An Economic Analysis of the Child Care and Early Education Market in Massachusetts

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The opinions expressed in this research are solely my own.

Motivating Questions

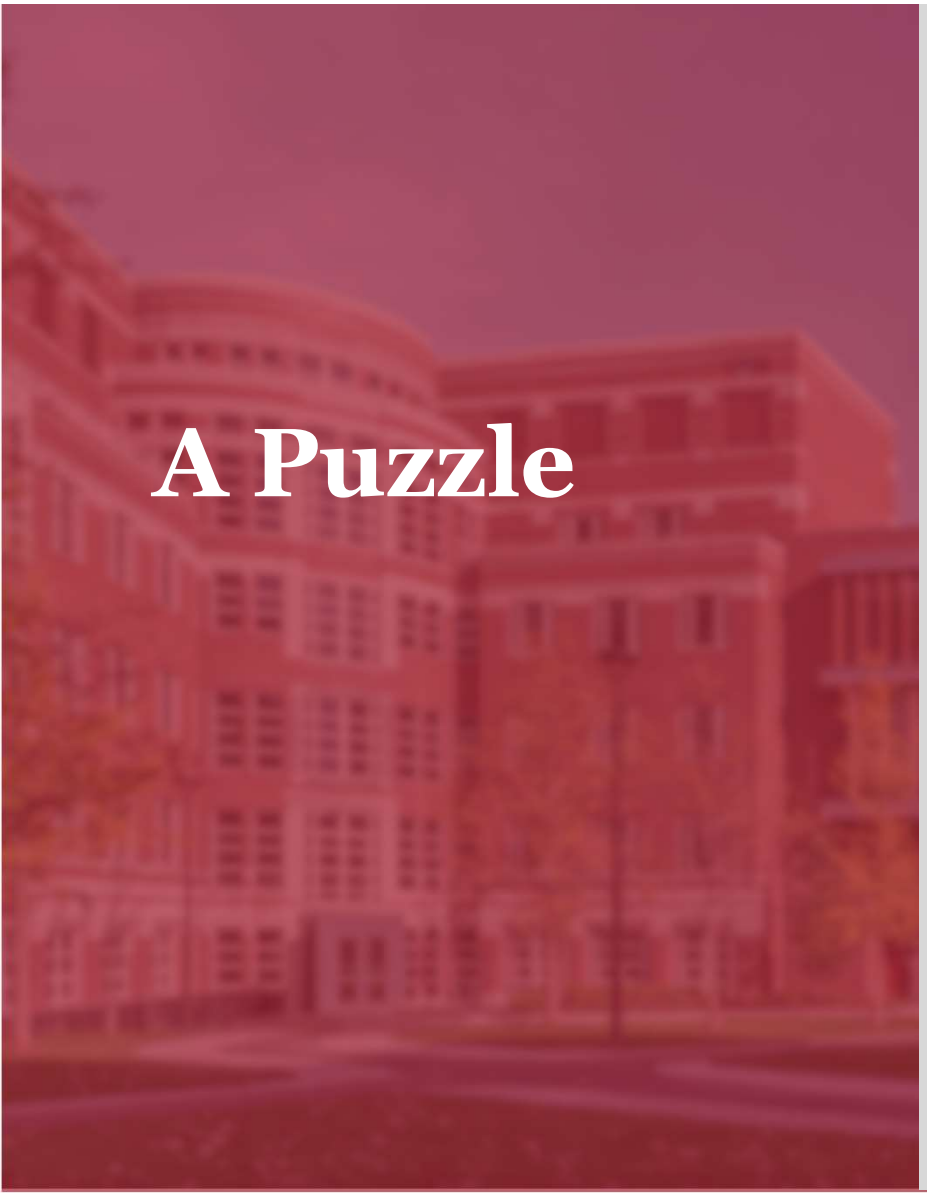
1. **How can a more comprehensive system be structured that builds on the existing provider base, rather than disrupting it?**

