible, these suggestions are modeled and the results are contrasted against the baseline of families potentially impacted by these policies. **Recommendations below with an asterisk (*) indicate that the policy change was implemented within the model and the resulting impacts will be analyzed within each section. Recommendations without an asterisk were not able to be modeled in a useful manner.** Each policy is described and, when possible, the model output is interpreted and summarized at the end of each subsection.

Child care

The lack of accessible and affordable child care can be a major barrier to individuals seeking higher earnings through more work.

Expand funding for the CCDF program

The CCDF program, while not alleviating child care cliffs altogether, greatly dampens the magnitude of each loss due to increased child care need; this dampening effect can be seen by comparing the benefit cliffs faced by households with children enrolled in CCDF and those that are not enrolled. Roughly 5,000 children benefit from CCDF funds each year. CCDF programs operate through formula-based block grants provided by the federal government, so one way to expand access to this valuable program is to

support its expansion through increasing funding for this program at the federal level. In addition to expanding funding for the program to extend benefits to more families, New Hampshire should explore and potentially consider utilizing funding to extend the length of time beyond 12 months between program recertification, while aligning the redetermination periods with child care enrollment schedules. By extending determination periods and aligning them with enrollment schedules in a reasonable manner, more children will be able complete school terms in a stable child care environment, and families may be more willing to work more hours or seek a higher wage in the short term.

Adjust CCDF step options so that there are more intervals with smaller increments*

New Hampshire's CCDF program works to prevent sharp cliffs through a sliding scale payment system, but the increments between steps are wide enough that families can face a financial loss due to a gain in earnings when that gain increases their CCDF "step," which may disincentivize earnings. The CCDF program could be adjusted so that there are more step intervals with smaller payment increments, thus eliminating the existing disincentive to increase earnings and/or workforce participation.

While expanding the program to cover more people might require more CCDF funding than is currently available, the cost of smoothing out the CCDF sliding scales in a manner that results in more gradual cost increases could be nominal. By introducing more gradual steps, the losses families face in earnings can be lowered to lead to financial gain instead.

Figure 6.2 shows modeled changes in benefit cliffs among the population participating in the CCDF program:

- Implementing smoothed child care steps could result in fewer child care cliffs (-8 percent) and a smaller average size of those cliffs (-17 percent), as well as a lower risk of families encountering those cliffs (-4 percent).
- This approach reduces the total amount families are projected to lose from all cliffs, regardless of cause, from \$15.8 million to \$14.9 million (-6 percent).

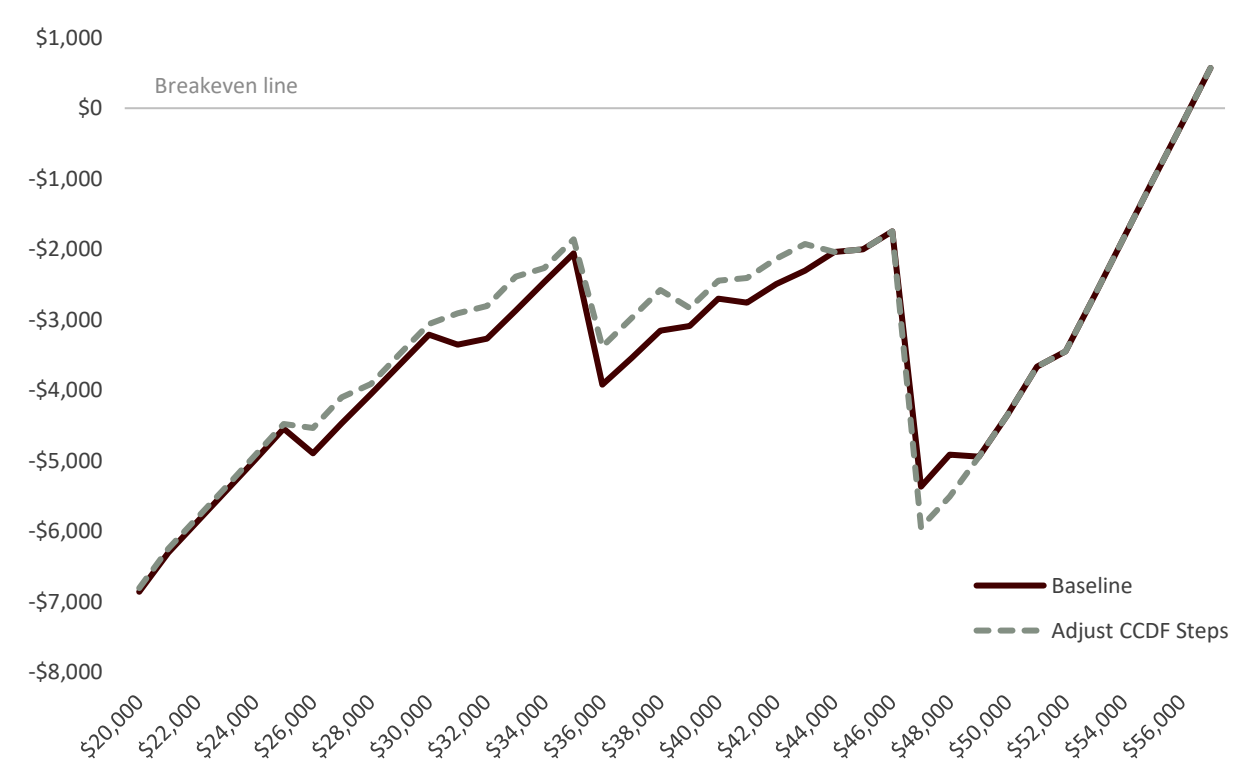
Figure 6.2: Model Outputs, Smoothed CCDF Steps

