



INVESTMENT IN
YOUNG CHILDREN =
REAL ECONOMIC
DEVELOPMENT

MAKING MAINE WORK

CRITICAL INVESTMENTS FOR THE MAINE ECONOMY

TO THE READER...

January 2012

When the Maine State Chamber of Commerce and the Maine Development Foundation began our *Making Maine Work* journey together two years ago, we reached out to thousands of Maine leaders across all sectors and all geographies of our wonderful state to find out what, exactly, were the most pressing issues confronting Maine and what, specifically, were our greatest opportunities. While the major barriers to our future prosperity were clearly prioritized by the nearly 1,100 respondents, so too were the greatest opportunities for securing a brighter future. There was a strong and clear consensus that Maine's "Loyal and Skilled Workforce" and our renowned "Quality of Life" are the two foundational supports on which we can and must build our future success.

In researching and writing the second *Making Maine Work: The Role of Maine's Public University System*, we learned that in a knowledge-based, technology-driven economy, the educational attainment and skill development of the workforce are the major determinants of a region's ability to attract business investment and to increase income, and an individual's ability to secure a decent standard of living and the prospects of upward mobility. In a nutshell, investing in the education of our people is the single most important thing we can do for Maine.

Now, as we present to you the third in the series, *Making Maine Work: Investment in Young Children = Real Economic Development*, we humbly share our realization that for Maine's people to truly reach their potential, it all starts at birth. Waiting to invest in Maine's most precious assets, our children, until they enter our K-12 system is, for many, too late.

To attain our vision of "a high quality of life for all Maine people," we must ensure that each and every Maine child has access to high-quality care and education from birth. *Investment in early childhood IS real economic development.* It is not just a social and moral imperative; it is an economic imperative. Our future begins here.



Dana Connors, President
Maine State Chamber of Commerce



Laurie Lachance, President and CEO
Maine Development Foundation



Laurie Lachance
with sons Michael & Andrew (1998)



Dana Connors
with sons Greg & Chris (1974)

MAKING MAINE WORK: CRITICAL INVESTMENTS FOR THE MAINE ECONOMY

Making Maine Work: Critical Investments for the Maine Economy is a comprehensive action plan for improving productivity, growing the economy, and providing a higher quality of life for all Maine people. Released in July 2010, the original report and recommendations were the result of a joint effort between the Maine State Chamber of Commerce (MSCC) and the Maine Development Foundation (MDF). It explored the investments needed to grow the economy and the factors that influence those decisions.

Along with *Making Maine Work*, MDF published two background reports: *Maine's Investment Imperative II: Unleashing the Potential*, an in-depth review of more than 100 reports and recommendations on key issues influencing investments in Maine, and the results of the *Investment Imperative Survey with 1,000 Maine Businesses*.

EXECUTIVE SUMMARY

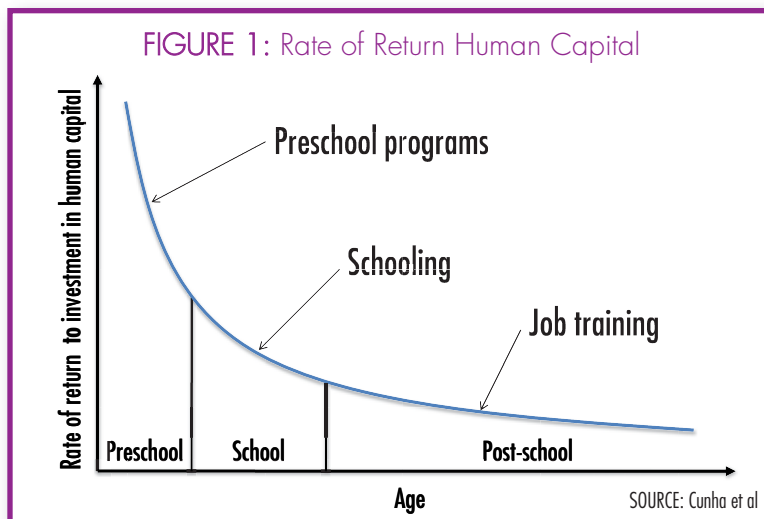
The benefits derived from investment in a child's early development years are proven and have real potential for Maine. Thoughtful, evidence-based strategies for early childhood care and education, with an emphasis on high quality, will have a high rate of return and should be a lead economic development strategy for Maine.

The original *Making Maine Work* report showed that:

- **Maine's "loyal/skilled" workforce** was identified as our greatest opportunity/asset;
- **Maine's workforce currently is not where it needs to be** – 45th in productivity and 45th in wages; and,
- **Jobs of the future will require greater skills, training, and education**, particularly in math and science.
- **It is imperative that we transform our educational system** to meet the needs of the current and future workforce/economy.

