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October 22, 2024

Expanding the Definition of Maternal and Child Health

How Economic and Early Childhood Policies Improve Maternal and Child Health Outcomes

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Who We Are

We are a nonpartisan research center at Vanderbilt University.

What We Do

We aim to accelerate states' equitable implementation of evidence-based policies that help all children thrive from the start.

Our Earliest Experiences Shape Our Lives

- All children deserve to be born healthy and raised in nurturing environments, with limited exposure to adversity.
- Nurturing relationships in the earliest years lead to healthier brains and bodies, which influence health and wellbeing over the life course.
- Chronic adversity harms children's neurological, biological, and social development, and can have lifelong consequences.
- Millions of children lack the opportunities to the healthy start they deserve
- Children of color are most likely to face adversity and least likely to have the opportunities all children deserve.

Importance of Optimal Brain Development and Health

Safe, stable, stimulating, nurturing interactions between an infant and a parent or caregiver promote optimal brain and body development

Our health and wellbeing prenatally and in the first 3 years of life affect all future learning, behavior, and health

The absence of a comprehensive system of support can compromise a child's ability to learn and grow throughout life

State Policy Choices Shape Opportunities

State policy choices can empower parents and support children's healthy development.

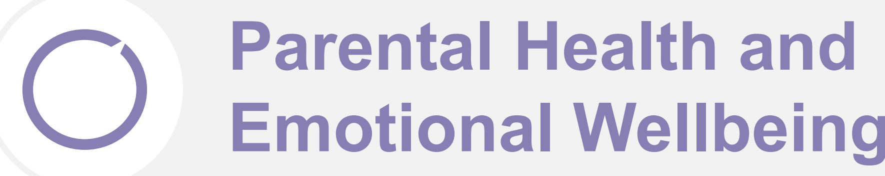
We must care for the caregivers so that they can care for the children.

Systems of support require a combination of broad based economic and family supports and targeted interventions.

Variation in state policy choices leads to a patchwork of supports for families, depending on where they live.

Prenatal-to-3 Policy Goals

Access to Needed Services



Parental Health and Emotional Wellbeing

Parents' Ability to Work and Provide Care

Nurturing and Responsive Child-Parent Relationships

Sufficient Household Resources

Nurturing and Responsive Child Care in Safe Settings

Healthy and Equitable Births

Optimal Child Health and Development

Prenatal-to-3 State Policy Roadmap

POLICIES

- Expanded Income Eligibility for Health Insurance
- Paid Family and Medical Leave for Families With a New Child
- State Minimum Wage of $10.00 or Greater
- Refundable State Earned Income Tax Credit of at Least 10%

STRATEGIES

- Reduced Administrative Burden for SNAP
- Comprehensive Screening and Connection Programs
- Child Care Subsidies
- Group Prenatal Care
- Community-Based Doulas
- Evidence-Based Home Visiting Programs
- Early Head Start
- Early Intervention Services

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TENNESSEE

State Prenatal-to-3 Outcome Measures

Policy Goal	Outcome Measure	Worst State	TN	Best State	Rank
Access to Needed Services	% Low-Income Women Uninsured	41.4%	21.6%	3.0%	38
Access to Needed Services	% Births to Women Not Receiving Adequate Prenatal Care	23.8%	17.4%	6.4%	40
Access to Needed Services	% Children < 3 Not Receiving Developmental Screening	72.0%	52.9%	40.0%	17
Parents' Ability to Work	% Children < 3 Without Any Full-Time Working Parent	36.7%	27.0%	11.9%	40
Sufficient Household Resources	% Children < 3 in Poverty	29.1%	19.1%	6.8%	37
Sufficient Household Resources	% Children < 3 Living in Crowded Households	33.2%	17.1%	6.4%	36
Sufficient Household Resources	% Households Reporting Child Food Insecurity	15.0%	4.3%	1.1%	13
Healthy and Equitable Births	% Babies Born Preterm (< 37 Weeks)	14.8%	11.0%	8.2%	39
Healthy and Equitable Births	# of Infant Deaths per 1,000 Births	9.1	6.6	3.3	36

TENNESSEE

State Prenatal-to-3 Outcome Measures

Policy Goal	Measure	Worst State	TN	Best State	Rank
Parental Health and Emotional Wellbeing	% Children < 3 Whose Mother Reports Fair/Poor Mental Health	11.5%	8.8%	3.3%	43
	% Children < 3 Whose Parent Lacks Parenting Support	26.4%	10.4%	5.7%	6
Nurturing and Responsive Child-Parent Relationships	% Children < 3 Not Read to Daily	71.5%	63.4%	42.0%	38
	% Children < 3 Not Nurtured Daily	50.9%	38.7%	28.0%	20
	% Children < 3 Whose Parent Reports Not Coping Very Well	45.4%	32.3%	26.3%	16
Nurturing and Responsive Child Care in Safe Settings	% Children Without Access to EHS	95.3%	94.5%	45.3%	50
Optimal Child Health and Development	% Children Whose Mother Reported Never Breastfeeding	32.1%	21.9%	6.1%	42
	% Children < 3 Not Up to Date on Immunizations	38.8%	28.8%	12.9%	31
	Maltreatment Rate per 1,000 Children < 3	29.9	9.1	2.2	16

Data marked with a * should be interpreted with caution. For additional information regarding calculation details, data quality, and source data please refer to Methods and Sources.

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Prenatal-to-3 State Policy Roadmap

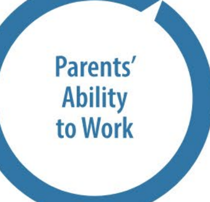
pn3policy.org/roadmap

The alignment of policy goals, evidence-based policies and strategies, and outcomes that illustrate the wellbeing of children and families

GOALS To achieve a science-driven PN-3 goal:	Access to Needed Services	Parents' Ability to Work	Sufficient Household Resources	Healthy and Equitable Births	Parental Health and Emotional Wellbeing	Nurturing and Responsive Child-Parent Relationships	Nurturing and Responsive Child Care in Safe Settings	Optimal Child Health and Development
POLICIES – Adopt and fully implement the **effective policies** aligned with the goal								
Expanded Income Eligibility for Health Insurance	●		●	●				●
Paid Family and Medical Leave for Families with a New Child	●	●	●	●	●	●		●
State Minimum Wage of $10.00 or Greater		●	●	●	●			●
Refundable State Earned Income Tax Credit of at Least 10%		●	●	●				
STRATEGIES – Make substantial progress relative to other states toward implementing the **effective strategies** aligned with the goal								
Reduced Administrative Burden for SNAP	●							
Comprehensive Screening and Connection Programs	●				●			●
Child Care Subsidies	●	●	●					
Group Prenatal Care	●				●			●
Community-Based Doulas	●			●		●		●
Evidence-Based Home Visiting Programs						●		
Early Head Start		●			●	●	●	●
Early Intervention Services					●			●
OUTCOMES Measure progress toward achieving the PN-3 goal.	Health Insurance Adequate Prenatal Care Developmental Screenings	Parental Employment	Child Poverty Crowded Housing Food Insecurity	Preterm Births Infant Mortality	Maternal Mental Health Parenting Support	Daily Reading Daily Nurturing Behaviors Parenting Stress	Access to EHS	Breastfeeding Immunizations Child Maltreatment

GOALS

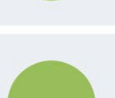
To achieve a science-driven PN-3 goal:

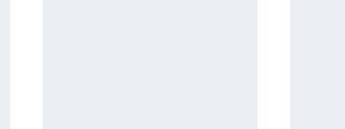


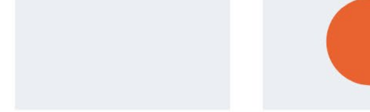
POLICIES

Adopt and fully implement the **effective policies** aligned with the goal

POLICIES	Access to Needed Services	Parents' Ability to Work	Sufficient Household Resources	Healthy and Equitable Births	Parental Health and Emotional Wellbeing	Nurturing and Responsive Child-Parent Relationships	Nurturing and Responsive Child Care in Safe Settings	Optimal Child Health and Development
Expanded Income Eligibility for Health Insurance	●		●	●				●
Paid Family and Medical Leave for Families with a New Child	●	●	●	●	●	●		●
State Minimum Wage of $10.00 or Greater		●	●	●	●			●
Refundable State Earned Income Tax Credit of at Least 10%		●	●	●				
OUTCOMES	Health Insurance Adequate Prenatal Care Developmental Screenings	Parental Employment	Child Poverty Crowded Housing Food Insecurity	Preterm Births Infant Mortality	Maternal Mental Health Parenting Support	Daily Reading Daily Nurturing Behaviors Parenting Stress	Access to EHS	Breastfeeding Immunizations Child Maltreatment

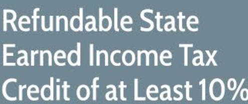






OUTCOMES

Measure progress toward achieving the PN-3 goal.



