

**EDUCATE  
MAINE**



MAINE  
STATE  
CHAMBER  
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COMMERCE

**EARLY CHILDHOOD EDUCATION  
A STRONG FOUNDATION FOR MAINE** 2016



# ONE OF A SERIES OF STRATEGIES DESIGNED TO ACHIEVE THE GOALS LAID OUT IN EDUCATION INDICATORS FOR MAINE: 2016

Of all Maine’s economic development strategies, education has the greatest return on investment. Investment in education creates lifelong learners, opens pathways to promising careers, and grows the economy. It also produces civically engaged citizens who build vibrant communities.

For the past four years, Educate Maine has published *Education Indicators for Maine*, a snapshot of Maine’s education system presented through indicators that measure access, participation, and performance.

This policy brief series focuses on individual indicators within the larger report and presents recommendations to improve outcomes. **By design, the recommendations do not represent the full list of possible best practices, but rather focus on a few selected strategies with high returns for Maine people.**

The issue highlighted in this brief is early childhood education. The more we learn about human development, the more we understand the importance of early childhood nurturing for lifetime success. Early childhood begins with birth and continues to third grade. At each stage of growth along the way, a child can benefit from the nurture and stimulation of high-quality early childhood education. The early years are the best time to prevent achievement gaps from developing and becoming locked in.<sup>1</sup>

Unfortunately, here in Maine, early education participation among lower-income children is well below average. Even in higher-income families, fewer than half (48%) of 3- and 4-year-olds are enrolled in preschool, a rate well below other states in New England.

If Maine were to provide high-quality early childhood education to all, it would allow more parents to work and pay taxes; reduce state per-child spending on special education, juvenile corrections, and child protective services; reduce the costs in later years of public assistance; and increase tax revenues from participants after they had grown up. Professor Philip Trostel of the University of Maine estimates that “The initial public cost of the program would be fully recovered through cost savings by the time a child reaches age 14. After that point, the program would pay for itself many times over.”<sup>2</sup>

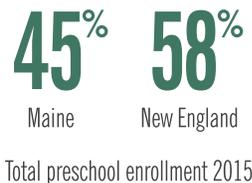
Compared with K-12 education, public funding for early childhood education is disjointed. In many cases,

it targets “only the most vulnerable young children—a noble goal for sure, but even these programs fail to reach most of the intended beneficiaries and funding levels are far from adequate for a quality early education.”<sup>3</sup> Maine has strong voluntary policies in place for early childhood education, but does not provide enough *support* to ensure that every Maine child will benefit.

This brief describes five strategies, with nine recommended actions, to ensure that access to high-quality early learning is available to every Maine child.

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## PRESCHOOL ENROLLMENT 3- AND 4-YEAR-OLDS, PUBLIC AND PRIVATE



SOURCE: Kids Count Data Center, Annie E. Casey Foundation, <http://www.datacenter.kidscount.org>



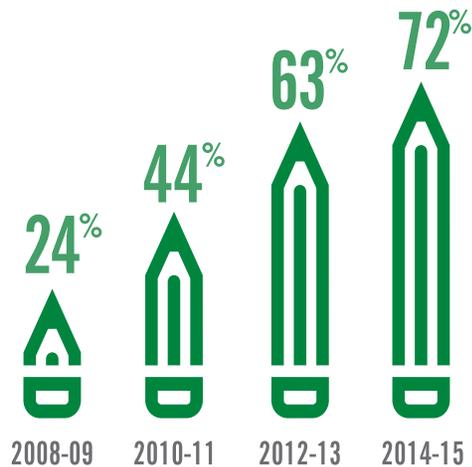
# STRATEGY 1: INCREASE ACCESS AND PARTICIPATION

## THE PROBLEM

Maine law stipulates that every school district will have voluntary, universal public Pre-K for 4-year-olds available by the 2017/2018 school year. There has been steady progress towards this goal (see chart), but still 28% of districts do not have public Pre-K, and only 34% of 4-year-olds statewide are enrolled in public Pre-K. Enrollment also varies widely by geography—89% of eligible 4-year-olds in Aroostook County are enrolled, compared to 3% in Knox County.<sup>4</sup> Participation in preschool among Maine 3-year-olds is much lower.