	CCDF Baseline	Smoothed CCDF Steps	Net Chg
All Cliffs			
Total Number	12,621	12,340	-2%
Total Amount (\$M)	\$15.8	\$14.9	-6%
Avg Cliff Amount	\$1,253	\$1,210	-3%
Avg Cliff Risk Score	0.75	0.74	-2%
Child Care Cliffs			
Total Number	6,118	5,632	-8%
Total Amount (\$M)	\$4.8	\$3.6	-24%
Avg Cliff Amount	\$779	\$645	-17%
Avg Cliff Risk Score	0.8	0.77	-4%

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Figure 6.3 below shows the impact of this particular “smoothed CCDF steps” policy alternative, for a single adult with three children living in Keene. The benefit cliffs resulting from moving to a higher CCDF “step” become less severe for this family with the adjusted steps (dashed line) relative to the baseline (solid line). The total amount of CCDF dollars supporting this family would also likely increase in this scenario (with the difference in net resources between the dashed line and the solid line primarily resulting from lower parent child care contributions). It is also possible to design other approaches to smoothing out New Hampshire’s CCDF program that could be budget neutral while reducing the impacts of benefit cliffs in a similar manner.

Figure 6.3: Model Outputs Example, Smoothed CCDF Steps



Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Raise state payment rates for non-traditional hours

The most recent New Hampshire child care market rate study noted that their surveys revealed that very few child care providers provide child care during weekends or evenings, despite a demand for these services.¹⁴⁶ Low-income families are most likely to require child care at nontraditional hours, since these workers are more likely to lack access to jobs with traditional or flexible work schedules and support networks to provide care alternatives.¹⁴⁷ Raising the state payment rates (SPRs) for nontraditional hours would increase New Hampshire's payments to child care providers for many CCDF recipients and increase the supply of providers that offer nontraditional hours

Continue to pay child care providers based on enrollment, not attendance

At the start of the pandemic, New Hampshire allowed for providers to use "Disaster Billing" to bill for full enrollment, regardless of whether the program is open and the child is present. Even after the risk of COVID-19 has been substantially lowered, New Hampshire could continue the policy of paying all child care providers based on enrollment rather than attendance, as child care programs are staffed based on enrollment, not on anticipated attendance. Tying provider payment based on enrollment will likely

¹⁴⁶ Kalinowski, M. & Kalinowski, M. (2018). 2018 New Hampshire child care market rate report. NH Connections. Retrieved from <https://nh.childcareaware.org/data-report/nh-market-rate-survey/>

¹⁴⁷ Karoly, L. & Steiner, E., et al. (2020). Understanding the New Hampshire Birth through Five System. https://mypages.unh.edu/sites/default/files/pdg/files/nh_b-5_needs_assessment_pdg.pdf

make staff salaries and other fixed costs less burdensome and provide predictable revenue streams for providers to better plan their operations. A more stable revenue stream could stabilize the child care industry and lay the foundation for reliable, more affordable child care that meets household needs and reduces the costs of working more hours.

Include license-exempt providers in next market rate study

While New Hampshire has set its state payment rates (SPRs) to the 60th percentile market rate for licensed care, which are close in price to the federal standard 75th percentile market rate, the estimates used for reimbursing licensed-exempt child care providers do not necessarily reflect market rates, as the latest market rate study used to inform SPRs limited its scope to licensed providers. Given that COVID-19 has pushed many parents toward other providers, requiring the next market rate study to include a survey of licensed-exempt providers would help ensure that SPRs are adequately close to market rates to help avoid the large, fixed costs that can occur when available rates for child care providers exceed maximum state payment rates.

Implement a statewide pre-K program*

Currently, school districts in New Hampshire may choose to provide public pre-K programs using Title I and local funds, and in 2019, these programs provided pre-K to approximately 25 percent of four-year-olds in the state. However, New Hampshire is one of six states nationwide that does not implement a statewide pre-K program that meets the standards of the National Institute for Early Education Research's (NIEER) definition of a state-funded pre-K program, and local options in the state are largely limited to child care, Head Start, and Early Head Start programs.¹⁴⁸ Expanding the voluntary pre-K program could be an important support in reducing barriers to employment for working families.

While the costs of incremental or smaller expansions to voluntary pre-K programs at the local level could continue to rely on current funding structures, the cost of implementing such a program on a statewide level would be substantial. Yet, other states have appropriated a mix of general funds, state school funding formulas, CCDF, Head Start, Early Head Start, and other funding, as available. Given limited funding, New Hampshire could prioritize enrollment of low-income children, whose families would benefit the most from access to free child care. The Head Start funding stream could be utilized toward expanding pre-K options on a large scale for New Hampshire children. Also, it is possible to blend similar funds in a more targeted Head Start expansion and seek private support to do so (see following recommendation).