Medicaid Expansion

41

states have implemented the Medicaid expansion under the Affordable Care Act.

AK										ME
					WI				VT	NH
WA	ID	MT	ND	MN	IL	MI		NY	MA	
OR	NV	WY	SD	IA	IN	OH	PA	NJ	CT	RI
CA	UT	CO	NE	MO	KY	WV	VA	MD	DE	
	AZ	NM	KS	AR	TN	NC	SC	DC		
			OK	LA	MS	AL	GA			
HI			TX					FL		

Yes No

State has newly implemented the policy since October 1, 2023

State has enacted legislation and will implement the policy after October 1, 2024

Sources: As of July 2024. Medicaid state plan amendments (SPAs), Section 1115 Waivers, and state legislation.

Medicaid Expansion

How Does Medicaid Expansion Impact PN-3 Outcomes?

- An 8.6 percentage point increase in preconception Medicaid coverage (B)
- An increase of 0.9 months of Medicaid coverage postpartum (I)
- An increase in receiving adequate prenatal care by 3.6 percentage points for Hispanic women and 2.6 percentage points for non-Hispanic women (EE)

- A 4.7 percentage point decrease in the likelihood of experiencing a catastrophic financial burden (KK)
- A decrease in financial difficulty and health care avoidance because of cost (C, G, H, K, & II)
- A reduction in the poverty rate (Supplemental Poverty Measure) of up to 1.4 percentage points, corresponding to lifting more than 690,000 people out of poverty (CC)

- 0.53 fewer infant deaths per 1,000 live births among Hispanic infants (V)
- 16.3 fewer Black maternal deaths per 100,000 live births (7.0 per 100,000 live births in the overall population) (J)

- 422 fewer cases of neglect per 100,000 children under age 6 (U)
- 17.3% reduction in first-time neglect reports for children under age 5 (NN)

Implementation of Medicaid Expansion

Year	States
2014	AZ, AR, CA, CO, CT, DE, DC, HI, IL, IA, KY, MD, MA, MI, MN, NV, NH, NJ, NM, NY, ND, OH, OR, RI, VT, WA, WV
2015	AK, IN, PA
2016	LA, MT
2019	ME*, VA
2020	ID, NE, UT
2021	MO, OK
2022	
2023	SD, NC (since October 1, 2023)
2024	

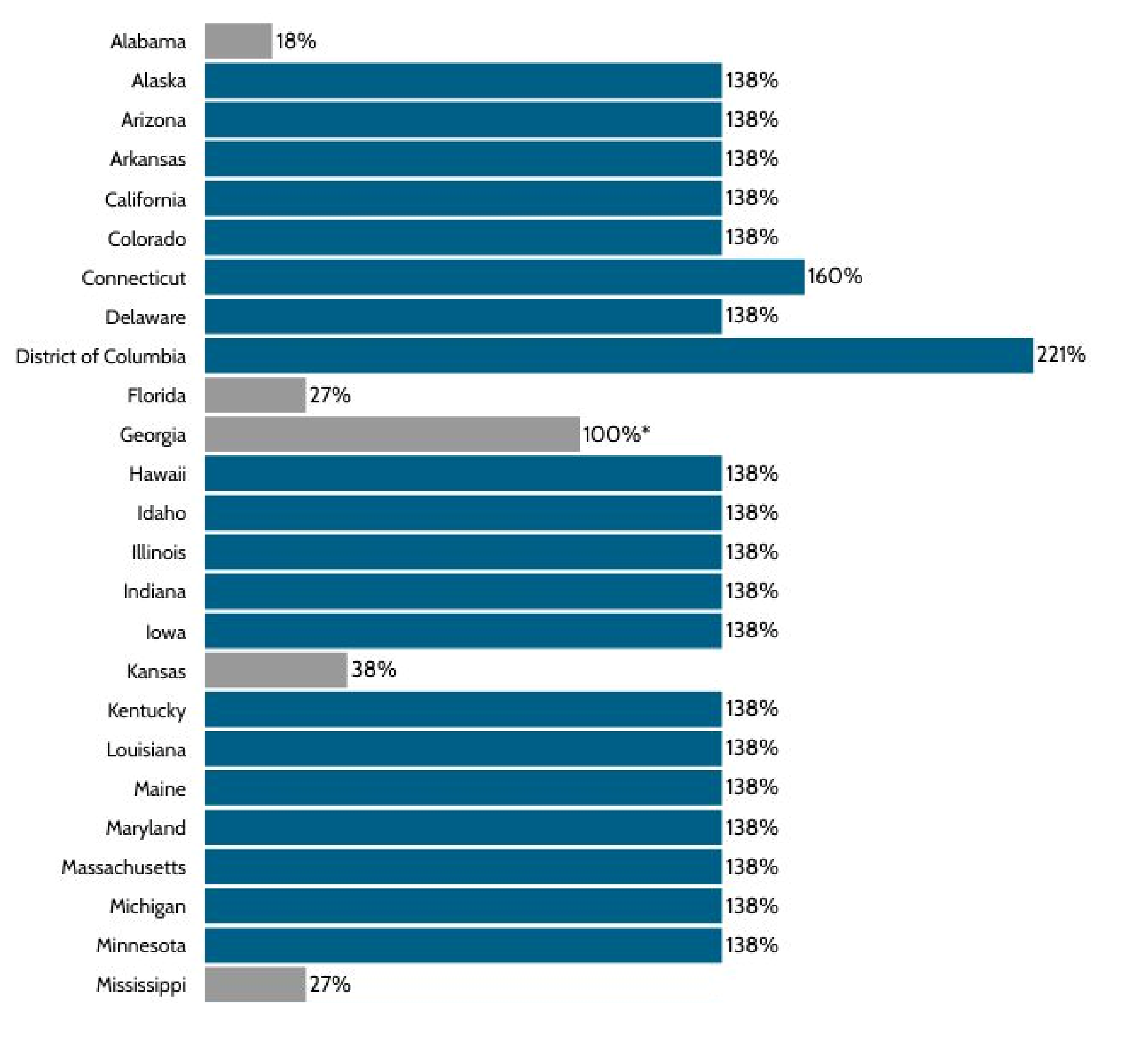
State has fully implemented Medicaid expansion by October 1 of a given year.

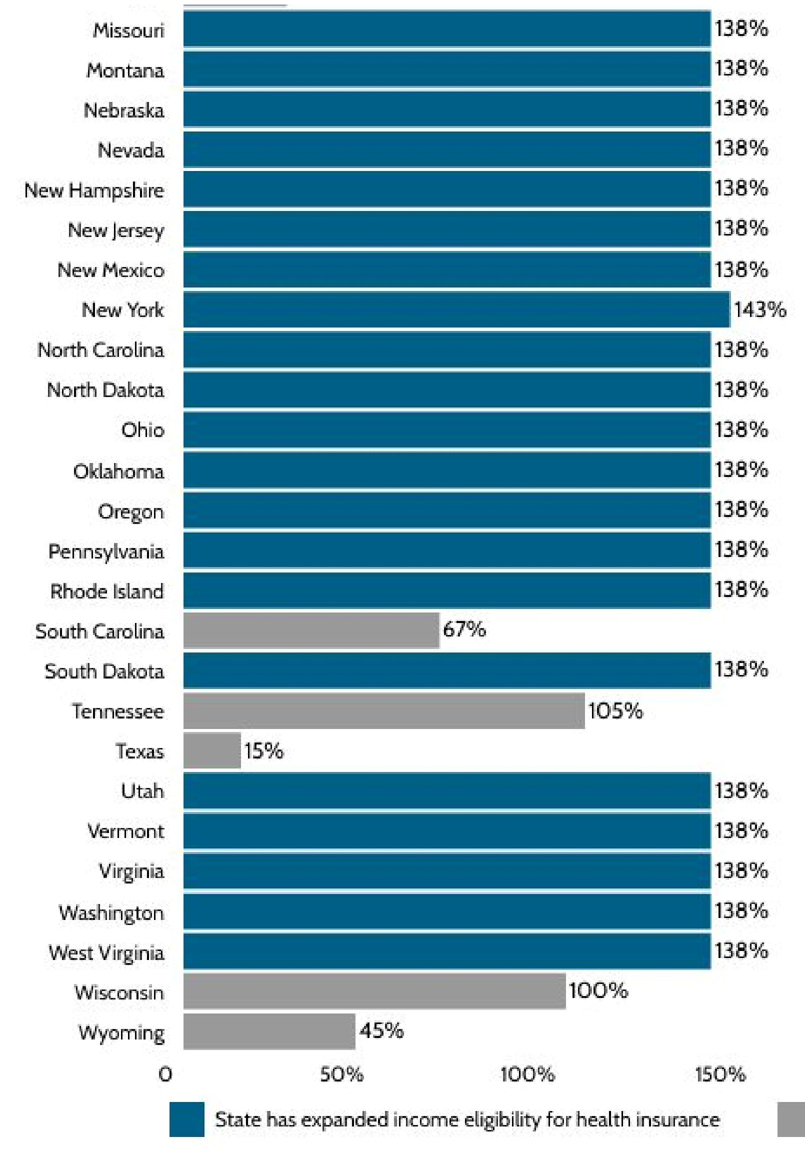
State fully implemented Medicaid expansion since October 1, 2023.