Overall, about 45% of Maine 3- and 4-year-olds are enrolled in public or private preschool programs, compared to 47% nationally and 58% in New England.

## PROPORTION OF MAINE SCHOOL DISTRICTS OFFERING A PUBLIC PRESCHOOL PROGRAM



SOURCE: National Institute for Early Education Research, The State of Preschool 2015

For Head Start, a program focused on helping economically disadvantaged children, the trend is in the wrong direction. Enrollment in Maine has dropped from 35% of eligible children in 2000 to 28% in 2015.<sup>5</sup>

While expanding publicly-funded programs for 4-year-olds is critical, Maine must also increase participation in high-quality child care programs among children from birth to age three. Outreach to parents, together with better-coordinated local systems, will contribute to this goal. There are federal, state, and local initiatives working with parents of infants and toddlers, such as Early Head Start; home health visiting nurses like **Portland's Maternal and Child Health** program; and **Maine Families**, a statewide network of professional home visitors.

The biggest barriers to creating public Pre-K programs are startup funds, space, and transportation.<sup>6</sup> The Maine Education Policy Research Institute estimates that startup costs to add Pre-K classrooms to the remaining school districts will run between \$8 million and \$9 million, and annual operating costs to serve all Maine 4-year-olds would range between \$47 million and \$50 million (about \$18 million for existing programs and another \$30 million for new or expanded programs).<sup>7</sup>

While ongoing Pre-K education expenses are eligible for state coverage under the school funding formula, a quirk in the way the subsidy is calculated delays any reimbursement for a year, forcing districts to front the entire cost of any new Pre-K startup at local property taxpayer expense.

Successful preschool programs collaborate with community agencies to link early learning services with other family supports like health care and social services. Several Maine districts have developed public-private preschool partnerships, most commonly with Head Start<sup>8</sup> programs.

**Regional School Unit 1** in Bath has developed a mixed-delivery Pre-K program called CHOICES. CHOICES provides free, inclusive, developmentally appropriate Pre-K programming to all area 4-year-olds at six sites, including three public schools, a Head Start program, and two private programs. CHOICES enrolled 96 students in its first year and 86 in its second year—numbers comparable to kindergarten enrollment in the district.

## THE STRATEGY

**Action 1: Provide one-time state matching funds to help school districts start and expand Pre-K programs.**

This will help the 28% of school districts with no programming at all, and the remaining districts to expand their programs.

**Action 2: Create an inter-agency partnership at the state level that models and supports the 'one-stop-shop' approach sought at the community level.**

The interagency group could implement program incentives to promote local public/private partnerships, mixed delivery systems, and shared funding streams. It could also provide information and support on early education funding, requirements, and promising practices.



# STRATEGY 2: INVEST IN QUALITY

## THE PROBLEM

The State of Maine has created a voluntary **Quality Rating System** for early care/education providers and Head Start programs that provides financial incentives for agencies to improve their programs, and for parents to participate in better programs. The rating system involves four steps, from step 1 (the agency meets basic safety and licensing needs) to step 4 (the agency has structured programming, training for staff, parental involvement, policies, etc.).

Unfortunately, only half of Maine's licensed child care providers are even enrolled in the system; and of these, only 17% have reached the highest standard of quality.

Since 2004, Maine has dedicated very little public funding to supporting child care providers to advance up the quality rating scale.

However, the State of Maine has the policies in place to ensure that public preschool programs meet a full range of quality standards. Maine recently improved from meeting five of the National Institute for Early Education Research's ten preschool quality standards benchmarks to meeting all ten.<sup>10</sup>

## THE STRATEGY

**Action 3: Use federal educational funds to provide ongoing professional development**

**on instructional practices, data use, and early childhood teaching and learning.**

Recent policy guidance specifies that states can direct federal education funding toward professional development for early childhood program directors and instructional leaders.