2. **How can additional dollars be added to the system to raise quality and expand slots while crowding out as little current financing as possible – so that the total incremental fiscal cost of the expansion is no higher than necessary?**

3. **How to have incremental steps on the way to a comprehensive system be consistent with the vision for the ultimate comprehensive system so that little backtracking is necessary?**

Outline

1. **The economic rationale for public investment in early education**
2. **The current state of early education and care in Massachusetts**
3. **Key issues in charting a path forward**



A Puzzle

Overwhelming evidence that…

1. Early childhood development affects later outcomes, and
2. Achievement gaps are already substantial by age 5

Why doesn't society invest in early education to AT LEAST THE SAME EXTENT as it invests in K-12 education?

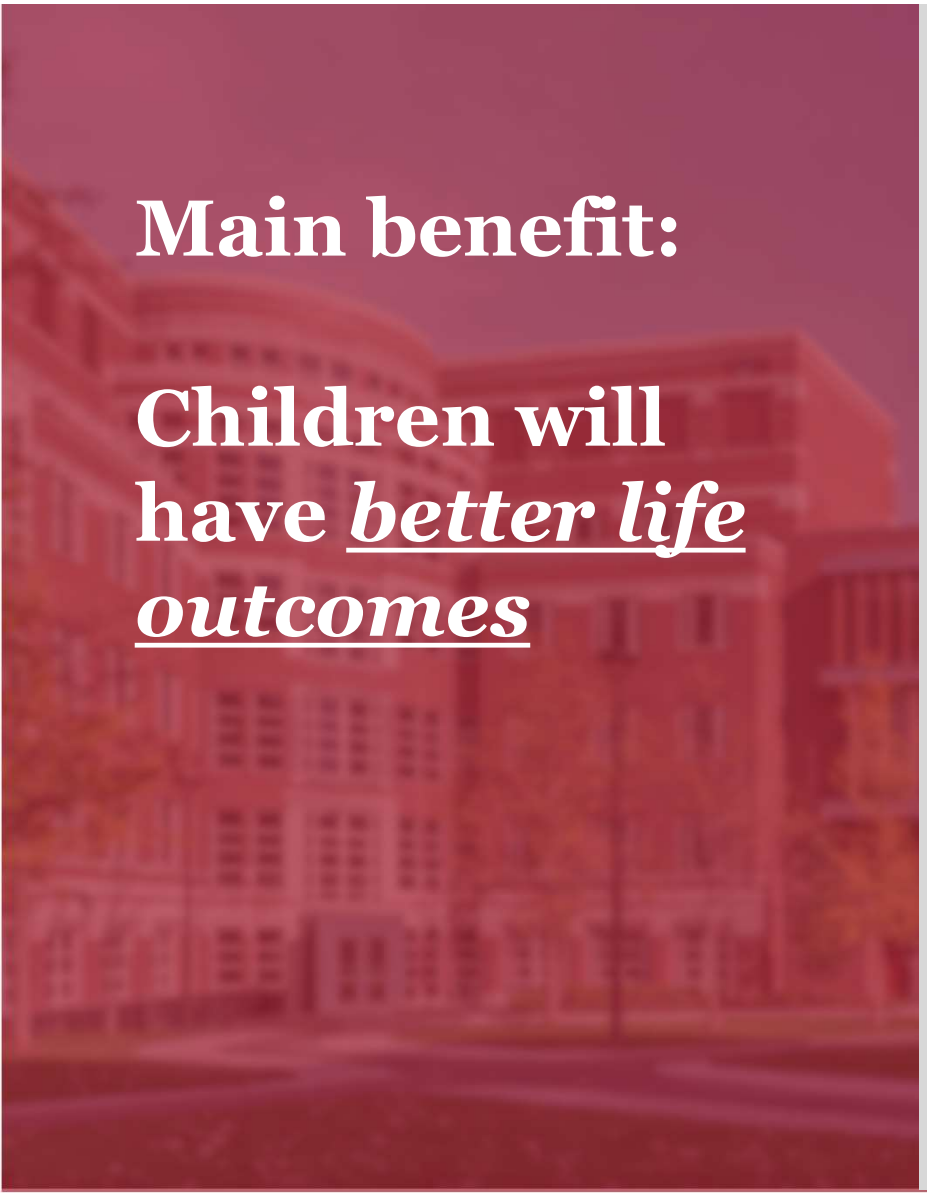
Estimates of annual PER CHILD spending in Massachusetts