*Coverage in Maine was effective in January 2019, but retroactive to July 2018.

Medicaid Expansion

Parents' Medicaid Income Eligibility Limits as a Percentage of the Federal Poverty Level





Source: Expansion status: As of October 1, 2024. Medicaid state plan amendments (SPAs) and Section 1115 waivers; Income eligibility limits: As of October 1, 2024, KFF, Georgetown University Center for Children and Families, Medicaid SPAs (South Dakota).

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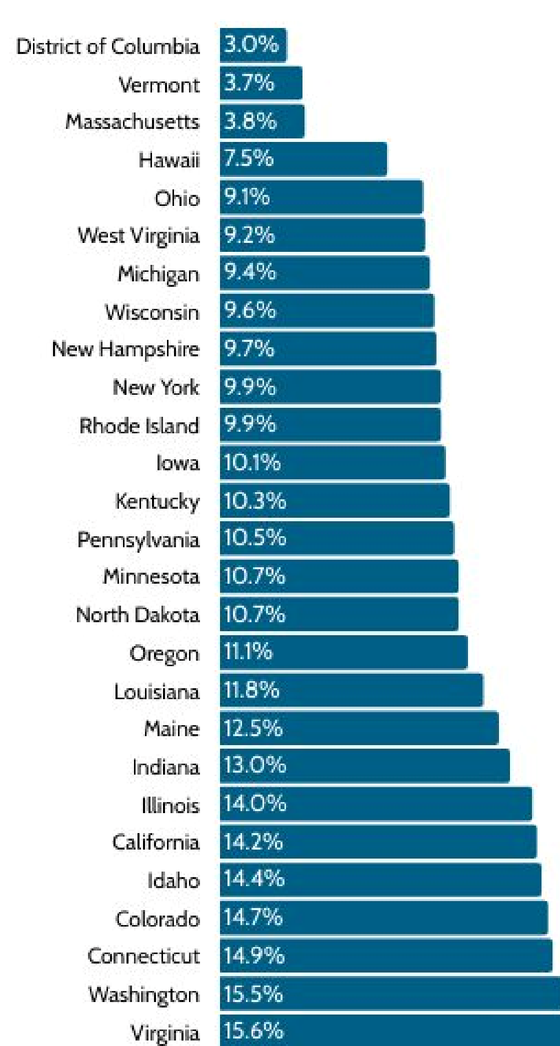
Medicaid Expansion

% Low-Income Women of Childbearing Age Without Health Insurance

Low income <= 138% Federal Poverty Level



State	%
Montana	15.7%*
New Mexico	16.0%
Delaware	16.7%*
Maryland	17.8%
Arkansas	18.6%
Nebraska	18.6%
Utah	19.6%
Missouri	20.7%
Alaska	21.4%*
Arizona	21.5%
Tennessee	21.6%
South Carolina	21.9%
South Dakota	22.0%*
Kansas	22.6%
Alabama	22.8%
North Carolina	24.2%
New Jersey	25.0%
Oklahoma	25.1%
Mississippi	25.5%
Nevada	25.5%
Florida	26.0%
Wyoming	30.4%*
Georgia	32.2%
Texas	41.4%

Source: 2022 American Community Survey (ACS) 1-Year Public Use Microdata Sample (PUMS).

Paid Family and Medical Leave

10

states have implemented a paid family leave program of a minimum of 6 weeks.

AK ME
WI VT NH
WA ID MT ND MN IL MI NY MA
OR NV WY SD IA IN OH PA NJ CT RI
CA UT CO NE MO KY WV VA MD DE
AZ NM KS AR TN NC SC DC
OK LA MS AL GA
HI TX FL

Yes No

State has newly implemented the policy since October 1, 2023

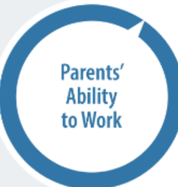
State has enacted legislation and will implement the policy after October 1, 2024

Sources: As of October 2024. State statutes and A Better Balance.

Paid Family and Medical Leave

How Does Paid Family Leave Impact PN-3 Outcomes?

- An increase in family leave-taking in the first year after birth of 5 weeks for mothers and up to 3 days for fathers (B)
- An increase in family leave-taking of 14.4 percentage points among Black mothers and 6.4 percentage points among Hispanic mothers (no significant increase was found among White mothers) (N)
- An increase in the receipt of postpartum care of 1.5 percentage points for White women and 3.4 percentage points for women of other racial and ethnic groups (Z)



- Up to an 8 percentage point increase in maternal labor force participation in the months surrounding birth (D)
- An increase in time worked by mothers of 7.1 weeks in the second year of a child's life (B)
- A 13% increase in the likelihood of mothers returning to their prebirth employer in the year following birth (B)
- An 18.3 percentage point increase in the probability of mothers working 1 year following birth (B)

- A 2 percentage point reduction in the official poverty measure rate, with even greater effects among single mothers with low levels of education and income (M)
- A 2 percentage point decrease in food insecurity, with even greater effects among households with multiple children (Y)

- A 12% reduction in postneonatal infant mortality (S)

Paid Family and Medical Leave

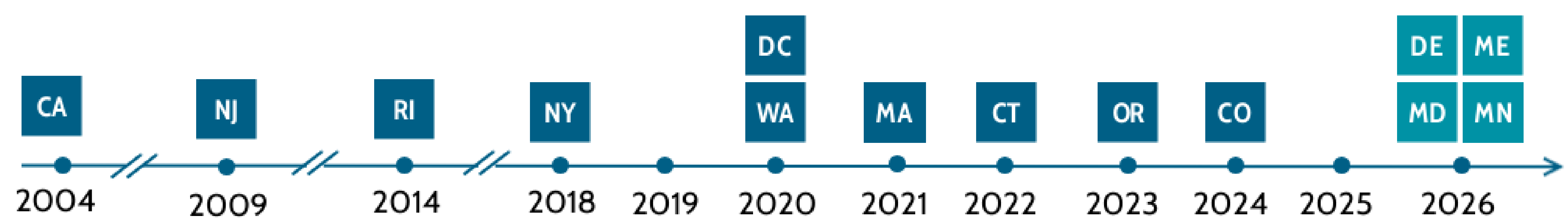
How Does Paid Family Leave Impact PN-3 Outcomes?

- A 5.3 percentage point increase in the number of parents who reported coping well with the day-to-day demands of parenting (C)
- A 12 percentage point decrease in parental consumption of any alcohol (P)

- An increase in mothers' time spent with children, including reading to their children 2.1 more times per week, having breakfast with children 0.7 more times per week, and going on outings with children 1.8 more times per month (A)

- A 1.3 percentage point increase in exclusive breastfeeding at age 6 months (G)
- A 7.5 percentage point increase in the likelihood of breastfeeding initiation among Black mothers (K)
- Up to a 7 percentage point decrease in the likelihood of infants receiving late vaccinations among families with low incomes (E)
- A decrease in hospital admissions for pediatric abusive head trauma of 2.8 admissions per 100,000 children under age 2 and 5.1 admissions per 100,000 children under age 1 (I)

Implementation of Paid Family and Medical Leave



CA, NJ, RI, and NY amended pre-existing temporary disability insurance (TDI) laws to include paid family leave. The dates displayed above indicate the year paid family leave became available.