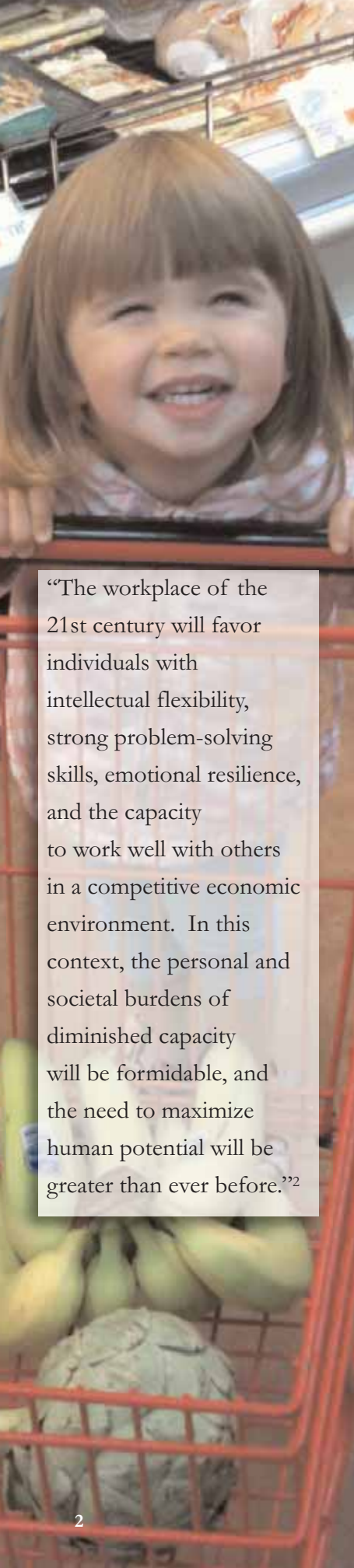
The major findings of *Making Maine Work: Investment in Young Children = Real Economic Development* include:

- **The foundation for a strong workforce begins at birth** – not at age 18 or 22. Approximately 85% of the core brain structure is formed by the age of 3. Our return on investment is greatest when we start at birth (Figure 1).



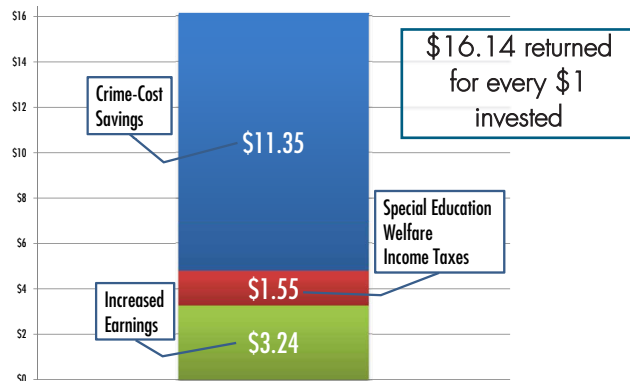
“Researchers at the University of Minnesota can look at attachment patterns of children at 42 months, and predict with 77% accuracy who will graduate from high school. People who were securely attached as infants tend to have more friends at school and at summer camp. They tend to be more truthful through life, feeling less need to puff themselves up in others’ eyes.”¹

¹ David Brooks in “Social Animal – How the new science of human nature can help make sense of life.” *New Yorker*, January 17, 2011.



“The workplace of the 21st century will favor individuals with intellectual flexibility, strong problem-solving skills, emotional resilience, and the capacity to work well with others in a competitive economic environment. In this context, the personal and societal burdens of diminished capacity will be formidable, and the need to maximize human potential will be greater than ever before.”²

FIGURE 2: Cost/Benefit of Perry Preschool Program through the Age of 40



SOURCE: This figure comes from a presentation by Dr. Jack Shonkoff and is used with his permission.

- *Investment in quality early childhood development has the potential to deliver real economic benefits* – a potential benefit of more than \$16 for every \$1 invested.
- *Maine has tremendous opportunities to develop a world class workforce* – if we begin our “workforce development” earlier in a child’s life, higher quality care and education set the stage for better outcomes in the future.
- *Quality early childhood care and education is economic development for Maine.*

FOUNDATIONS

- 1 EVERYONE’S RESPONSIBILITY:** The scope and size of this challenge require public, private, and philanthropic resources working together. All sectors have something to gain and no one sector can tackle this challenge successfully in Maine on its own.
- 2 A UNIFIED SYSTEM:** The current early childhood “system” in Maine is a collection of programs and efforts – some coordinated and some not. The best outcomes for Maine children will occur when these programs and efforts work together and are managed collaboratively, efficiently, and sustainably at scale.
- 3 HEALTHY SYSTEMS FOR LIFELONG LEARNING:** Investment in early childhood alone is not enough. The investment can be lost if a child moves into dysfunctional systems later in life. Managing healthy education systems for all stages of life in conjunction with sound early investments is critical, particularly at points of transition.
- 4 SAFE ENVIRONMENTS ARE IMPERATIVE:** Evidence is clear that toxic stress leads to bad outcomes. Without safe responsive environments and relationships, free from experiences that produce toxic stress such as exposure to domestic violence, we cannot expect our children to reach their full potential.

² Knudsen, Eric I., Heckman, James J., Cameron, Judy L., and Shonkoff, Jack P., “Economic, neurobiological, and behavioral perspectives on building America’s future workforce,” National Academy of Science, vol 103, no 27, 2006

RECOMMENDATIONS

MAINE MUST IMPROVE ACCESS TO QUALITY EARLY CARE AND EDUCATION

RECOMMENDATION 1: Provide options and access for all Maine families, particularly low income families, to a coordinated system of quality public and private early childhood services, early care and education, parent support, early physical, mental, and nutrition services, and early intervention.

RECOMMENDATION 2: Require and provide a means for 100% of Maine child care providers to meet a high level of quality as defined by Maine’s Quality for ME program to support parent choice.

MAINE PEOPLE MUST UNDERSTAND THE BENEFITS OF EARLY CHILDHOOD INVESTMENT

RECOMMENDATION 3: Increase public support for early childhood development through an organized and coordinated statewide communications plan, connecting high quality child care and education to economic growth.

QUALITY EARLY CHILDHOOD CARE AND EDUCATION REQUIRE ADEQUATE FUNDING AND RESOURCES

RECOMMENDATION 4: Increase the public investment in early childhood development and align investment to outcomes throughout a person’s life with K-12, higher education, and other training opportunities.