Pre-K programs at free or reduced cost to families, especially full-day programs, lead to substantial child care savings among working parents. Any child care subsidy benefit cliffs or associated effective marginal tax rates, as well as costs of working more hours among people not enrolled in CCDF, would be reduced substantially or, for some families, eliminated altogether. And while Head Start programs utilize income limits to ascertain eligibility at program entry, very few families are required to recertify income eligibility within Head Start programs once admitted (the period of recertification is two school years, usually after children admitted to the program have aged out of it); this means that for families enrolled

¹⁴⁸ *The state of preschool 2019: State preschool yearbook.* (2019). The National Institute for Early Education Research. Retrieved from http://nieer.org/wp-content/uploads/2020/04/YB2019_Executive_Summary.pdf

in Head Start, there is effectively no benefit cliff. Expanding Head Start options to cover more children, or to provide more child care to young children, can deeply and significantly reduce benefit cliffs associated with child care, especially as parents seek to work more hours.

Figure 6.4 shows the results of implementing a universal pre-K program on potential cliffs for families with children between the ages of 3 and 4 years old.

- The potential losses from child care cliffs are reduced from \$42.3 to \$35.8 million (-15 percent).
- The average child care cliff amount families face declines from \$2,684 to \$2,339 (-13 percent).

Figure 6.4: Model Outputs, Universal Pre-K Program

	Pre-K Baseline	Universal Pre-K	Net Chg
All Cliffs			
Total Number	29,640	29,130	-2%
Total Amount (\$M)	\$68.6	\$61.5	-10%
Avg Cliff Amount	\$2,314	\$2,111	-9%
Avg Cliff Risk Score	0.80	0.78	-1%
Child Care Cliffs			
Total Number	15,771	15,320	-3%
Total Amount (\$M)	\$42.3	\$35.8	-15%
Avg Cliff Amount	\$2,684	\$2,339	-13%
Avg Cliff Risk Score	0.91	0.90	-2%

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Expand Head Start and Early Head Start*

Head Start and Early Head Start programs reduce child care costs substantially or can eliminate them outright among working parents. As the necessity of child care during working hours raises family expenses, increasing the availability of free child care through Head Start, Early Head Start, or other means helps to remove these cliffs. Expanding Head Start for 3-year-olds or 4-year-olds would have a similar impact as providing free pre-K to this same population, and there can be significant overlap between Head Start and what can be considered pre-K. Substantially expanding the availability of Early Head Start—which traditionally serves younger children—would similarly have a very large impact on reducing the child care needs of workers with these younger children as expanding Head Start would have on 3- and 4-year-olds.

Figure 6.5 shows the modeled impact of providing Early Head Start to all parents of children under 4 years old in the New HEIGHTS sample:

- The overall number of cliffs these families face is reduced from 48,817 to 37,588 (-23 percent).
- The financial impact of these cliffs is reduced from a total \$116.1 million in net resource loss to \$67.0 million (-42 percent).

Figure 6.5: Model Outputs, Expand Early Head Start

	Early Head Start Baseline	Universal Early Head Start	Net Chg
All Cliffs			
Total Number	48,817	37,588	-23%
Total Amount (\$M)	\$116.1	\$67.0	-42%
Avg Cliff Amount	\$2,378	\$1,782	-25%
Avg Cliff Risk Score	0.80	0.76	-6%
Child Care Cliffs			
Total Number	26,877	16,228	-40%
Total Amount (\$M)	\$74.2	\$29.6	-60%
Avg Cliff Amount	\$2,759	\$1,827	-34%
Avg Cliff Risk Score	0.92	0.90	-3%

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Continue funding for full-day kindergarten

Prior to the COVID-19 pandemic, the vast majority of New Hampshire school districts already offered a full-day kindergarten option for parents of 5-year-olds. The availability of full-day kindergarten can alleviate workforce constraints for numerous New Hampshire families with young children.

While state funding to school districts for providing kindergarten has increased in recent years, the lack of statutory required full-day kindergarten could de-prioritize kindergarten funding in future years given the impact of COVID on the state budget. While the impact of a lack of full-day kindergarten was not modeled, child care costs would certainly increase for parents of kindergarten age children if full-day kindergarten is not available. The state should continue the allocation of adequate funding to school districts to provide full-day kindergarten to mitigate high child care costs for working families.

Encourage or support employer provision of onsite child care*

High-quality, employer-supported child care could wipe out any child care needs a family may require for working more or for higher wages. This would eliminate the vast majority of benefit cliffs across the sample. While New Hampshire's options of incentivizing employers to provide onsite child care are limited, some employers have started to consider the provision of onsite child care in order to recruit and retain workers.¹⁴⁹ Especially during the COVID-19 pandemic, onsite child care could significantly boost incentives for work at jobs for which working at home is not an option.

Figure 6.6 shows the modeled impact of onsite child care among families with children. Unsurprisingly, given the space this report has dedicated to discussing child care needs, impacts are dramatic:

¹⁴⁹ Burch, K. (2020, September 3). Pinkerton launches on-site childcare for staff. *Concord Monitor*. Retrieved from <https://www.concordmonitor.com/Pinkerton-Academy-Launches-On-Site-Childcare-For-Staff-36070786>.