- **Early education: $3,700**
- **K-12 education: $20,000**

Without substantial public financing, the market will provide *too little* early education, and the slots that exist will, on average, be *lower than optimal quality*

Market Failures and Equity Objectives

1. **Opportunity for all**
2. **Inability to borrow against future earnings**
3. **Uninsurable risk of unfilled slots**

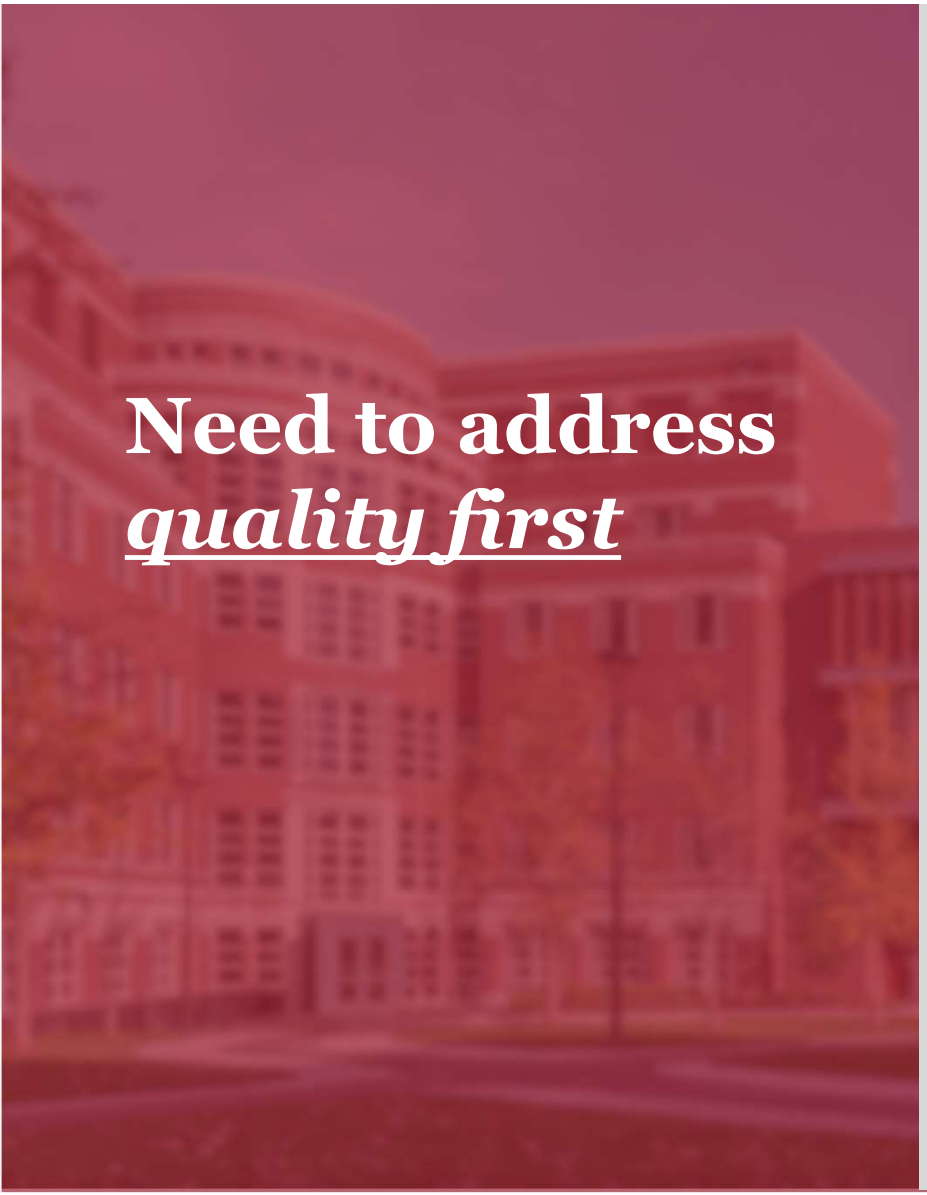


Main benefit:

Children will have *better life outcomes*

Additional benefits

1. **Reduced gender disparities in the labor market**
2. **Higher employment and larger state economy**



Need to address *quality first*

Example: QUEBEC

Research on the introduction of universal child care in Quebec finds:

- Increased hyperactivity, anxiety and aggression