**Action 4: Increase the numbers and proportions of Maine's ECE providers at higher quality levels.**

DOE and DHHS should collaborate to provide resources to enable and encourage more early education providers to become licensed, enroll in the quality rating system, and to move to higher quality rating levels.

## MAINE'S QUALITY RATING LEVELS FOR CHILD CARE PROVIDERS<sup>9</sup>

SEPTEMBER 2016	FAMILY		CENTER BASED		TOTAL
	N	%	N	%	
LICENSED PROVIDERS	1,044		741		
ENROLLED IN QRS	458	44%	472	64%	52%
STEP 1	341	74%	210	44%	59%
STEP 2	58	13%	77	16%	15%
STEP 3	44	10%	46	10%	10%
STEP 4	15	3%	139	29%	17%

## NATIONAL PRESCHOOL QUALITY STANDARDS CHECKLIST

	BENCHMARK	MAINE POLICY
EARLY LEARNING STANDARDS	Comprehensive	Comprehensive
TEACHER DEGREE REQUIREMENT	Bachelor's degree	Bachelor's degree
TEACHER SPECIALIZED TRAINING	Specializing in Pre-K	Early Childhood Education
ASSISTANT TEACHER DEGREE	CDA or equivalent	Educator Technician II
TEACHER IN SERVICE	15 hours/year	6 credit hours/5years
MAXIMUM CLASS SIZE	20 or lower	16 children
STAFF-CHILD RATIO	1:10 or better	1:8
SCREENING/REFERRAL AND SUPPORT SERVICES	Vision, hearing, health	Holistic research-based screening within first 30 school days
MEALS	At least 1/day	At least one meal or snack every 3 hours
MONITORING	Site visits	DOE visits first year programs

SOURCE: National Institute for Early Education Research, 2015



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SOURCES: <sup>9</sup> [http://www.qualityforme.org/qrs\\_enrollment/state.aspx](http://www.qualityforme.org/qrs_enrollment/state.aspx) <sup>10</sup> NIEER, The State of Preschool 2015: Maine, [http://nieer.org/wp-content/uploads/2016/05/Maine\\_2015\\_rev1.pdf](http://nieer.org/wp-content/uploads/2016/05/Maine_2015_rev1.pdf) and Communication with Sue Reed, Maine DOE, op. cit.



# STRATEGY 3: IMPROVE BIRTH TO GRADE 3 EDUCATIONAL ALIGNMENT

## THE PROBLEM

The curricula, learning standards, and assessments in preschool, kindergarten, and early grades are not consistently aligned. Elementary school educators may not be well-versed in early childhood development. When children move from one setting to the next—particularly from preschool to kindergarten—providers and teachers may not have common expectations about child skills and capabilities.

Creating effective early childhood education systems “requires that two traditionally separate learning systems—early care and the early elementary grades—be more closely coordinated. In addition, it requires that policymakers and practitioners find ways to fill the gap that has historically existed between school readiness and school improvement efforts.”<sup>11</sup>

Effective early childhood education systems have both horizontal and vertical alignment. Horizontal alignment refers to coordinated standards, curriculum, instruction, and assessment within a single learning level. Vertical alignment coordinates these elements from one learning level (or grade) to the next. Together, such alignments improve the odds that gains made in early childhood education are sustained in kindergarten, the early elementary grades, and beyond.<sup>12</sup>

Maine has had early learning and development standards in place since 2005. The standards were revised and updated in 2015.<sup>13</sup> The standards address social and emotional development, approaches to

learning, creative arts, early language and literacy, physical development and health, math, science, and social studies. Compliance with the standards is voluntary. As a result, implementation is uneven. A recent set of case studies of four Maine public preschool programs concluded that their curricula and assessments were so different that it was impossible to compare student achievement across schools.<sup>14</sup>

Last year, 15 Maine teachers participated in a pilot test of a Kindergarten Entry Assessment (KEA) tool. The teachers completed an assessment of each student over the course of 60 days of interaction and observation, and then used the results of the assessment to guide curriculum and instruction throughout the year.