RECOMMENDATION 5: Create a means for private funds to support and enhance improved access to quality services for Maine children.

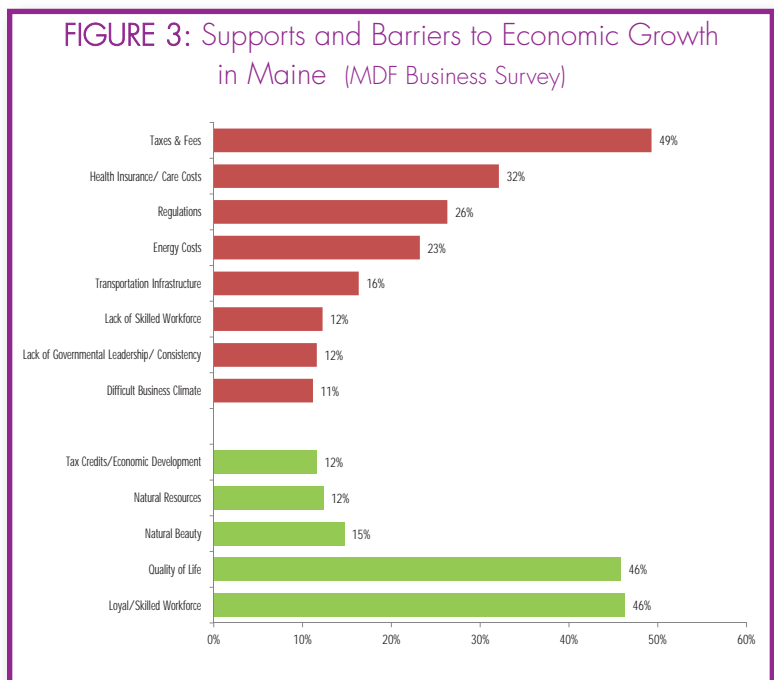




MAKING MAINE WORK

Ensuring the healthy futures of our children is essential for the stability and success of Maine’s economy and our communities, now and in years to come. For this reason, the Maine Development Foundation and Maine State Chamber of Commerce consider a focused investment plan in high-quality, early childhood development to be a lead economic development strategy for growing the Maine economy.

This report builds on a number of prior reports released by the Maine Development Foundation³ that have provided analyses of the key issues influencing Maine’s future economic growth and the investments needed to achieve that growth. An important element of this prior work came from a survey responded to by more than 1,000 Maine business leaders, who identified the major supports and barriers to investment in Maine. Overwhelmingly, respondents identified access to a loyal and skilled workforce and quality of life as key supports while cost drivers and public policy were identified as the greatest barriers (Figure 3).



Keeping with the overarching goal of *Making Maine Work*, which is to improve economic productivity, investments in our current and future workforce are essential for success. This report explores the links between early childhood investment and the benefits that accrue to the individual worker and to society as a whole.

³ *Making Maine Work: Critical Investments for the Maine Economy; Maine’s Investment Imperative II: Unleashing the Potential*; as well as a third report summarizing the findings from a survey responded to by more than 1,000 Maine business leaders, July 2010.

REAL ECONOMIC DEVELOPMENT

Investment in Young Children IS Real Economic Development

Advances in neurobiology during the past several years have made it clear that *child development is a foundation for community development and economic development*. “The workplace of the 21st century will favor individuals with intellectual flexibility, strong problem-solving skills, emotional resilience, and the capacity to work well with others in a competitive economic environment. In this context, the personal and societal burdens of diminished capacity will be formidable, and the need to maximize human potential will be greater than ever before.”⁴

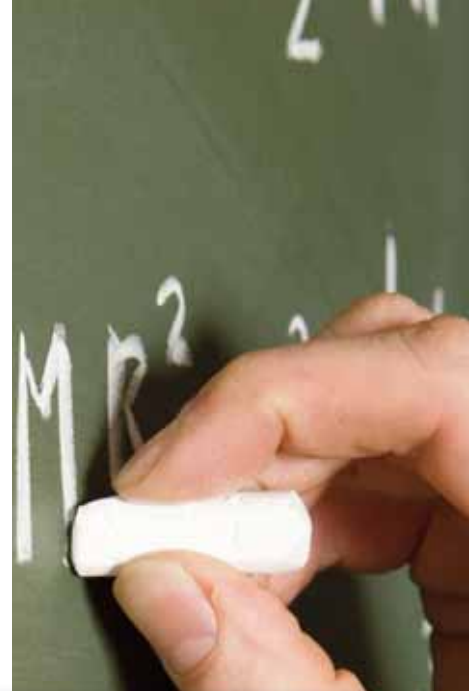
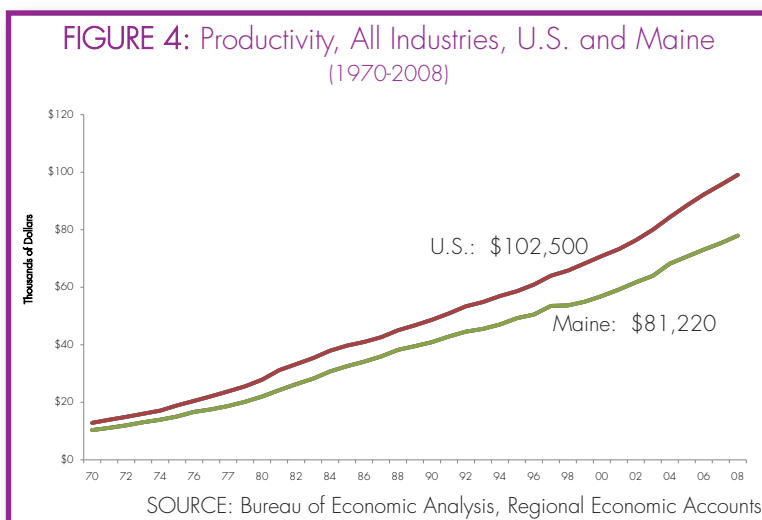