- Worse health, lower life satisfaction, and higher crime rates later in life (ages 12-20)

Baker, Michael, Jonathan Gruber, and Kevin Milligan, "The Long-Run Impacts of a Universal Child Care Program," *American Economic Journal Policy*, 2019, 11(3), 1-26.

Need to address *quality first* *(part 2)*

Example: TENNESSEE

RCT evaluation of statewide public pre-K expansion for low-income children in Tennessee finds:

- Lower achievement test scores in third through sixth grade
- More disciplinary infractions and lower attendance

Durkin, K., Lipsey, M. W., Farran, D. C., & Wiesen, S. E. (2022). "Effects of a statewide pre-kindergarten program on children's achievement and behavior through sixth grade." *Developmental Psychology*, 58(3), 470–484.

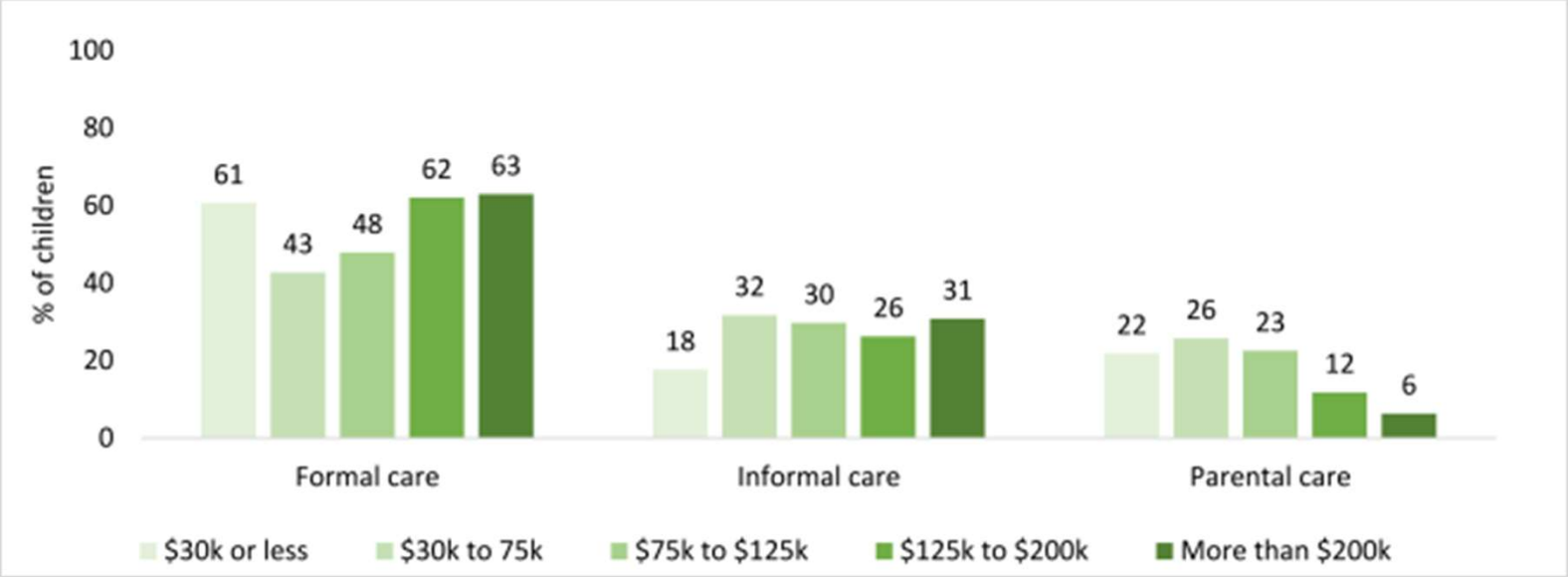
The current state of early education and care in Massachusetts