In late 2016, the Maine Department of Education plans to pilot a holistic preschool assessment with four school districts. The Department will cover the program costs in exchange for the school districts agreeing to include preschool and kindergarten teachers and school principals in ongoing professional development, and to use the assessment data to inform their schools’ instructional practices.

Strategies such as joint professional development for preschool, kindergarten, and early grades teachers and school leaders; data sharing; and joint transition plans can improve transitions between early care education and the K-12 school system.

A model program in **South Carolina** targets high-risk students, arranging home visits by their future teachers over the summer before kindergarten. The **Boston Public Schools** works with 28 community organizations in its **Countdown to Kindergarten** campaign, which helps families visit classrooms, select a program, register, and prepare for the transition to kindergarten.<sup>15</sup> These are models that Maine can learn from.

## THE STRATEGY

**Action 5: Provide funding and technical support to school districts to adopt the piloted KEA and formative assessments.**

Maine has participated in the design and development of these tools and should pass on the knowledge and benefit to districts statewide.

**Action 6: Support programs to connect early childhood, preschool and kindergarten standards; aligned developmentally-appropriate instructional practices; assessments; and shared data through direct communication between instructors and parents.**

Use the South Carolina and Boston examples to design approaches at the district and community levels.



# STRATEGY 4: ENSURE HEALTHY ENVIRONMENTS FOR CHILDREN

## THE PROBLEM

Part of ensuring that young children are ready to learn is ensuring that they are in environments that are safe and allow healthy brain development.

Maine’s environment presents a variety of dangers to young children – some from nature, some from the built environment, and some from a simple lack of money.

The natural danger is from **arsenic in drinking water** from wells. The landmark United States study of arsenic in drinking water was conducted in Kennebec County in 2014. It found that children exposed to 5 grams of arsenic per liter of drinking water or more had IQ scores 5-6 points below other children from comparable backgrounds. Scores for perceptual reasoning, working memory, and verbal comprehension all declined by similar rates.<sup>16</sup>

A little more than half of Maine households derive their drinking water from wells, or about 300,000 families. State tests from 30,000 of these homes from 2010 to 2014 found that 15% had elevated arsenic levels.<sup>17</sup> This means that, statewide, 8% of all children may be drinking water that is causing brain damage.

The danger from the built environment is from houses and homes built before 1950 where there is **exposure to lead from lead pipes, lead paint, and residual lead in the soil**. Children exposed to lead can develop serious health problems, including brain and kidney damage and anemia. There are also cognitive

effects that harm school performance. Absorption into the bloodstream of one gram of lead per deciliter is associated with a decline in IQ by 0.25 points.<sup>18</sup>

About one-third of housing in Maine was built prior to 1950, a much higher proportion than the rest of the country. From 2010 to 2014, 66,000 Maine children were tested for lead, of whom about 2,700, or 4%, had lead levels in their blood of over 5 grams per deciliter.

**Arsenic** exposure is an issue for rural families that use well water. **Lead** exposure tends to be more prevalent in older rental housing in cities like Lewiston and Biddeford. In combination, 12%—one in eight—Maine children are growing up in environments exposed to arsenic or lead.

Finally, an issue that occurs statewide is **malnutrition**. Nearly one in four children in Maine are considered to be “food insecure” by the US Department of Agriculture—in other words, living in households where meals may be skipped or nutritional food may not be purchased due to economic hardship. Hungry children lack the energy to focus and learn. Maine ranks 1st in New England and 18th in the nation in terms of child food insecurity.<sup>19</sup>

## THE STRATEGY

These are issues that go beyond the ability of educational institutions to address. However, educators and supporters of education should be active in making sure that they are addressed by the appropriate organizations in Maine.