- Removing child care cliffs completely would result in a 45 percent reduction in benefit cliffs among families with children (from 112,517 down to 61,636)
- The total net resources lost from all cliffs from this group would fall from \$224.3 million to \$98.1 million (-56 percent).

Figure 6.6: Model Outputs, Onsite Child Care

	Child Care Baseline	Onsite Child Care	Net Chg
All Cliffs			
Total Number	112,517	61,636	-45%
Total Amount (\$M)	\$224.3	\$98.1	-56%
Avg Cliff Amount	\$1,993	\$1,591	-20%
Avg Cliff Risk Score	0.76	0.65	-15%
Child Care Cliffs			
Total Number	45,935	0	-100%
Total Amount (\$M)	\$111.8	\$0.0	-100%
Avg Cliff Amount	\$2,434	-	--
Avg Cliff Risk Score	0.92	-	---

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Food insecurity and SNAP eligibility

Benefit cliffs in the SNAP program are of particular concern to single adult households with children as they approach the program income limit and also contribute to numerous cliffs that are the result of a combination of the six programs of interest. Technical changes to the program could potentially increase eligibility among needy families. One of the advantages to expanding eligibility and benefit receipt within the SNAP program is that the federal government covers the full cost of the amount of SNAP benefits distributed to eligible families, while states cover only the administrative costs of maintaining the program.

Increase SNAP gross income limit*

New Hampshire's current income gross income limit is 185 percent of the Federal Poverty Line (FPL). While SNAP benefits decline gradually for these families at earnings lower than this limit, the modeling described in Section 4 indicates a material number of families encounter a benefit cliff at that level. While the net income limit from SNAP benefits is universally 100 percent of the FPL across all states, families can reduce their gross income through SNAP deductions, including the shelter deduction (which is not capped among households that include people with disabilities), and the child care deduction, which is not capped for all households. This combination of identified cliffs in our sample and program design elements indicate that these SNAP cliffs at 185 percent FPL are likely derived from families with significant child care needs or people with disabilities in their households, and that these households could be aided by an increase in the gross income limit, allowing them to access additional federal benefits. Rather than push their SNAP cliffs to higher incomes, raising the SNAP gross income limit

would provide further room for families' SNAP benefits to decline gradually to \$0 rather than dropping suddenly by potentially thousands of dollars. Eighteen states have now set SNAP gross income limits at 200 percent FPL,¹⁵⁰ the maximum gross income limit that the federal government allows to states.

Figure 6.7 below shows the modeled impact of increasing the gross income eligibility for SNAP to 200 percent in New Hampshire:

- The number of SNAP cliffs would be reduced by an estimated 10 percent.
- The total net resources lost by families through benefit cliffs would be reduced by an estimated 3 percent.

Total reductions in the severity of cliffs resulting from this policy change are higher than the reductions to SNAP cliffs alone for several reasons:

- 1) First, because SNAP's child care deduction can help reduce the impact of increase in child care need, extending eligibility to 200 percent also reduces the impact of child care cliffs.
- 2) Second, expanding SNAP eligibility in this manner also confers categorical eligibility for free school meals to children in these families, so a family's food expenditures will further decrease.

Figure 6.7: Model Outputs, Increased SNAP Gross Income Limit

	SNAP Baseline	Increase Gross Income Limit	Net Chg
All Cliffs			
Total Number	44,057	43,863	<-1%
Total Amount (\$M)	\$78.3	\$75.8	-3%
Avg Cliff Amount	\$1,778	\$1,728	-3%
Avg Cliff Risk Score	0.77	0.76	-1%
SNAP Cliffs			
Total Number	7,380	6,669	-10%
Total Amount (\$M)	\$14.8	\$11.9	-19%
Avg Cliff Amount	\$2,002	\$1,791	-11%
Avg Cliff Risk Score	0.74	0.70	-6%

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Additionally, separate from the model output above, schools and school districts qualify for the option to provide free meals to all students regardless of individual eligibility when the percentage of their pupils eligible for SNAP is at least 40 percent (via the Community Eligibility Provision, or CEP, discussing later). Increasing the SNAP's eligibility requirements would mean that more schools may be able to offer

¹⁵⁰ USDA. (2020). *Broad-based income eligibility*. <https://fns-prod.azureedge.net/sites/default/files/resource-files/BBCESatesChart%28May2020%29.pdf>

free lunches to all students under this criterion, also unlocking more federal funds to subsidize school meals.