Enrollment in Formal Child Care

Age Group	Family Child Care	Child Care Center	Public Pre-K	Overall
Infant (0 to 15 months)	7.5%	16.2%		23.7%
Toddler (15 to 33 months)	11.8%	28.5%		40.3%
Preschool (33 months+)	7.0%	46.3%	17.9%	71.2%
Overall	8.4%	34.9%	9.1%	52.4%

Unmet Demand

Relationship Between Income and Use of Formal Care in the 2018 Harvard Early Learning Study



Data are for 3- and 4 -year-olds. Reproduced from Jones, Stephanie M., Nonie K. Lesaux, Kathryn E. Gonzalez, Emily C. Hanno, and Rosa Guzman. 2020. "Exploring the Role of Quality in a Population Study of Early Education and Care." *Early Childhood Research Quarterly* 53:551–70. https://doi.org/10.1016/j.ecresq.2020.06.005.

If child care were free, would you use [more] paid child care for this child?

	Currently using paid child care	NOT currently using paid child care
Yes	71.1%	80.0%
No	28.8%	20.0%
	n=626	n=401

Source: Preliminary tabulations from Rappaport Institute October 2024 Early Education Survey.

How many additional hours per week would you use?

	Currently using paid child care	NOT currently using paid child care
Median	8.0 to 10.0	25.0
Mean	7.6 to 16.1	29.1
	n=446	n=321

Source: Preliminary tabulations from Rappaport Institute October 2024 Early Education Survey.

Costs vs. Prices (center-based care)

Age Group	Cost in CELFE Model	Median Price
Infant (0 to 15 months)	$33,622	$23,175
Toddler (15 to 33 months)	$26,168	$20,000
Preschool (33 months+)	$13,774	$16,320

Government Expenditures, FY2024

Program	Amount (millions)
C3	$342
CCFA IE	$258
CCFA DCF/DTA	$230
CPPI	$24
Chapter 70	$80
State Head Start	$18
Federal Head Start	$188
City/town Pre-K	$250
Total	$1389

$3700 per child

Up 58 percent in real dollars since 2019

Note: Spending is on infants, toddlers, and preschoolers.

Early Educator Workforce			
	Number	Median hourly wage	Full-time annual salary
Center-based			
Lead Teacher	19,290	$21.50	$43,000
Assistant Teacher	7,163	$17.50	$35,000
Center Director	2,739	$30.00	$60,000
Family-based			
Owner	5,119		
Assistant	2,490	$15.50	$31,000
Public Pre-K			
Teacher	4,000		
Total Early Educators	40,801		

Earnings index growth since 2020	
Occupation	**% change since 2020**
Maids and Housekeeping Cleaners	23.8%
Waiters and Waitresses	22.2%
Cashiers	16.3%
Nursing, Psychiatric, and Home Health Aides	15.4%
Teacher Assistants	14.2%
Early Educators	**13.5%**
Kindergarten Teachers	10.0%
CPI	*16.0%*

“Make affordable, high quality child care available to all”

1. Raise quality
2. Generate additional slots
3. Make it possible for families who currently cannot afford formal child care to afford it
4. Reduce costs for families currently paying for child care

Four Steps

- **Wage increases** to stabilize the workforce, increase quality, and enable recruitment of the staff necessary for expansion in slots
- Investments in **quality** (training and certifications)
- Investments to **increase slots**
- **Increase number of demand-side subsidies**, timed so that the additional subsidies become available as new capacity comes on line.