FIGURE 4: Productivity, All Industries, U.S. and Maine (1970-2008)



Our workforce plays a critical role in economic growth, and we as a nation have acknowledged this fact through our continued investment in human capital development, primarily through education and job training. Unfortunately, the results are falling short of what we need. Annually, the average Maine worker produces 20% less (dollar value of products) than the average U.S. worker (Figure 4). Further, higher degree attainment for Maine adults, trails our competitors’ in New England (Figure 5). These outcomes are not characteristic of the skilled workforce that the Maine economy needs, but there are strategies we can adopt today that can put us on the right track.

“The private sector needs to take the lead in ensuring that early childhood investments are made, and that they are successful. We can produce an early childhood investment model that rewards excellence, can be replicated efficiently, and produces positive results for the child and parent. Maine’s future economic prosperity depends on it!”

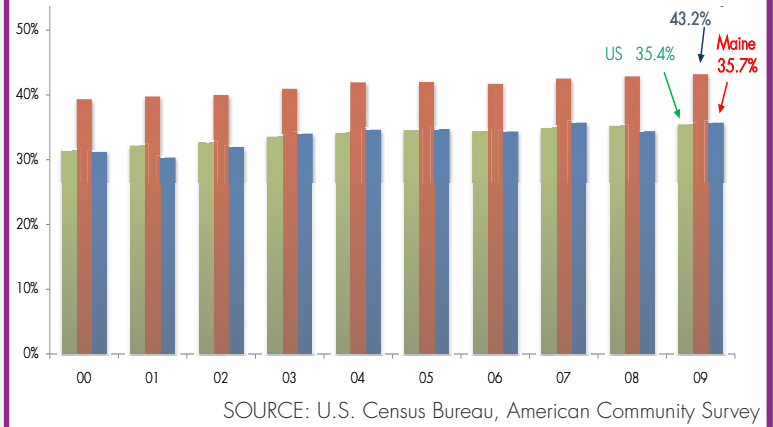
James Clair

CEO, Goold Health Systems

⁴ Knudsen, Eric I., Heckman, James J., Cameron, Judy L., and Shonkoff, Jack P., “Economic, neurobiological, and behavioral perspectives on building America’s future workforce,” National Academy of Science, vol 103, no 27, 2006



FIGURE 5: U.S., New England and Maine Higher Degree Attainment Rates (2000-2009)



One strategy that can address these shortcomings and move the needle forward on these measures is a focused investment plan in high-quality early childhood development. *If we expect strong outputs, we need to provide strong inputs.* Research clearly demonstrates that an evidence-based strategy for investing in the development of children pre-natal through the age of 5 reaps great benefits for the individual and society. The rate of return for starting early is greater than initiating the investment at any other stage of life⁵ (see Figure 1 on page 1).

When done right, which means adopting successful evidence-based practices with an emphasis on high quality early learning environments, investments in early childhood development will improve our next generation’s educational attainment, their productivity, their incomes, and even their health over their lifetimes. As a society, we save money because *these kinds of investments can decrease the need for later educational remediation, health interventions, and have been shown to reduce crime.* A more prosperous workforce is less likely to require public supports. *Such savings, coupled with the revenue generated by a more productive citizenry, can be redirected to other underfunded areas of public need,* like roads, energy, and innovation. To date, Maine has not committed to *a statewide, coordinated approach to delivering high-quality, early care and education to our youngest citizens,* and in turn, has not realized the full scale of benefits such a strategy can offer.

⁵ Cunha, F., Heckman, J.J., Lochner, L., and D.V., Masterov, "Interpreting the Evidence on Life Cycle Skill Formation," Handbook of the Economics of Education, North Holland, 2005

A GROWING CONSENSUS

The long-term increases in workforce productivity and cost savings to society are real, and a variety of new and credible voices are leading the charge to embrace this as economic policy.

Business interests like the *Business Roundtable* (www.businessroundtable.org) and *America's Edge* (www.americasedge.org) have gathered business executives nationwide in support of this issue. They support investment in quality preschool as a means of managing the cost of other public services and of developing a competitive workforce for the global market.