Provide a nominal Heat and Eat payment to SNAP recipients receiving housing subsidies

New Hampshire currently does not provide a nominal LIHEAP payment to SNAP applicants. If New Hampshire enacted a state option to provide such a payment to people not paying utility costs out of pocket, these individuals would not only be able to remain on SNAP at higher incomes, but would also remain eligible for USDA's free meal programs (free school lunch and breakfast), as described above. For many families, the most financially damaging aspect of losing SNAP eligibility is not the difference between receiving a small SNAP benefit every month and receiving no SNAP benefit, but is instead the loss of free meal eligibility, which can result in thousands of dollars per year in lost resources, and is a "true" benefit cliff families encounter. Some states have isolated the provision of nominal LIHEAP payments – also called "Heat and Eat" payments -- to residents of Public Housing or project-based Section 8 housing, who typically pay utilities as part of their rent bill, thereby specifically targeting families who have experienced housing instability. Modeling does not indicate that this policy would produce a material change in the number of cliffs faced by New Hampshire families. For some families, the change would increase the distance to income cut-offs that would cause families to lose access to SNAP and free school meals. However, by extending SNAP eligibility to higher incomes, at least some families would face steeper SNAP benefit cliffs at 185 percent FPL. Modeling the provision of a nominal Heat and Eat payment in tandem with an increase in the SNAP income limit to 200 percent reduces the total number of cliffs and total net resource loss resulting from these cliffs, but to a lesser extent than does increasing the income limit to 200 percent in isolation, described in the above analysis. On net, this policy recommendation does not in itself reduce the likelihood or monetary impact of the benefit cliffs families face (at least, while SNAP gross income limits are federally bound at 200 percent FPL) but could increase the financial stability of many families receiving both SNAP and housing assistance and do so using primarily federal funds.

Encourage Community Eligibility Provision take up*

Households can lose access to free school meals through the National School Lunch Program (NSLP) or School Breakfast Program (SBP) once a family no longer qualifies for SNAP. Children in families not receiving SNAP lose eligibility for free meals when their income exceeds 130 percent FPL, and for reduced price meals when their income rises above 185 percent FPL. This potential cliff can be eliminated when children are attending schools that participate in the USDA's Community Eligibility Provision (CEP), which makes it easier for schools in which 40 percent or more of students qualify for free meals to provide them to all their students. Participating schools or school districts can allow students to receive free breakfast and lunch, regardless of their household income

Pre-COVID, few if any of New Hampshire's schools participated in CEP. As a result of legislation to address the COVID-19 crisis, the USDA is now allowing all students to access free meals, effectively universalizing this program. Assuming that policy will end as the pandemic wanes, the lingering economic effects of the COVID crisis will still most likely increase school CEP eligibility in future years compared to pre-COVID levels.

Figure 6.8 below shows the modeled impact of the provision of free breakfast and lunch at all schools in New Hampshire attended by families in the New Heights sample. Because not all schools or school districts will qualify for free school meals under this program, the below figures do not reflect the impact of a policy change that could be enacted without major federal legislation expanding or continuing to universalize CEP eligibility. The figures below do, however, show how important this policy can be for working families:

- The amount of total cliffs families would face would decrease by an estimated 4 percent, and the total net resources lost through these cliffs would be reduced by approximately \$7.7 million.
- A very large portion of these cliffs result from eliminating or reducing cliffs the model attributes to SNAP cliffs, reflecting the interrelationship between the SNAP program and the school meal programs.

Figure 6.8: Model Outputs, Universal CEP Take Up

	CEP Baseline	Universal CEP Take Up	Net Chg
All Cliffs			
Total Number	112,517	107,864	-4%
Total Amount (\$M)	\$224.3	\$216.6	-3%
Avg Cliff Amount	\$1,993	\$2,008	1%
Avg Cliff Risk Score	0.76	0.77	<1%
SNAP Cliffs			
Total Number	7,321	6,277	-14%
Total Amount (\$M)	\$14.8	\$9.8	-34%
Avg Cliff Amount	\$2,018	\$1,559	-23%
Avg Cliff Risk Score	0.72	0.69	-4%

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

TANF Cash Assistance

Increase the TANF earned income disregard*

TANF recipients are able to claim an earned income disregard worth half (50 percent) of their earned income in order to claim a higher TANF cash assistance grant. Raising this disregard to a higher percentage would result in TANF recipients receiving more TANF cash assistance, improving their net resources (their “bottom line”), and reducing the effective marginal tax rate they face in the TANF program as earnings increase, which, as a result, could help prevent steep benefit cliffs.

Figure 6.9 below describes the results from alternative earned income disregard percentages in 5 percent increments from the baseline (50 percent of earnings) up to 80 percent of earnings. The total amount of lost net resources resulting from benefit cliffs decline with each successively higher disregard, meaning that the total monetary impact of benefit cliffs declines by between \$190,000 and \$730,000 across families in New HEIGHTS.

At an earnings disregard of 55 percent, however, the increased number of people who would be newly eligible for continued TANF receipt at higher income levels would actually increase the number of benefit cliffs people face, as the number of “combination cliffs” – cliffs that result from program interactions across TANF, SNAP, Housing Assistance, and other programs – would increase when a family remains on TANF at higher incomes. In other words, the reduction in the effective marginal tax rate from 50 percent to 45 percent (equal to one minus the earned income disregard) is not high enough to reduce the total effective marginal tax rates below 100 percent at higher incomes. It is not until the TANF earned income disregard is increased to 60 percent that the combined effective marginal tax rate across all these means-tested programs would be reduced such that both the total number of cliffs and the total cash equivalent of those cliffs are reduced. Higher disregards similarly result in a smaller number of benefit cliffs and decreased losses due to these cliffs.