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Paid Family and Medical Leave

Projected Paid Family Leave (PFL) Benefits

Based on National Median Earnings for Full-Time Workers

Weekly PFL Benefit | Total PFL Benefit | ★ May Stack PFL with Medical Leave

State	Weekly PFL Benefit	Duration	May Stack PFL with Medical Leave	Total PFL Benefit
Rhode Island	$693	6 weeks	★	$4,159
California	$693	8 weeks	★	$5,545
New York	$774	12 weeks	★	$9,288
Massachusetts	$847	12 weeks	★	$10,165
Colorado	$862	12 weeks	★	$10,342
*Maine	$895	12 weeks		$10,739
*Delaware	$900	12 weeks		$10,800
Washington	$901	12 weeks	★	$10,814
Connecticut	$913	12 weeks		$10,953
*Minnesota	$923	12 weeks	★	$11,074
*Maryland	$956	12 weeks	★	$11,474
New Jersey	$982	12 weeks	★	$11,783
District of Columbia	$986	12 weeks		$11,827
Oregon	$990	12 weeks	★	$11,884

0 $2,000 $4,000 $6,000 $8,000 $10,000 $12,000

Notes: Estimates calculated using state parameters as of January 1, 2024. An "*" indicates estimated benefits based on policy guidelines; paid family leave programs in these states are not yet fully implemented and workers cannot not yet receive these benefits. Benefit estimates are pre-tax estimates based on median earnings for full-time female workers in the state, estimated at 2022 levels. Weekly totals may not precisely add to total benefits because of rounding.

State Minimum Wage

30

states have implemented a minimum wage of $10.00 or greater.

AK ME
WI VT NH
WA ID MT ND MN IL MI NY MA
OR NV WY SD IA IN OH PA NJ CT RI
CA UT CO NE MO KY WV VA MD DE
AZ NM KS AR TN NC SC DC
OK LA MS AL GA
HI TX FL

Yes No

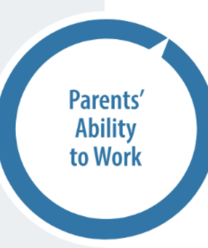
State has newly implemented the policy since October 1, 2023

State has enacted legislation and will implement the policy after October 1, 2024

Sources: As of October 2024. State labor statutes and government websites.

State Minimum Wage

How Does State Minimum Wage Impact PN-3 Outcomes?



- A 10% increase in the minimum wage increased the likelihood that children (ages 0 through 5) of mothers with no college degree had a working parent by 7.4% (J)

- For mothers with no college degree with children under age 6, a 10% increase in the minimum wage reduced poverty by 9.7% (J)
- A 10% increase in the minimum wage led to a 3.5% increase in earnings for families with low incomes and produced a 4.9% reduction in poverty for children under age 18 (B)

- For unmarried women with no college degree, setting the tipped minimum wage at the full federal minimum wage level reduced prenatal poverty-related stress scores by 15.9% (N)

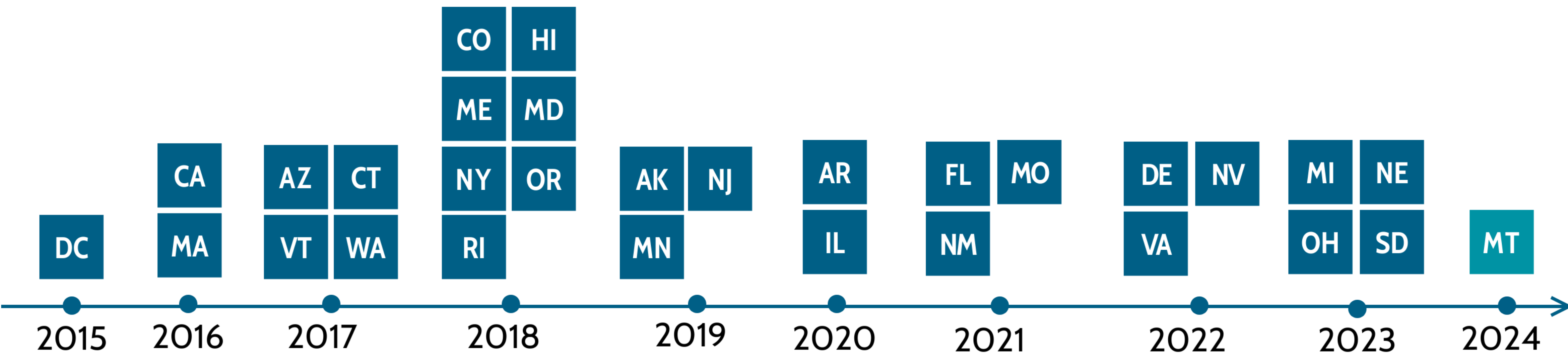
State Minimum Wage

How Does State Minimum Wage Impact PN-3 Outcomes?

- A $1.00 minimum wage increase above the federal level led to a 2% decrease in low birthweight and a 4% decrease in postneonatal mortality (E)
- For pregnant women, setting the tipped minimum wage at the full federal minimum wage level led to overall healthier birthweights (O)

- A $1.00 increase in the minimum wage reduced child neglect reports by 9.6% overall and 10.8% for children ages 0 to 5 (G)
- Children affected by a $1.00 increase in the minimum wage from birth through age 5 saw an 8.7% higher likelihood of excellent or very good health and missed 15.6% fewer school days due to illness or injury from ages 6 through 12 (I)

Implementation of State Minimum Wage of $10 or Greater



State fully implemented a state minimum wage of $10.00 per hour or greater by October 1 of a given year.

State has fully implemented a state minimum wage of $10.00 per hour or greater since October 1, 2023.

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State Minimum Wage

Current State Hourly Minimum Wages (Nominal)

State	Wage
District of Columbia	$17.50
Washington	$16.28
California	$16.00
Connecticut	$15.69
New Jersey	$15.13
Maryland	$15.00
Massachusetts	$15.00
New York	$15.00
Oregon	$14.70
Colorado	$14.42
Arizona	$14.35
Maine	$14.15
Hawaii	$14.00
Illinois	$14.00
Rhode Island	$14.00
Vermont	$13.67
Delaware	$13.25
Florida	$13.00
Missouri	$12.30
Nebraska	$12.00
Nevada	$12.00
New Mexico	$12.00
Virginia	$12.00
Alaska	$11.73
South Dakota	$11.20
Arkansas	$11.00
Minnesota	$10.85
Ohio	$10.45
Michigan	$10.33
Montana	$10.30
West Virginia	$8.75
Alabama	$7.25
Georgia	$7.25
Idaho	$7.25
Indiana	$7.25
Iowa	$7.25
Kansas	$7.25
Kentucky	$7.25
Louisiana	$7.25
Mississippi	$7.25
w Hampshire	$7.25
orth Carolina	$7.25
North Dakota	$7.25
Oklahoma	$7.25
Pennsylvania	$7.25
uth Carolina	$7.25
Tennessee	$7.25
Texas	$7.25
Utah	$7.25
Wisconsin	$7.25
Wyoming	$7.25

Sources: As of October 2024. State labor statutes and state websites.

State Earned Income Tax Credit

23

states have implemented a refundable EITC of at least 10% of the federal EITC.

AK ME
WI VT NH
WA ID MT ND MN IL MI NY MA
OR NV WY SD IA IN OH PA NJ CT RI
CA UT CO NE MO KY WV VA MD DE
AZ NM KS AR TN NC SC DC
OK LA MS AL GA
HI TX FL

Yes No

State has newly implemented the policy since October 1, 2023

State has enacted legislation and will implement the policy after October 1, 2024

Source: As of October 2024. State income tax statutes.