Wage Increases

Rationale

1. **Need to prevent system from collapsing**
2. **Need to make it feasible to expand capacity**
3. **Evidence from Quebec and Tennessee suggest that low-quality expansions can actually do harm to kids**

Examples of wage subsidy systems: Washington, DC

To receive funding from the $40 million per year Early Educator Pay Equity Fund, must pay at least:

Role	Credentials	Minimum Salaries for FY24 (annual salary)	Minimum Salaries for FY24 (hourly wage)
Assistant Teacher or Associate Home Caregiver	Less than a Child Development Associate (CDA)	$43,865/year	$21.09/hour
	CDA	$51,006/year	$24.52/hour
	Associate degree or higher	$54,262/year	$26.09/hour
Lead Teacher, Home Caregiver or Expanded Home Caregiver	CDA	$54,262/year	$26.09/hour
	Associate degree	$63,838/year	$30.69/hour
	Bachelor's degree or higher	$75,103/year	$36.11/hour

Examples of wage subsidy systems: Alberta, Canada

Levels of certification

The three levels of certification are:

- Level 1 Early Childhood Educator
  - Minimum of one post-secondary 3-credit course in early learning and child care (ELCC) or equivalent
- Level 2 Early Childhood Educator
  - Minimum of 1-year ELCC Certificate or equivalent
- Level 3 Early Childhood Educator
  - Minimum of 2-year ELCC Diploma or equivalent

E childhood educator certification level	Wage Top-up Rates
	Effective January 2023 claim period
Level 1 early childhood educator	$2.64 / hour
Level 2 early childhood educator	$5.05 / hour
Level 3 early childhood educator	$8.62 / hour

Table 2. Average Employer Paid Wages Before and After Wage Top-up Funding

Early childhood educator certification level	Average employer-paid wage (average as of January 2022)	Average wage with wage top-up starting January 2023
Level 1 early childhood educator	$16.79	$19.43
Level 2 early childhood educator	$18.05	$23.10
Level 3 early childhood educator	$19.88	$28.50

Different Wage Parity Options

	Required lead teacher wage	Subsidy amount per hour	Budget Cost FY 2026 (millions)
$5 an hour increase	$28.00	$5.00	$428
Same annual pay as starting BA teacher	$29.13	$6.13	$525
Same hourly pay as starting BA teacher	$34.65	$11.65	$997
Same hourly pay as 5th year BA teacher	$40.86	$17.65	$1500