**Action 7: Support funding for state agencies to test for arsenic, lead, and other environmental poisons; and also to provide financial help to homeowners and landlords to remediate harmful situations.**

Expand existing programs and leverage state money through federal and philanthropic dollars.

**Action 8: Support the local food movement and its effort to improve food quality in schools, as well as statewide efforts to address hunger.**

Work with Maine farmers, food security organizations, and communities to meet nutritional needs while supporting the Maine economy.

### FOOD INSECURE CHILDREN



### FOOD INSECURITY RATE



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SOURCES: <sup>16</sup> “A cross-sectional study of well water arsenic and child IQ in Maine schoolchildren,” Wasserman et al, Environmental Health, 2014. <sup>17</sup> Maine Center for Disease Control, Maine Tracking Network Data Portal <sup>18</sup> “An Economic Cost Assessment of Environmentally-Related Childhood Diseases in Maine,” (2009) Mary Davis, University of Maine. <sup>19</sup> Source: Feeding America (www.feedingamerica.org)



# STRATEGY 5: EXPAND PRESCHOOL TO 3-YEAR-OLDS

## THE PROBLEM

Maine has made great progress in enacting public Pre-K policies for 4-year-olds, fostering high-quality programs, and developing comprehensive standards. There is widespread recognition, however, that early childhood education needs to start earlier than age four. Even while we are still working to complete the implementation of public preschool for 4-year-olds, we need to begin now to expand our efforts to include younger children.

## NEW JERSEY

Other states have led the way. **New Jersey** has developed an effective, high-quality, mixed-delivery public preschool program in its 35 lowest-income school districts. In 2015, 19% of 3-year-olds and 29% of 4-year-olds in the state were enrolled.<sup>20</sup> Two-thirds of the providers are private and one-third are public school districts. Over the first eight years, the proportion of providers achieving good or better quality ratings **increased from 14% to 63%**. A longitudinal study has found substantial and enduring student impacts. Academic achievement and grade retention have improved, and the need for special education services has decreased.<sup>21</sup>

## VERMONT

In 2014, **Vermont** passed a law (Act 166) to provide universal, publicly-funded preschool education for all 3-, 4-, and 5-year-old children who are not enrolled in kindergarten. Last year, 26% of the state's 3-year-olds and 84% of 4-year-olds were enrolled, the second highest rates in the country.<sup>22</sup> Eighty-five percent of Vermont school districts offered public preschool programs through public schools as well as partnerships with private, family-based, and center-based providers, private preschools, and Head Start programs. The state now has aligned early learning standards in place for birth through third grade.<sup>23</sup>

## THE STRATEGY

**Action 9: Enact state legislation, tied to supportive funding, for voluntary, universal preschool for 3-year-olds.**

The Vermont experience in particular should be of value to study for how they have approached the issue, and the lessons they have learned along the way.



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SOURCES: 20 NIEER, The State of Preschool 2015: New Jersey, [http://nieer.org/wp-content/uploads/2016/05/New\\_Jersey\\_2015\\_rev1.pdf](http://nieer.org/wp-content/uploads/2016/05/New_Jersey_2015_rev1.pdf) 21 NIEER, The Abbott Preschool Program Longitudinal Effects Study (2016). <http://nieer.org/wp-content/uploads/2016/08/apples20fact20sheet.pdf> 22 NIEER, The State of Preschool 2015, [http://nieer.org/wp-content/uploads/2016/05/Yearbook\\_2015\\_rev1.pdf](http://nieer.org/wp-content/uploads/2016/05/Yearbook_2015_rev1.pdf) 23 NIEER, The State of Preschool 2015: Vermont, <http://nieer.org/state-preschool-yearbooks/the-state-of-preschool-2015#profiles>