State Earned Income Tax Credit

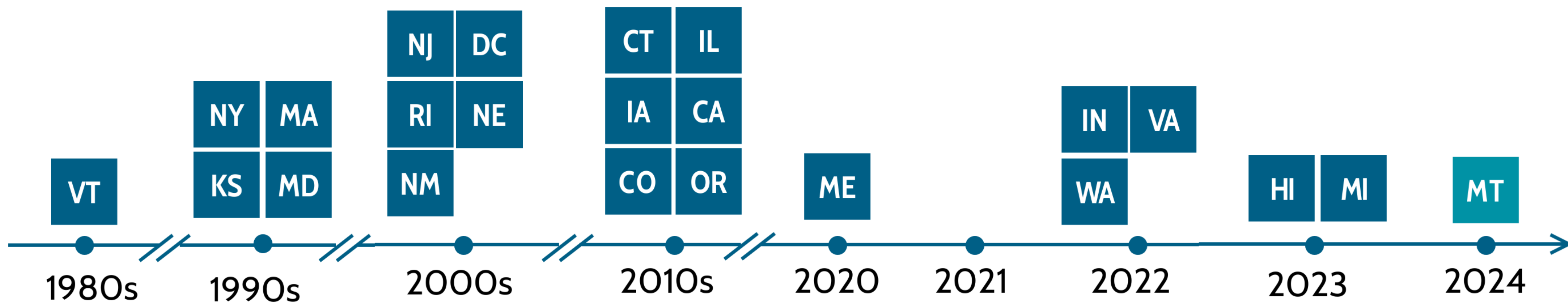
How Does State Earned Income Tax Credit Impact PN-3 Outcomes?

- With each additional $1,000 in average EITC benefits (federal plus state), unmarried mothers with children under age 3 were 9 percentage points more likely to work (C)
- A state EITC set at 10% of the federal credit increased employment among single mothers by 2.1 percentage points compared to single women with no children (GG)
- Living in a state with an EITC increased the likelihood of mothers' employment (for at least one week per year) by 19% (B)

- State EITCs increased mothers' annual wages by 32% (B)
- A $1,000 increase in average federal and state EITC benefits led to an increase of $2,400 in the pre-tax earnings of households with infants and toddlers, and poverty was reduced by 5 percentage points (C)
- A rigorous simulation found that if all states adopted the policy of the most generous EITC state, then child poverty would be reduced by 1.2 percentage points (KK)

- The state EITC led to increases in birthweight of between 16 and 104 grams, depending on the credit's generosity level (B, CC)
- In states with refundable EITCs of at least 10% of the federal credit, Black mothers with a high school education or less saw greater reductions in low birthweight rates for their infants (1.4 percentage points) compared to White mothers with a high school education or less (0.7 percentage points) (II)

Implementation of a Refundable State EITC of at Least 10% of the Federal Credit



State fully implemented a refundable state EITC worth at least 10% of the federal EITC by October 1 of a given tax year (TY).

State has fully implemented a refundable state EITC worth at least 10% of the federal EITC since October 1, 2023.

State Earned Income Tax Credit

Variation Across States in EITC Generosity and Refundability

State	Value	Credit type
District of Columbia	70%	Refundable
Colorado	50%	Refundable
Maryland	45%	Refundable
Connecticut	40%	Refundable
Hawaii	40%	Refundable
Massachusetts	40%	Refundable
New Jersey	40%	Refundable
Vermont	38%	Refundable
Michigan	30%	Refundable
New York	30%	Refundable
Maine	25%	Refundable
New Mexico	25%	Refundable
Illinois	20%	Refundable
Kansas	17%	Refundable
Rhode Island	16%	Refundable
Iowa	15%	Refundable
Virginia	15%	Refundable
Washington*	15%	Refundable
California*	14%	Refundable
Oregon	12%	Refundable
Indiana	10%	Refundable
Montana	10%	Refundable
Nebraska	10%	Refundable
Minnesota**	8%	Refundable
Louisiana	5%	Refundable
Oklahoma	5%	Refundable
Delaware	4.5%	Refundable
Wisconsin*	4%	Refundable
South Carolina	125%	Nonrefundable
Ohio	30%	Nonrefundable
Utah	20%	Nonrefundable
Missouri	10%	Nonrefundable

No state EITC: Alabama, Arizona, Arkansas, Georgia, Idaho, Kentucky, Mississippi, North Carolina, North Dakota, Pennsylvania, West Virginia

No state EITC, no income tax: Alaska, Florida, Nevada, New Hampshire, South Dakota, Tennessee, Texas, Wyoming

Refundable credit | Nonrefundable credit

% = value of the state EITC as a percentage of federal EITC

As of October 1, 2024

GOALS

To achieve a science-driven **PN-3 goal:**

Nurturing and Responsive Child-Parent Relationships

Nurturing and Responsive Child Care in Safe Settings

Optimal Child Health and Development

STRATEGIES

Make substantial progress relative to other states toward implementing the **effective strategies** aligned with the goal

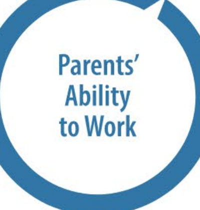
	Access to Needed Services	Parents' Ability to Work	Sufficient Household Resources	Healthy and Equitable Births	Parental Health and Emotional Wellbeing	Nurturing and Responsive Child-Parent Relationships	Nurturing and Responsive Child Care in Safe Settings	Optimal Child Health and Development
Reduced Administrative Burden for SNAP	●							
Comprehensive Screening and Connection Programs	●				●			●
Child Care Subsidies	●	●	●					
Group Prenatal Care	●				●			●
OUTCOMES	Health Insurance Adequate Prenatal Care Developmental Screenings	Parental Employment	Child Poverty Crowded Housing Food Insecurity	Preterm Births Infant Mortality	Maternal Mental Health Parenting Support	Daily Reading Daily Nurturing Behaviors Parenting Stress	Access to EHS	Breastfeeding Immunizations Child Maltreatment

OUTCOMES

Measure progress toward achieving the PN-3 goal.

GOALS

To achieve a science-driven **PN-3 goal:**



STRATEGIES

Make substantial progress relative to other states toward implementing the **effective strategies** aligned with the goal

	Access to Needed Services	Parents' Ability to Work	Sufficient Household Resources	Healthy and Equitable Births	Parental Health and Emotional Wellbeing	Nurturing and Responsive Child-Parent Relationships	Nurturing and Responsive Child Care in Safe Settings	Optimal Child Health and Development
Community-Based Doulas	●			●		●		●
Evidence-Based Home Visiting Programs						●		
Early Head Start		●			●	●	●	●
Early Intervention Services					●			●
OUTCOMES	Health Insurance; Adequate Prenatal Care; Developmental Screenings	Parental Employment	Child Poverty; Crowded Housing; Food Insecurity	Preterm Births; Infant Mortality	Maternal Mental Health; Parenting Support	Daily Reading; Daily Nurturing Behaviors; Parenting Stress	Access to EHS	Breastfeeding; Immunizations; Child Maltreatment

OUTCOMES

Measure progress toward achieving the PN-3 goal.

Comprehensive Screening

How Do Comprehensive Screening and Connection Programs Impact PN-3 Outcomes?

- DULCE families received an average of 0.5 more community resources at the 6 and 12 month follow up (J)
- Family Connects families accessed 0.9 more community resources (B)
- HealthySteps families had 3.5 times higher odds of being informed about community resources (F)
- DULCE families had an 11 percentage point increase in the likelihood of attending at least 5 routine health care visits by 12 months (J) and HealthySteps families had 1.7 times greater odds of attending the 12 month well-child visit (F)

- Family Connects reduced disparities between Black and White mothers in maternal anxiety by 48.3% and maternal depression by 43.5% (L)
- Family Connects mothers were 8.3 percentage points less likely to report possible clinical anxiety (B)

- By child age 12 months, Family Connects families reduced emergency department visits by 50% (B)
- DULCE families were 15 percentage points more likely to have received immunizations on time at child age 6 months (J)
- HealthySteps families were 3 percentage points less likely to put their infants in the wrong sleep position (E)

STRATEGY

COMPREHENSIVE SCREENING AND CONNECTION PROGRAMS

Key Policy Levers: Comprehensive Screening and Connection Programs

6 states have established a **goal** to implement evidence-based comprehensive screening and connection programs statewide

CO, CT, NJ, NC, OH, OR

21 states use **Medicaid funding** to support evidence-based comprehensive screening and connection programs

AZ, AR, CA, CO, DC, FL, IL, KY, MD, MA, MN, MS, NJ, NY, NC, OH, OR, RI, SC, TX, VT

19 states provide **state funding** to support evidence-based comprehensive screening and connection programs

CA, CO, FL, IL, IA, KY, MD, MN, MS, NE, NJ, NY, NC, OR, RI, SC, TX, VT, WA

★ **4** states have implemented all key policy levers for comprehensive screening and connection programs

CO, NJ, NC, OR

State newly implemented one or more key policy levers since October 1, 2023.