The increasing average cliff amount that occurs with increasing earned income disregards result from the elimination of many of these “combination cliffs,” which are almost all lower than cliffs associated with the loss of major benefit programs such as Medicaid or school meals, or that can occur in SNAP at the SNAP gross income limit. The removal of many of these smaller cliffs as a result of these policy alternatives results in fewer cliffs, such that a greater proportion of cliffs are these larger, “true” benefit cliffs. Lowering the incidence and severity of these cliffs are covered in other policy recommendations in this section.

Figure 6.9 Model Outputs, TANF Earned Income Disregard

	TANF Baseline	55% Earned Income Disregard	60% Earned Income Disregard	65% Earned Income Disregard	70% Earned Income Disregard	75% Earned Income Disregard	80% Earned Income Disregard
All Cliffs							
Total Number	8,643	9,281	8,631	8,144	7,723	7,467	6,810
Net Chg		7%	0%	-6%	-11%	-14%	-21%
Total Amount (\$M)	\$12.1	\$11.9	\$11.8	\$11.4	\$11.1	\$10.7	\$10.3
Net Chg		-2%	-3%	-6%	-9%	-12%	-15%
Avg Cliff Amount	\$1,404	\$1,287	\$1,363	\$1,400	\$1,436	\$1,436	\$1,508
Net Chg		-8%	-3%	0%	2%	2%	7%
Avg Cliff Risk Score	0.74	0.73	0.73	0.73	0.73	0.72	0.74
Net Chg		-2%	-2%	-2%	-2%	-2%	0%

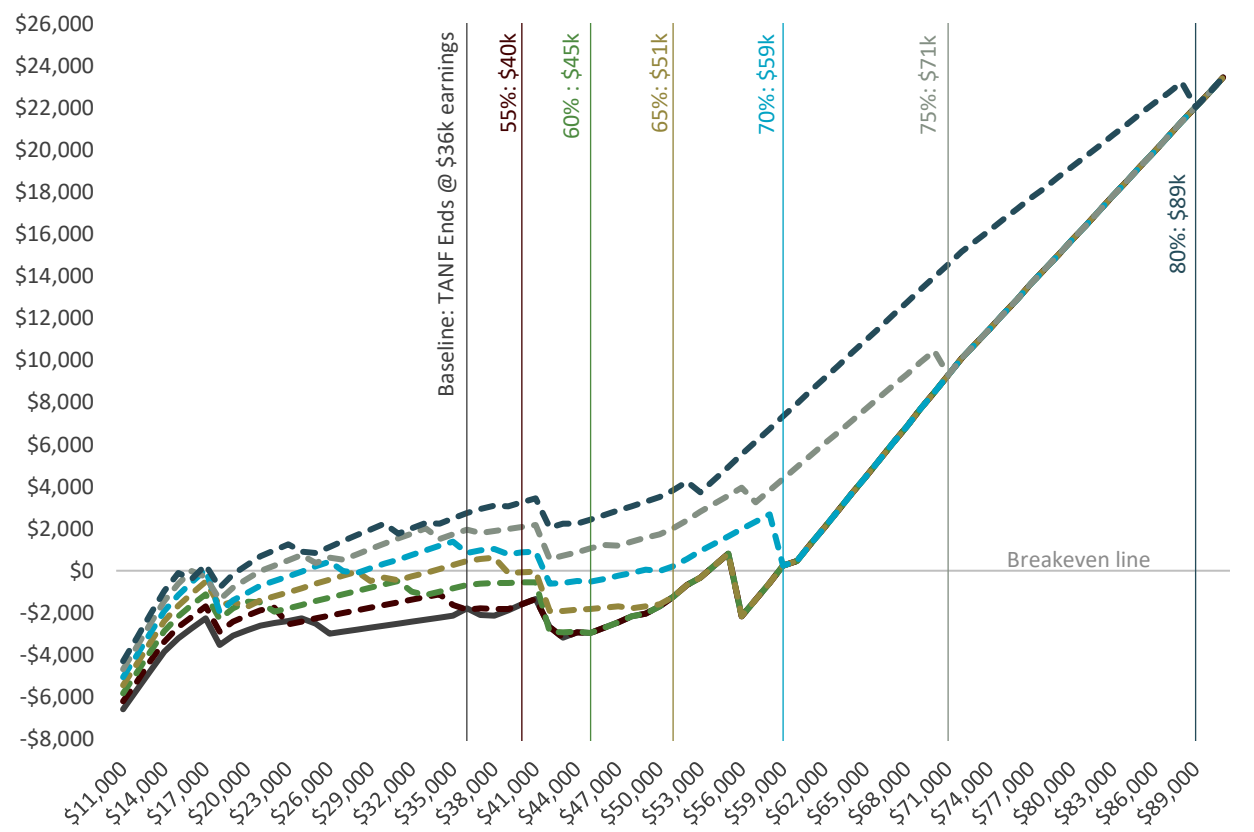
Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

A select number of these alternative earned income disregards are modeled below in Figure 6.10 for a single family. As is evident below, increased earned income regards would both smooth out benefit cliffs as well as decrease marginal tax rates of the program that are associated with higher earnings levels. Adjusting this parameter upward thereby removes some key disincentives within the TANF program, albeit at the additional cost of more TANF cash assistance distributed to families.