Investments in Quality

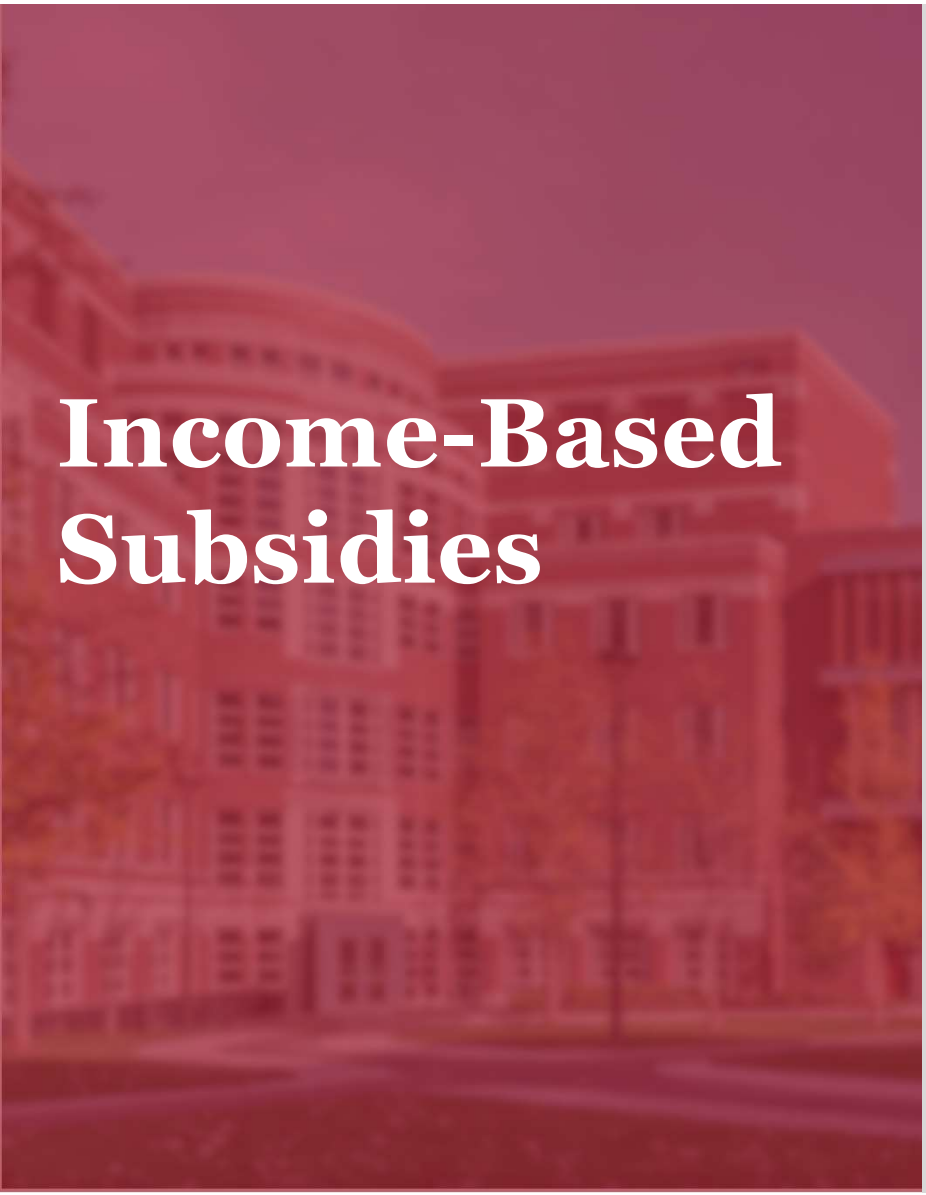
1. Creating training platforms
2. Creating credentialing system
3. Investing in training

Expand Capacity (more slots)