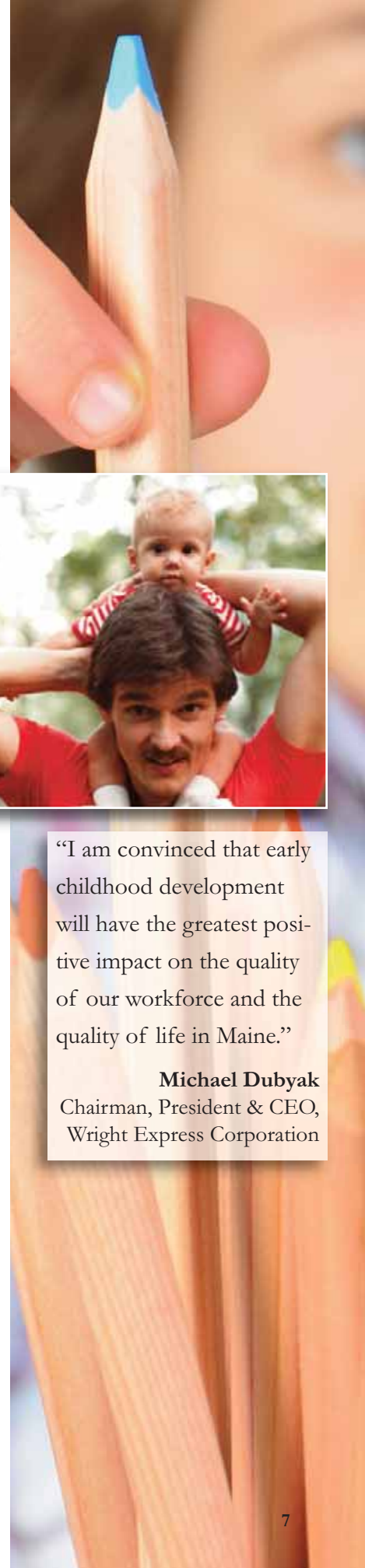
The military sees this as a priority. *Mission Readiness* (www.missionreadiness.org) is a group of retired military leaders from around the country calling for quality investments in young children to improve education, to fight crime, and to improve health. Their research shows that 75% of young Americans are unfit to serve, which in turn jeopardizes our nation's security.

Much along those same lines, law enforcement leaders have joined the fray. *Fight Crime: Invest in Kids* (www.fightcrime.org) is a national organization of law enforcement leaders and crime survivors who advocate for quality preschool as a means of reducing crime and its cost.

Those who shape our nation's fiscal policy are also strong advocates. Robert Grunewald and Arthur Rolnick of the Federal Reserve Bank of Minneapolis have written extensively about the need for high quality investment in early childhood development to grow our economy and have even been active in implementing strategies in Minnesota.⁶ Federal Reserve Bank Chairman, Ben Bernanke, has spoken in support of addressing economic disparities and setting the stage for growth.⁷ President of the Federal Reserve Bank of Richmond, Jeffrey Lacker, may have stated the case best:

“On some questions, however, economic research sends a fairly clear message. I believe that early childhood development is such an issue...if government is going to invest in education at all, it should invest in enhancing early childhood development. For me this is an economic growth issue. The continual enhancement of skills over time is essential to sustained growth in economic well-being, and research indicates that early childhood development is critical to the life-long development of skills.”⁸

This report looks at the benefits of adopting a focused investment plan in high-quality, early childhood development as a lead economic



“I am convinced that early childhood development will have the greatest positive impact on the quality of our workforce and the quality of life in Maine.”

Michael Dubyak
Chairman, President & CEO,
Wright Express Corporation

⁶ Grunewald, Rob and Arthur Rolnick, “A Proposal for Achieving High Returns on Early Childhood Development,” prepared for Building the Economic Case for Investments in Preschool conference 2004

⁷ Bernanke, Ben S., “The Level and Distribution of Economic Well-Being,” a speech delivered to Greater Omaha Chamber of Commerce, Nebraska, 2007

⁸ Lacker, Jeffrey M., “Early Childhood Development and Economic Growth,” speech delivered to Governor’s Summit on Early Childhood Development, Richmond, Virginia, 2007



development strategy for Maine. Specifically, this report reviews evidence from both neurobiology and economics that clearly supports this approach. The report examines what is currently underway in Maine and offers recommendations and strategies for how Maine can begin to realize the full scale of benefits this approach offers.

THE NEUROBIOLOGICAL EVIDENCE

How Brains are Built

A construction analogy is a fitting way to understand the process of brain development, particularly the importance of the earliest developmental stages in determining the quality of the final product. Like the construction of a house, the brain is built from the bottom up and in a predictable sequence. The process begins by laying the foundation, then framing the rooms, and wiring the electrical system. We all know that a sturdy foundation is necessary to support all construction that follows.

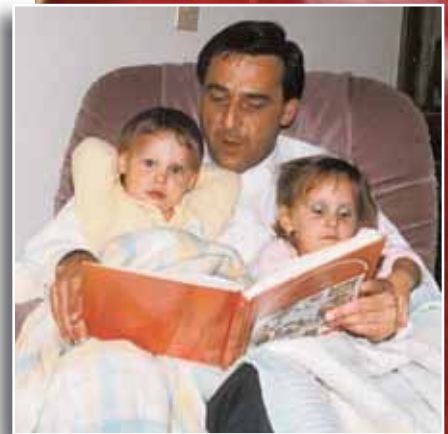
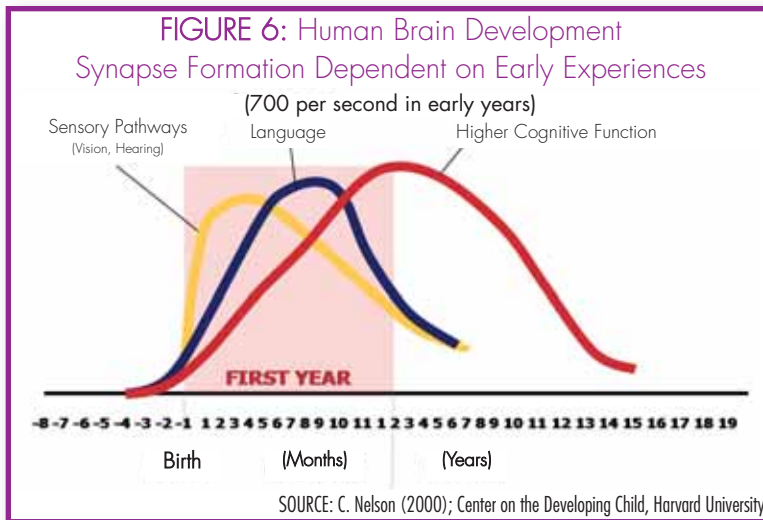
And for children, it is their early experiences, with caring adults, that set a strong sturdy foundation and wire the brain for all the development that follows. If the foundation is shaky, if the basic circuitry is incomplete or improperly wired, future construction is compromised. Any attempt to fix these shortcomings later is expensive, time-consuming, and often not even possible. In children, *if the brain's architecture is compromised, it will affect their educational attainment, their productivity, their ability to function in society, and their health.*⁹