Source: State legislation and personal communication with DULCE, Family Connects, and HealthySteps program staff. For additional information, please refer to Methods and Sources.

Group Prenatal Care

How Does Group Prenatal Care Impact PN-3 Outcomes?

- A 6.4 percentage point decrease in the likelihood of receiving inadequate prenatal care compared to individual prenatal care participants(C)
- Approximately 2 more prenatal visits among participating Black women with high-risk pregnancies compared to women in individual care (H)

- Cases of probable depression decreased by 31% for women in group prenatal care compared to 15% for women in individual prenatal care from the second trimester to 1 year postpartum (A)
- High-stress women in group prenatal care were more likely than women in individual prenatal care to experience a decrease in depressive symptoms postpartum (D)

- The rate of breastfeeding initiation increased by approximately 12 percentage points for women in group prenatal care compared to women in individual prenatal care (C)

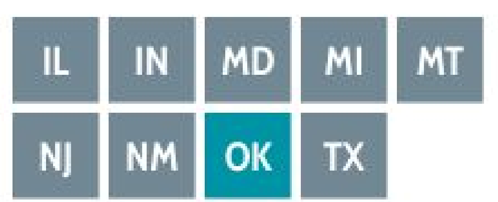
STRATEGY

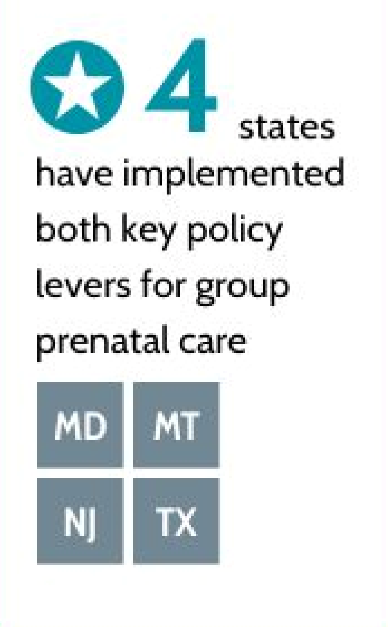
GROUP PRENATAL CARE

Key Policy Levers: Group Prenatal Care

14 states offer an enhanced Medicaid reimbursement rate to incentivize group prenatal care

9 states invest **funding** to pilot or scale up group prenatal care in the state





State newly implemented one or more key policy levers since October 1, 2023.

As of October 1, 2024; State health and Medicaid department websites, insurance provider websites, personal communication, and proposed and passed state legislation. For additional information, please refer to Methods and Sources.

Group Prenatal Care

Variation Across States in Enhanced Medicaid Reimbursement Rates for Group Prenatal Care

State	Enhanced Medicaid Reimbursement Rate
Arizona	$45 per patient, per visit
California	$11.24 per patient, per hour
Georgia	An additional $30 per patient, per visit
Louisiana	An additional $50 per patient, per visit (authorized for one MCO)
Maryland	An additional $50 per patient per visit
Michigan	$45 per patient, per visit
Missouri	$40 per patient, per visit
Montana	$30 per patient, per visit
New Jersey	An additional $7 per patient per visit
North Carolina	$250 per group, on/after the fifth visit
Ohio	$45 per patient, per visit
South Carolina	$30 per patient, per visit; plus an additional $175 one-time retention reimbursement on/after the fifth visit
Texas	$42.27 per patient, per visit
Utah	$9.92 per patient, per visit

Source: As of 2024. Centering Healthcare Institute Inc and Medicaid SPAs

Group Prenatal Care

Number of Centering Pregnancy Sites Across States

State	Sites
California	46
Ohio	37
North Carolina	25
Texas	22
Michigan	20
New Jersey	19
New York	18
South Carolina	18
Indiana	17
Maryland	17
Illinois	16
Pennsylvania	14
Washington	12
Oregon	10
Colorado	7
District of Columbia	7
Massachusetts	7
Florida	5
Alabama	3
Missouri	3
Nebraska	3
Oklahoma	3
Georgia	2
Hawaii	2
Minnesota	2
Nevada	2
New Hampshire	2
Arizona	1
Arkansas	1
Connecticut	1
Iowa	1
Maine	1
Mississippi	1
North Dakota	1
Rhode Island	1
Tennessee	1
Virginia	1
West Virginia	1
Wisconsin	1
Alaska	0
Delaware	0
Idaho	0
Kansas	0
Kentucky	0
Louisiana	0
Montana	0
New Mexico	0
South Dakota	0
Utah	0
Vermont	0
Wyoming	0

Source: As of 2024. Centering Healthcare Institute Inc.

Community-Based Doulas

How Do Community-Based Doulas Impact PN-3 Outcomes?

- A 10 percentage point increase in attendance at four or more well-child visits within the first 6 months of life (E)
- A 10 percentage point increase in attending a maternal postpartum visit within 60 days of delivery (E)
- A 40.5 percentage point increase in attending birthing classes (A)

- An 8 percentage point decrease in rates of preterm birth (E)
- An 8 percentage point decrease in rates of low birthweight (E)
- A 5 percentage point decrease in NICU admissions (E)
- An 11.4 percentage point decrease in epidural use (A)

- A significant increase in parental guidance and encouragement towards infants at child age 4 months (C)
- Increased engagement with infants in stimulating activities such as reading, playing peekaboo, and playing with toys at child age 3 months (B)
- A 9.4 percentage point increase in mothers' knowledge of safe infant sleep practices (A)

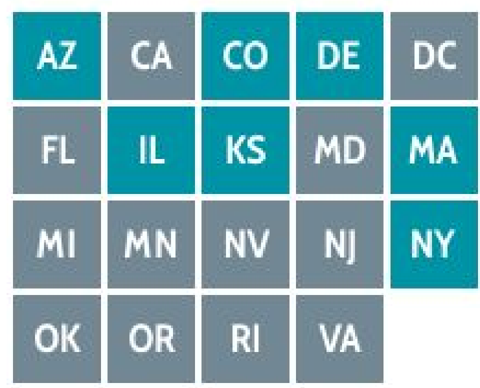
- An increase in breastfeeding initiation rates ranging from 7.0 (A) to 14.3 (D) percentage points
- A 12.3 percentage point decrease in nonbeneficial feeding practices that involve giving infants popular but nutritionally deficient food (D)

STRATEGY

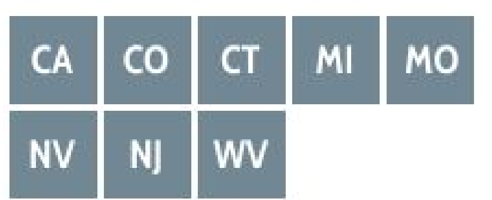
STATE SUPPORT FOR COMMUNITY-BASED DOULAS

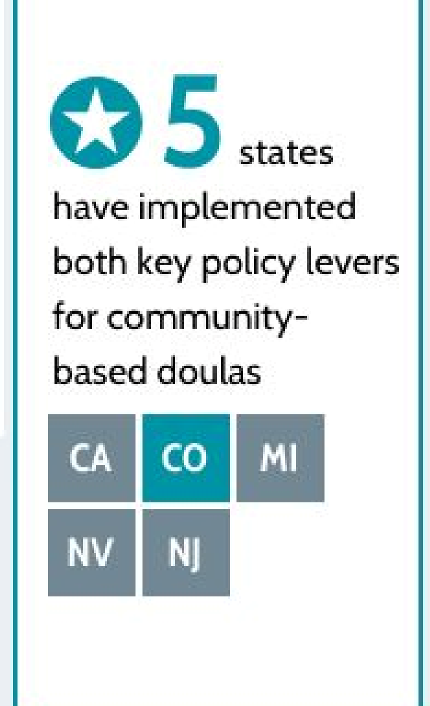
Key Policy Levers: Community-Based Doulas

19 states cover and reimburse community-based doula services under Medicaid



8 states provide financial support for doula training and workforce development





State newly implemented one or more key policy levers since October 1, 2023.

Source: As of July 2024; National Health Law Program. For additional information, please refer to Methods and Sources.