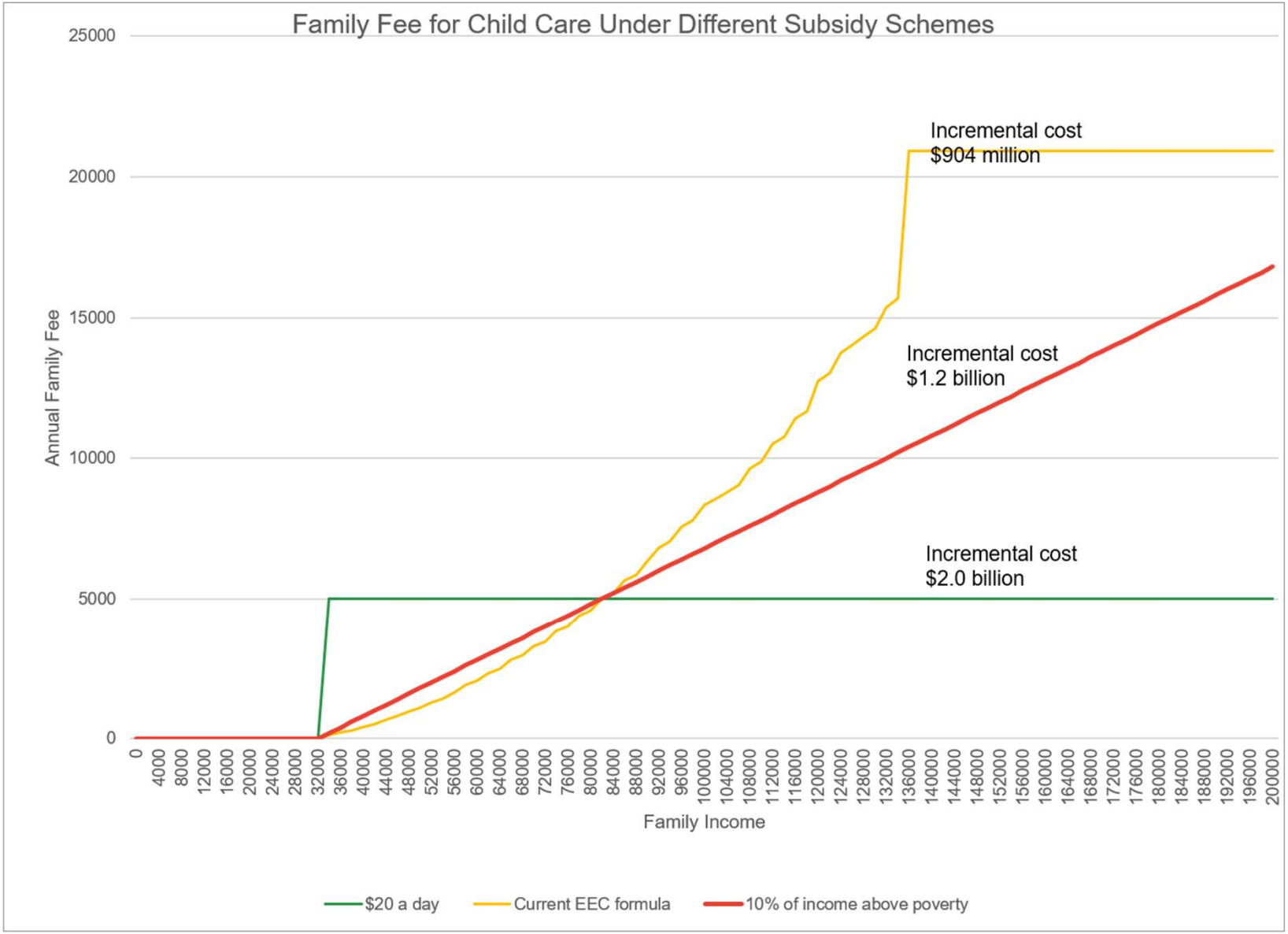
The Canadian example shows how hard it is to add slots quickly enough to match demand.
Need to pay for renovating space.
Need to absorb some of the enrollment risk.

To add capacity quickly, we need:

1. **Grants for construction and renovation.**
2. **Higher rates for one year for providers that add classrooms.**
3. **Tax credits for businesses that create new on-site centers**
4. **More CPPI**



Income-Based Subsidies


Family Fee for Child Care Under Different Subsidy Schemes
Annual Family Fee
25000
20000
15000
10000
5000
0
Incremental cost
$904 million
Incremental cost
$1.2 billion
Incremental cost
$2.0 billion
0
4000
8000
12000
16000
20000
24000
28000
32000
36000
40000
44000
48000
52000
56000
60000
64000
68000
72000
76000
80000
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128000
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136000
140000
144000
148000
152000
156000
160000
164000
168000
172000
176000
180000
184000
188000
192000
196000
200000
Family Income
$20 a day
Current EEC formula
10% of income above poverty