That's why getting it right from the start is a must – trying to build on a weak foundation is more costly and is less effective than providing the experiences that will build a healthy structure right from the start. Approximately 85% of the core brain structure is formed by the age of 3.¹⁰ By this time, the peak synapse formation laying the groundwork for sensory pathways, language development, and higher cognitive functions has occurred (see Figure 6¹¹ on page 9). Although the brain will continue to develop through life, this earliest period will determine how that development proceeds.

⁹ National Scientific Council on the Developing Child, "The Science of Early Childhood Development: Closing the Gap Between What We Know and What We Do," Center on the Developing Child, Harvard University, 2007

¹⁰ Bruner, Charles and Debbie Stein, "Early Learning Left Out: Closing the Investment Gap for America's Youngest Children, 2nd Edition," Voices for America's Children and the Child and Family Policy Center, April, 2005

¹¹ Figure 6 comes from a presentation by Dr. Jack Shonkoff at the September, 2008 MDF annual meeting and is used with his permission



The Interplay of Genes and Experience

Brain construction is driven by a combination of genetics and experience. Parents pass on their genetic code to their children, laying down what is described by experts as an imprecise and “weak” circuit pattern. A child’s experiences help to define the circuit pattern and to strengthen the connections. These form the foundation for future development as “circuits build on circuits” and “skills beget skills.”¹²

Ideally, experiences occur between children and caring adults in interactive and responsive environments. Like the process of “serve and return,” such as in a game of volleyball, a child naturally reaches out for a response – whether a gesture, an expression, or in conversation. When caregivers respond, these interactions wire the brain, laying the foundation of basic cognitive and social skills. This could be something as simple as when a caregiver offers a name for an object the child is pointing to. These kinds of experiences also form the foundation for later cognitive, social, and emotional development.

What Disrupts Development?

Certainly all children will encounter stressful situations during the course of their development. And, some stress is good for development – it is how we learn basic coping skills. But, some experiences, due to their nature and severity, can produce toxic stress responses in the brain that can damage the brain’s architecture and have long-lasting negative effects on learning, and on social and emotional development.

Researchers group stress into three categories:¹³

- 1 Positive Stress:** Positive stress occurs with short-lived experiences that are uncomfortable but not threatening. Situations that produce positive stress may be dealing with frustration, falling off a bike, or receiving an immunization.

“Domestic violence is simply unacceptable and we, as Mainers, must lead by example. This abuse is not limited to any political, social, or economic background – anyone can be a victim, especially the youngest members of our society. All too often, abusers learn abuse as children and follow that example into adulthood. That is why we, by our words and our deeds, must teach our younger generations that there is no place for domestic violence in Maine. We can accept nothing less.”

Honorable Paul LePage
 Governor of Maine

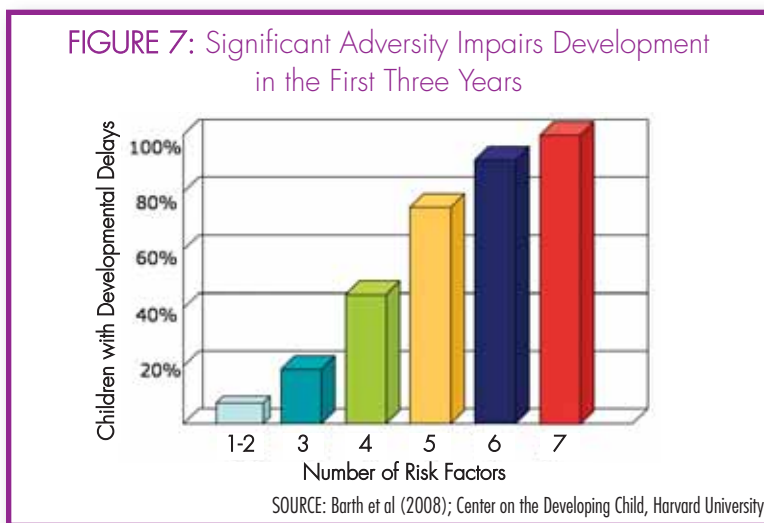
¹² National Scientific Council on the Developing Child, “The Science of Early Childhood Development: Closing the Gap Between What We Know and What We Do,” Center on the Developing, Child Harvard University, 2007

¹³ Shonkoff, Jack P., “Investing in Our Most Precious Assets: Making the Economic Case for Investment in Early Childhood,” presentation at the Maine Development Foundation 30th Annual Meeting, 2008



- 2 **Tolerable Stress:** Some experiences may cause profound stress, but are tolerable when they occur in the presence of caring, supportive adults and so do not disrupt the brain’s architecture. Situations that produce tolerable stress may include natural disasters, the death of a loved one, and divorce.
- 3 **Toxic Stress:** Toxic stress reactions in the brain occur under conditions of prolonged stress in the absence of adult support; toxic stress leads to long-lasting disruptions in brain architecture. Situations that produce toxic stress include exposure to violence, physical or emotional abuse, and extreme poverty.