Community-Based Doulas

KEY POLICY LEVER

Medicaid Coverage: Maximum Reimbursement Rates

Maximum Doula Medicaid Reimbursement Rates

State	Maximum Rate
California	$3,263
Minnesota	$2,000
District of Columbia	$1,951
Massachusetts	$1,700
Nevada	$1,650
Oregon	$1,505
Colorado	$1,500
New York	$1,500
Rhode Island	$1,500
New Jersey	$1,441
Kansas	$1,295
Michigan	$1,150
Florida	$1,110
Oklahoma	$1,044
Virginia	$959
Maryland	$930
Arizona	$781 per diem, plus $16.28/15 minutes

0 $0.5K $1K $1.5K $2K $2.5K $3K $3.5K $4K

Notes: Rates as of October 1, 2024. Arizona does not have a maximum number of visits, so a total maximum rate cannot be determined. DE and IL have approved SPAs, but their Medicaid reimbursement rates are not publicly available as of October 2024. CT, NH, NM, OH, and SD are working on setting and implementing Medicaid reimbursement rates. MO implemented temporary coverage of doula services under Medicaid in October 2024. WA will implement a $3,500 reimbursement rate in early 2025.

As of October 1, 2024.
Sources: National Health Law Program, Doula Medicaid Project and state legislation.

Community-Based Doulas

KEY POLICY LEVER

Medicaid Coverage: Services Covered

As of October 2024.
Sources: National Health Law Program, Doula Medicaid Project and state legislation.

Variation Across States in Medicaid Coverage

State	Services Covered by Medicaid
Arizona	No minimum or maximum number of visits specified; labor and delivery
California	11 total visits (initial visit, 8 follow-up visits, and 2 optional extended postpartum visits) and labor and delivery
Colorado	3 hours of prenatal care, 3 hours of postpartum care, and labor and delivery
Delaware	6 total visits (3 prenatal, 3 postpartum) and labor and delivery
District of Columbia	12 total visits and labor and delivery
Florida	Plans negotiate rates and services
Illinois	*
Kansas	7 hours of prenatal care, 6.25 hours of postpartum care, and labor and delivery
Maryland	8 total visits (prenatal and postpartum) and labor and delivery
Massachusetts	Between 5 and 8 total visits (depending on length of visit) and labor and delivery
Michigan	6 total visits and labor and delivery
Minnesota	18 total visits and labor and delivery
Nevada	6 total visits and labor and delivery
New Jersey	12 total visits for patients age 19 and under or 8 total visits for patients over age 19, plus labor and delivery
New York	8 total visits and labor and delivery
Oklahoma	8 total visits and labor and delivery
Oregon	A minimum of 2 prenatal visits, 2 required postpartum visits, and labor and delivery
Rhode Island	3 prenatal visits, 3 postpartum visits, and labor and delivery
Virginia	8 total visits and labor and delivery

Note: States excluded from the table above do not cover community-based doula services under Medicaid as of publication. *Full details of Medicaid reimbursement rates were not yet publicly available for Delaware and Illinois at the time of publication. California also covers 9 additional postpartum visits with the recommendation of a medical provider.
Source: As of October 2024. National Health Law Program, Doula Medicaid Project, state legislation, and approved state plan amendments. For additional information see Method and Sources.

KEY POLICY LEVER

Workforce Supports

Variation Across States in State Support for Training and Credentialing

State	State Workforce Supports
California	Workforce financial support program
Colorado	Scholarships to pursue training and certification
Connecticut	Scholarships to pursue training and certification
Michigan	Trainings and stipends
Missouri	Statewide training grant program
Nevada	State program to repay student education loans for doulas enrolled as Medicaid providers
New Jersey	State grants
West Virginia	State grant to expand training

Note: As of October 1, 2024

As of October 2024. Sources: National Health Law Program, Doula Medicaid Project and state legislation.

STRATEGY

EARLY HEAD START

Key Policy Lever: Early Head Start

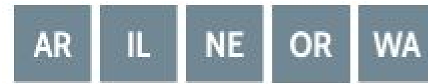
20 states support Early Head Start by becoming an EHS-CCP grantee, directing state funding to programs, and/or creating a state-specific program similar to EHS

Among these 20 states:

5 states are an EHS-CCP grantee

13 states direct state funding to EHS

5 states have a state-specific program similar to EHS



Sources: As of June 28, 2024. Personal communications with Head Start Collaboration Office Directors and/or other state experts; the Office of Early Childhood Development, Administration for Children and Families, US Dept. of Health & Human Services; and the National Head Start Association. For additional details, please see Methods & Sources.

How Does Early Head Start Impact PN-3 Outcomes?

- A greater percentage of parents participating in EHS reported being in school or job training programs compared to the control group at child ages 2 and 3 (S: effect sizes 0.09 and 0.16, respectively)

- Parents participating in EHS reported lower parenting distress as compared to the control group at child age 2 (I, S: effect size -0.11)

- EHS participation led to more supportive home environments for language and literacy (I, S: effect size 0.12), particularly for Black families (N: effect size 0.19) and families with moderate-level risk factors (N: effect size 0.18)
- Fewer parents participating in EHS reported spanking their child at age 3 (J, S: effect size -0.13)
- Black parents participating in EHS were more involved in their child's school at grade 5 (T: effect size 0.37)

Early Head Start

How Does Early Head Start Impact PN-3 Outcomes?

- At age 2, the share of children participating in good-quality center-based care was 3 times greater among children participating in EHS as compared to the control group (K)
- In center-based care, caregiver-child interactions were better among EHS participants than among nonparticipants (K)

- Children in EHS were more engaged with their parent during play at age 3 (J, S: effect size 0.18)
- Children in EHS had higher developmental functioning assessment scores at age 2 (I, S: effect size 0.14), particularly Black children in EHS (N: effect size 0.23)
- Children in EHS had higher vocabulary skills at ages 2 and 3 (I, J and S: effect sizes 0.11)

Early Head Start

Estimated % of Income-Eligible Children With Access to Early Head Start

State	%
District of Columbia	54.7%
Vermont	49.9%*
Montana	25.0%
Nebraska**	21.1%
Alaska	20.9%
Rhode Island	20.3%
North Dakota	19.5%
Oregon**	17.3%
Illinois**	16.9%
Wyoming	16.3%
South Dakota	15.3%
Maine	15.0%
Mississippi	14.8%
New Mexico	14.8%
Minnesota	14.5%
New Hampshire	14.2%
California	14.0%
Hawaii	13.4%
Washington**	13.4%
Arkansas**	13.2%
Wisconsin	13.1%
Iowa	13.0%
Oklahoma	12.8%
Michigan	11.7%
Kansas	11.4%
Colorado	10.5%
Missouri	10.5%
New York	10.1%
ssachusetts	10.0%
ennsylvania	10.0%
Delaware	9.6%
Kentucky	9.3%
Maryland	9.2%
New Jersey	9.2%
Arizona	8.7%
/est Virginia	8.7%
Florida	8.6%
Utah	8.6%
Connecticut	8.4%
Louisiana	8.2%
rth Carolina	8.1%
Ohio	8.0%
Alabama	7.8%
Idaho	7.6%
uth Carolina	7.5%
Virginia	7.1%
Georgia	6.8%
Indiana	6.3%
Texas	6.2%
Tennessee	5.5%
Nevada	4.7%

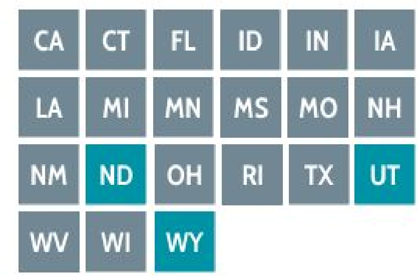
Sources: 2022 Office of Head Start, Early Head Start Notice of Award data and 2020-2022 American Community Survey (ACS) Public-Use Microdata Sample (PUMS).

STRATEGY

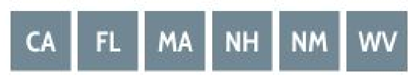
EARLY INTERVENTION SERVICES

Key Policy Levers: Early Intervention Services

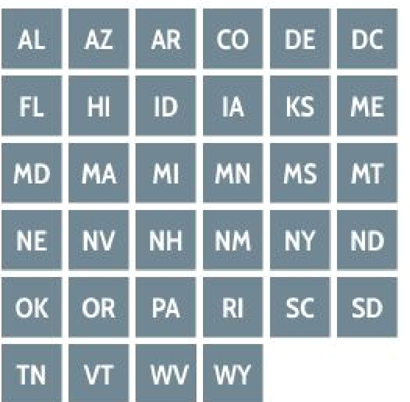
21 states allow very low birthweight as a diagnosable or at-risk qualification for Early Intervention services



6 states allow at-risk for delay as a qualifier for Early Intervention services



34 states have eliminated family fees for children receiving Early Intervention services



4 states have implemented all key policy levers for Early Intervention services

FL NH NM WV

State newly implemented one or more key policy levers since October 1, 2023.