One interesting aspect of these adjustments is that because school meal eligibility can also be met by a family's TANF receipt (along with SNAP receipt, as described above), eligibility for free school meals is

extended to families with much higher incomes than the current effective limits on school meal eligibility, as there is no evidence TANF eligibility ever extends to higher incomes than SNAP gross income limits for New Hampshire families. While federal rules limit categorical eligibility for SNAP to 200 percent FPL, there does not appear to be a similar federal cap for categorical eligibility for school meals. Increasing the TANF earned income disregard would thereby allow for even a small amount of TANF cash assistance to be used to space out benefit cliffs experienced both from exceeding SNAP income limits and losing access to school meals. Thus, in the graph below, the major difference in the net resources between the lines representing different earned income disregards reflect continued school meal eligibility as TANF gradually declines, with school meal eligibility no longer as intertwined with SNAP eligibility as it is under current policies.

Figure 6.10: Model Outputs Example, TANF Earned Income Disregard



Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Increase the TANF child care deduction*

TANF recipients are permitted to reduce their TANF gross income by a capped amount of child care expenses per child per month. This results in an increase in TANF cash assistance received by families with child care needs. The child care deduction also mitigates benefit cliffs or sudden increases in child care expenses (the latter potentially due to working more hours) because it can increase with higher child care costs. Yet, that responsiveness is limited by the current TANF maximum value of the deduction. Currently, the monthly caps are \$200 per infant child (children under two years old) and

\$175 per non-infant child for workers working more than part time (earning more than \$377 per month), and \$100 per infant child and \$87.50 per non-infant child for workers working part time. Increasing these caps could mitigate or eliminate benefit cliffs in the CCDF program (especially as they experience increases in CCDF's sliding scale "steps") and can also help mitigate increases in child care costs. The model output below demonstrates that increasing the TANF child care deduction can reduce the total amount, average amount, and risk score of benefit cliffs. However, these changes can also increase the total number of cliffs families face, similarly to the potential TANF changes discussed above, by extending TANF eligibility.

Figure 6.11 below describes modeled results of three alternative approaches: doubling the maximum child care deduction available to TANF recipients, increasing the child care deduction by \$50, and removing the distinction between full-time and part-time workers. Despite adding to the total number of cliffs (due to extending TANF eligibility), the total impact of these cliffs is reduced across three potential adjustments to the child care deduction, due to decreases in the average cliff size.

- Doubling the maximum child care deduction available to TANF recipients reduces the total amount of net resources lost across all benefit cliffs from \$12.1 million to \$11.4 million among TANF families (-6 percent).
- Increasing the maximum child care deduction by \$50 results in slightly lower but still negative impacts on the total amount and total impact of benefit cliffs, while also increasing the number of cliffs due to extending eligibility to higher incomes.
- Removing the distinction between part-time workers and full-time workers for this disregard slightly lowers the total number of all cliffs while also reducing the total net resource loss due to these cliffs by about \$130,000.

Figure 6.11: Model Outputs, TANF Child Care Deductions

	TANF Baseline	Current Max x2	Current Max + \$50	Part-Time Worker Access
All Cliffs				
Total Number	8,643	9,418	9,131	8,607
Net Chg		9%	6%	0%
Total Amount (\$M)	\$12.1	\$11.4	\$11.9	\$12.0
Net Chg		-6%	-2%	-1%
Avg Cliff Amount	\$1,404	\$1,209	\$1,307	\$1,396
Net Chg		-14%	-7%	-1%
Avg Cliff Risk Score	0.74	0.71	0.73	0.74
Net Chg		-4%	-1%	0%

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Healthcare

Medicaid benefit cliffs are driven by cut-offs in Adjusted Gross Income (AGI) relative to the poverty level, which disincentivizes workers near these income cut-offs from earning extra income. Employers facing

this issue could consider offering employee benefits that increase overall compensation packages without producing additional income that counts against towards Medicaid eligibility.

Incentivize or encourage employers to offer dependent care FSA

Pre-tax contributions to dependent care Flexible Spending Account (FSA) plans do not count toward MAGI income, including FSA plans that employers have the option of providing to employees to help cover the costs of reasonably anticipated child care expenses. The limit on dependent care FSA contributions is \$5,000 for individuals and married couples. The availability of dependent care FSA plans thereby effectively raises the income limit for Medicaid for individuals with children who need child care; by reducing MAGI income, contributions to FSA accounts also increase the premium tax credit that individuals on marketplace plans can receive. Use of this pre-tax option also has the advantage of lowering a household's federal tax liability and possibly increasing tax credit amounts. While child care paid through a dependent care FSA cannot be deducted from taxes through the federal child and dependent care credit (CDCTC), that credit is a nonrefundable one and therefore not accessible by many low-income families. Even families who are eligible for the CDCTC often incur greater costs than the maximum deduction for this credit, so an FSA for those remaining costs would remain beneficial. While New Hampshire's ability to incentivize employer benefits is limited, finding ways to encourage or incentivize this employer benefit—which for employers costs only the operation of this benefit through an FSA provider—would potentially decrease the onset of Medicaid cliffs while helping to pay for child care as well.