When a child is exposed to a greater number of risk factors (extreme poverty, emotional abuse, physical violence, etc.), the level and duration of the brain’s stress response increases, weakening the brain’s architecture, which increases the potential of negative outcomes, including developmental delays (Figure 7¹⁴). These delays can persist through life. High levels of toxic stress can also repress the immune system and lead to more serious chronic health conditions like heart disease and diabetes.



Getting it Right from the Start

Since brains are built from the bottom up, circuits build upon circuits, with early skills serving as the foundations for the development of more complex skills to come. In other words, development is sequential and cumulative. As more structure is established, it becomes increasingly difficult to undo. A child’s brain in their early years is the most flexible, or what scientists call “plastic.” As a person ages, their brain becomes less and less plastic, and it is less likely that structural problems can be corrected.

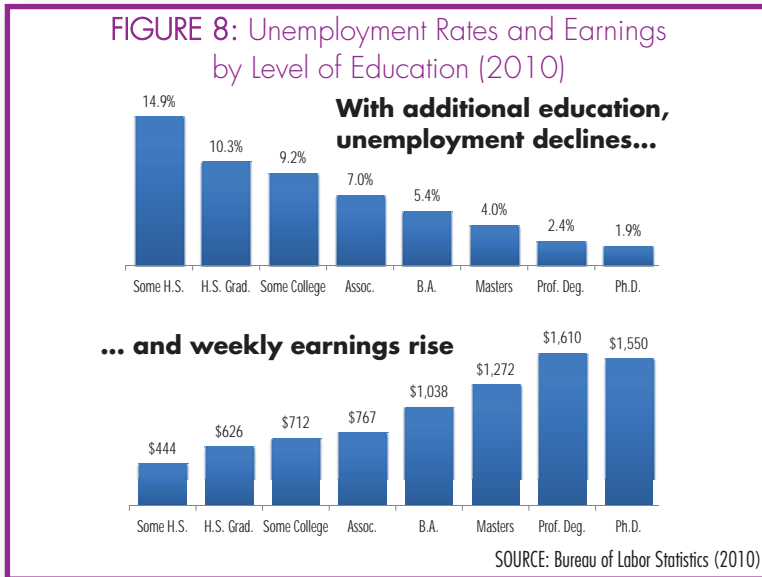
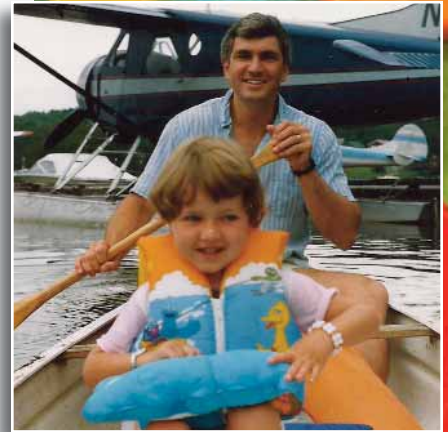
Developmental research makes clear that healthy brains are built by interactive and responsive relationships and experiences early in life. Ensuring that all children have access to these types of experiences makes possible the type of brain development needed to produce strong, healthy, successful citizens. Without that foundation, the individual and society face potentially steep social and economic costs. The economic research strongly supports focusing on the earliest years as well.

¹⁴ Figure 7 comes from a presentation by Dr. Jack Shonkoff at the September, 2008 MDF annual meeting and is used with his permission

THE ECONOMIC EVIDENCE

Building a Better Workforce

The economic benefits of high-quality, early childhood development accrue in two general ways: to the individual and to society. The individual is better educated and trained, making them more productive and healthy, and as a result, more likely to be gainfully employed earning a good wage (Figure 8).



This benefits society in real terms. When given the opportunity to reach their full potential, people are not only more productive but they are less likely to need educational remediation, health interventions, to commit costly crimes, or to require public supports. This can mean savings of public dollars. As one example, research has shown that a 1% increase in the high school graduation rate nationally results in 94,000 fewer crimes at a savings to society of \$1.8 billion.¹⁵

Our public education system presents another opportunity. Since the late 1990s, Maine has seen PreK-12 enrollment drop off 12% (Figure 9 on page 13). At the same time, the cost of regular instruction has increased by 42%, and the cost of special education instruction has increased by nearly 100% for that same time.¹⁶ This is not sustainable. There are several factors driving costs; but based on the research just presented, quality early childhood education prepares children to succeed during their educational careers, and could, if implemented earlier and more comprehensively, lower those costs.

“A child’s earliest experiences set the developmental trajectory for lifelong learning and health. That’s why investments in high-quality, early care and education produce successful students, skilled workers and a strong economy.”

Steve Rowe
Counsel to Verrill Dana,
former Maine Attorney
General, and an early
education advocate

¹⁵ Heckman, James. J and Dimitriy V. Masterov, “The Productivity Argument for Investing in Young Children”, Review of Agricultural Economics, 29-3, pp 446-493, 2007

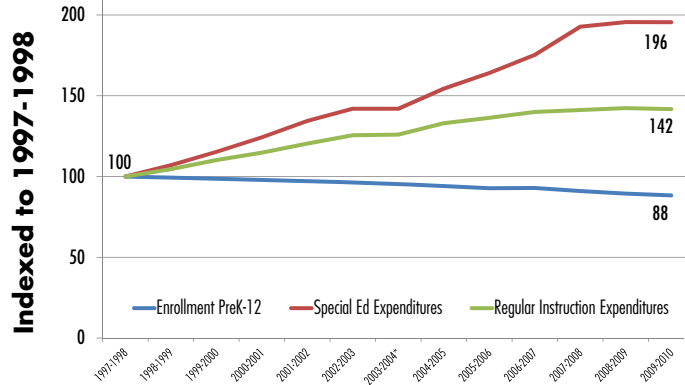
¹⁶ Maine Department of Education, <http://www.maine.gov/education/enroll/enrifacts.htm>