Sources: As of August 2024. IDEA Infant & Toddler Coordinators Association, Early Childhood Technical Assistance Center. For additional information, please refer to Methods and Sources.

EI Services

How Do Early Intervention Services Impact PN-3 Outcomes?

- Mothers of low birthweight, premature infants who received EI services scored significantly higher on scales of maternal self-confidence (B, D) and maternal role satisfaction than control groups (D)

- A meta-analysis of 31 studies found that EI services had an average effect size of 0.62 on children's cognitive skills and 0.43 on motor skills (F)
- Low birthweight, premature infants who were assigned to EI services saw better cognitive (C, D) and behavioral outcomes (C) at age 3 than infants in control groups
- EI services improved toddlers' receptive language skills relative to a control group (0.35 effect size) (E)

EI Services

Cumulative % Children Under Age 3 Receiving EI Services

State	%
Massachusetts	20.2%
New Mexico	17.1%
West Virginia	15.8%
Vermont	13.6%
Rhode Island	12.7%
Pennsylvania	11.7%
New Hampshire	11.1%
Indiana	11.0%
New Jersey	11.0%
Wyoming	10.8%
North Dakota	10.6%
Connecticut	10.5%
Illinois	10.2%
District of Columbia	10.1%
New York	9.9%
Kansas	9.8%
South Carolina	9.5%
Delaware	8.5%
Washington	8.5%
Maryland	8.2%
Tennessee	8.0%
Colorado	7.9%
Michigan	7.9%
California	7.8%
Utah	7.7%
Virginia	7.5%
Maine	7.3%
Ohio	6.9%
Missouri	6.8%
Wisconsin	6.8%
Idaho	6.6%
Kentucky	6.5%
Nevada	6.5%
Hawaii	6.2%
Oregon	6.2%
South Dakota	6.2%
Louisiana	6.1%
Texas	5.9%
Alaska	5.8%
Minnesota	5.8%
Iowa	5.7%
Nebraska	5.4%
North Carolina	5.4%
Florida	5.3%
Alabama	5.2%
Arizona	4.7%
Georgia	4.6%
Montana	3.9%
Mississippi	3.7%
Oklahoma	3.6%
Arkansas	2.5%

Sources: Cumulative % served in EI & Point-in-Time % served: As of 2021-2022. US Department of Education, EDFacts Metadata and Process System (EMAPS) and US Census Population Estimates; % babies born low birthweight: Vital Statistics from CDC WONDER 2021 Natality.

*Maryland does not have a value for the cumulative percent served under age 3 because data were flagged due to questionable quality. 0.0% is displayed for the purpose of graphics.

The Policy Impact Calculator

Earnings from the state minimum wage and paid family leave benefits

Out-of-pocket child care expenses after receiving a child care subsidy

Nutrition benefits

Federal and state income taxes and credits

Policy Impact Calculator: Assumptions

Lina

- Single mother with an infant and toddler
- She works full time all year, and earns the state's minimum wage
- She receives the benefits she is eligible for and files her taxes
- She takes 12 weeks of leave following her infant's birth
- She sends her children to center-based care that charges the 75th percentile of the market rate

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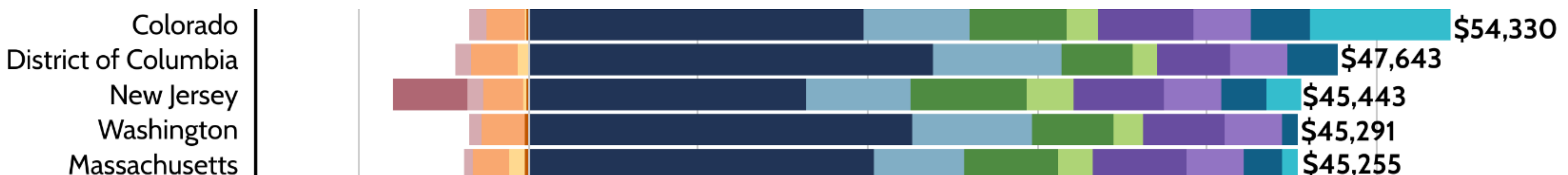
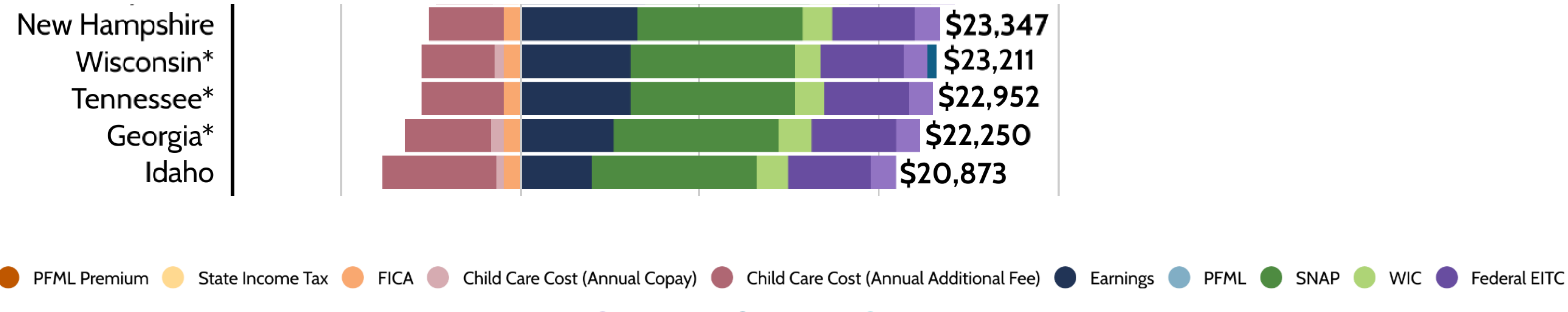
The Impact of State Policy Choices on Family Resources Across States

Total Annual Resources = Annual Minimum Wage Earnings + PFL + Net Federal and State Benefits - Out-of-Pocket Child Care Expenses

Top Five States



Bottom Five States



*State has not expanded eligibility for Medicaid under the ACA

prenatal-to-3 policy IMPACT CENTER

The Impact of State Policy Choices on Family Resources Across States

Total Annual Resources = Annual Minimum Wage Earnings + PFML + Net Federal and State Benefits - Out-of-Pocket Child Care Expenses

State	Total
Colorado	$54,330
District of Columbia	$47,643
New Jersey	$45,443
Washington	$45,291
Massachusetts	$45,255
California	$44,125
Vermont	$43,733
Maryland	$43,587
Oregon	$43,284
Rhode Island	$42,722
Connecticut	$42,573
New York	$41,824
Hawaii	$41,548
Maine	$39,939
New Mexico	$39,880
Minnesota	$39,321
Alaska	$39,316
Virginia	$36,877
Florida*	$36,556
Nebraska	$36,249
Nevada	$35,867
Arizona	$35,829
Delaware	$35,651
Missouri	$35,530
Arkansas	$35,273
Illinois	$34,775

State	Total
Ohio	$34,766
South Dakota	$34,675
Montana	$33,187
Michigan	$30,071
West Virginia	$29,764
Iowa	$28,567
Kansas*	$28,518
North Dakota	$27,993
Indiana	$27,956
Louisiana	$27,956
South Carolina*	$27,722
Oklahoma	$27,698
Texas*	$26,771
Mississippi*	$26,195
North Carolina	$25,819
Utah	$25,603
Wyoming*	$25,395
Alabama*	$25,079
Kentucky	$24,700
Pennsylvania	$24,221
New Hampshire	$23,347
Wisconsin*	$23,211
Tennessee*	$22,952
Georgia*	$22,250
Idaho	$20,873

*State has not expanded eligibility for Medicaid under the ACA

Summary

- The prenatal-to-3 period of development sets the stage for lifelong health and wellbeing.
- State policy choices can reduce family stressors and increase capacities, which have substantial impacts on health and wellbeing over the life course.
- State policies that improve maternal and child health outcomes are not limited to health policies.

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RESEARCH FOR ACTION AND OUTCOMES

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@pn3policy #pn3policy