Housing

Encourage greater use of the Public Housing flat rent option among families receiving or seeking housing assistance

All residents in Public Housing must annually be given the option of paying flat rents that do not rise with increases in income, a unique feature for Public Housing distinct from HUD's other major rental assistance programs. By remaining constant over the course of a year, the flat rent option may be appealing to individuals who can reasonably expect to earn a high enough income that year that they would pay less through flat rents than through income-based rents. This option eliminates any housing-specific effective marginal tax rates on income that these families experience, which is around 30% for tenants opting for income-based rent—for every additional dollar earned, rental assistance subsidies for families opting for income-based rent decline by about 30 cents. Additionally, before the end of a given year (before residents are again given the choice of rent options), residents paying flat rents can switch to income-based rents if their financial situations become dire due to loss or reduction of employment, a further benefit to opting for flat rent among higher-income Public Housing residents.

Given that families must make incomes below fairly low income limits in order to qualify for HUD's rental assistance programs, and the difficulty in achieving upward mobility for these families, it is unsurprising that a relatively small portion of subsidized housing tenants make use of Fair Market rents.¹⁵¹ The prospect of a flat rent at 80% FMR is likely an unappealing one except for families who are

¹⁵¹ Finkel, M. & Lam, K. (2008). Use of flat rents in the public housing program. *Cityscape*, 10(1).
<https://www.huduser.gov/periodicals/cityscape/vol10num1/ch4.pdf>

already making high enough incomes such that they can reliably expect to pay less rent using the flat rent option compared to the income-based rent option.¹⁵² However, understanding the benefits of flat rents could help families seeking housing assistance who are able to choose between Public Housing and HUD's Section 8 housing options (where flat rents are not an option), insofar as supporting their future financial stability. If Public Housing stock or development expands significantly in the coming years, as President Biden's administration has indicated a willingness to consider,¹⁵³ ensuring that families know about Public Housing's flat rent option through public information campaigns could support efforts to address high effective marginal tax rates faced by low-income families seeking housing assistance.

Transportation

Incentivize or encourage employers to provide free transportation to employees*

When a worker begins working away from home, picks up an additional shift or job, or starts working an extra day, they can incur higher transportation costs. While higher transportation costs are usually insufficient to lead to a benefit cliff on their own, they often are part of the combination of increased expenses and lost benefits that can result in "combination cliffs" explored in detail in Section 5, especially where public transportation is unavailable. The added costs for working more due to transportation costs can be eliminated outright, however, if employers provide free transportation to workplaces.

Figure 6.12 shows the modeled results of employers adopting this policy for all households in the New HEIGHTS sample for this study. An example of an employer transit policy could be a partnership with a ride-sharing company such as Uber or Lyft to shuttle employees to workplaces. Like the analysis of the provision of onsite child care, employer-provided transportation also eliminates all cliffs at least partially resulting from transportation increase. Moreover, this illustrates the benefit of having employees work from home, if possible, to eliminate transportation costs to both employee and employer. Also, like the model output above for onsite child care, these results are intended to demonstrate the impact that employer transit could have on their employees, and not specifically as a recommendation for wholly state-financed solutions.

- Families would see an estimated reduction of about 4,000 cliffs (-3 percent).
- The total reduction in net resources lost due to cliffs of about \$4 million (-2 percent).
- As with other recommendations that decrease the number of "combination cliffs," this policy alternative would increase the average dollar amount of cliffs, as a higher proportion of cliffs faced by families would be substantial compared to the baseline model. This impact could be potentially reduced or eliminated by several of the above recommendations.

¹⁵² Based on recent HUD regulations, flat rents are not available to tenants who earn more than 120% Area Median Income for two consecutive years.

¹⁵³ *The Biden plan to build a modern, sustainable infrastructure and an equitable clean energy future.* (2020). Retrieved from <https://joebiden.com/clean-energy/>

Figure 6.12 Model Outputs, Employer-Provided Transportation

	Full Dataset Baseline	Employer Transit	Net Chg
All Cliffs			
Total Number	138,043	134,222	-3%
Total Amount (\$M)	\$252.8	\$248.8	-2%
Avg Cliff Amount	\$1,831	\$1,854	1%
Avg Cliff Risk Score	0.78	0.78	0%

Source: New HEIGHTS (2020), NCCP (2020), ESI (2020)

Figure 6.13 below shows a summary of recommended policy approaches in this section.

Figure 6.13: Summary of Child Care and Benefit Cliff Policy Considerations

Category	Policy Recommendations
Child care	Expand funding for the CCDF program
	Adjust CCDF step options so that there are more intervals with smaller increments
	Include license-exempt providers in next market rate study
	Raise state payment rates for non-traditional hours
	Continue to pay child care providers based on enrollment, not on attendance
	Implement a statewide pre-K program
	Expand Head Start and Early Head Start
	Continue adequate funding for full-day kindergarten
Food insecurity and SNAP eligibility	Encourage or support employer provision of onsite child care
	Increase SNAP gross income limit
	Provide a nominal Heat and Eat payment to SNAP recipients receiving housing subsidies
TANF Cash Assistance	Encourage Community Eligibility Provisions take up
	Increase the TANF earned income disregard
Healthcare	Increase the TANF child care deduction
	Incentivize or encourage employers to offer dependent care FSA
Housing	Encourage greater use of the Public Housing flat rent option
Transportation	Incentivize or encourage employers to provide free transportation to employees