“It’s surprising but true: the safety of Maine’s communities depends on adults taking good care of the youngest children who live in them. High-quality, early education programs provide the most vulnerable children with an early introduction to learning. Building that foundation for positive social development can steer kids away from crime and toward productive lives. Investing in early education for those kids improves public safety and saves taxpayers money. Preventing just one child from dropping out of school, abusing drugs and becoming a career criminal saves taxpayers as much as \$2.5 million. That’s why, with 34 years of law enforcement experience, I am proud to be a supporter of early care and education.”

Glenn Ross
 Sheriff, Penobscot County
 Member, Fight Crime:
 Invest in Kids

FIGURE 9: Changes in PreK-12 Enrollment and Expenditures, Maine, 1997-2009



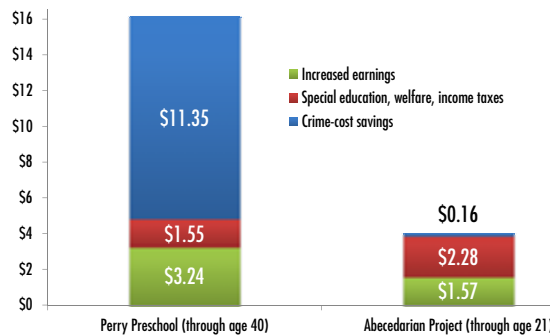
SOURCE: Maine Department of Education

History of Economic Analysis

It is useful for policy makers to have a means of measuring output relative to input, particularly when determining what gets funded and what does not. In fact, several decades’ worth of research on a number of early childhood programs across the country does just this. (See Burr and Grunewald, *Lessons Learned: A Review of Early Childhood Development Studies*, 2006). Summarized on page 13, three programs in particular are often cited for these purposes: Perry Preschool Project (Michigan); Carolina Abecedarian Project (North Carolina); and, Chicago Child-Parent Centers (Illinois).

Extensive analysis of these programs and others shows that high-quality, early education programs have net positive economic outcomes. The lifetime benefit-to-cost ratios were all greater than one (Figure 10¹⁷). In fact, they can produce more than \$16 of benefit for every \$1 invested.¹⁸⁻²¹ This is an impressive return on investment especially when compared to other traditional economic development tools such as tax credits and subsidies.

FIGURE 10: Cost/Benefit for Two Early Childhood Programs
 (Dollars returned for each dollar invested)



SOURCE: Center on the Developing Child, Harvard University

¹⁷ Figure 10 comes from a presentation by Dr. Jack Shonkoff and is used with his permission
¹⁸ Burr, Jean and Rob Grunewald, “Lessons Learned: A Review of Early Childhood Development Studies”, 2006
¹⁹ Heckman, James. J and Dimitriy V. Masterov, “The Productivity Argument for Investing in Young Children”, Review of Agricultural Economics, 29-3, pp 446-493, 2007
²⁰ Heckman, James J., Moon, Seong Hyeok, Pinto, Rodrigo, Savelyev, Peter A., and Yavitz, Adam, “The Rate of Return to the High/Scope Perry Preschool Program,” Department of Economics, University of Chicago
²¹ Rolnick, Arthur J. and Rob Grunewald, “The Economics of Early Childhood Development as Seen by Two Red Economists,” Community Investments, Federal Reserve Bank of Minneapolis, 2007

PERRY PRESCHOOL PROJECT

In the early 1960s, 123 young children living in poverty in Ypsilanti, Michigan, were chosen for a study. Half of the children were randomly chosen to attend a high quality preschool program for 2.5 hours daily, which included a home visit with the parents once a week. The other half did not. The participants' progress was followed through the age of 40. Results show the group that attended the preschool enjoyed greater educational performance, longer academic careers, less need for educational remediation, decreased involvement in crime, greater earnings, and were more self-sufficient than the group that did not attend the preschool. *The benefit-to-cost ratio exceeded \$16 of benefit for every \$1 invested.*

CAROLINA ABECEDARIAN PROJECT

Between 1972 and 1977, 111 disadvantaged children in North Carolina were chosen to participate in a study. Half were randomly chosen to participate in a quality preschool program, and the other half did not. The progress of both groups was followed to the age of 21. Results showed that the preschool group enjoyed higher IQ scores, had longer academic careers, were more likely to enroll in college, and were more likely to have a skilled job relative to the group that did not participate in the program. Additionally there were positive outcomes for some of the teenage parents of the children, including improved greater academic attainment, improved self sufficiency, and better employment. *The benefit-to-cost ratio exceeded \$4 of benefit for every \$1 invested.*

CHICAGO CHILD-PARENT CENTERS

Starting in 1985 and 1986, 1,000 children from the Chicago area who were living in poverty, and who participated in the Child-Parent Centers (CPC) during preschool in the early 1970s, were matched with 550 students who had not, and their progress was tracked through age 20. The CPC program was large in scale with heavy parent involvement and interaction with caregivers. Results showed CPC participants enjoyed greater academic achievement, longer academic careers, less grade retention, less need for remediation, and decreased criminal activity. Again, parents also benefited from the interaction and were found less likely to “maltreat” their children relative to parents of children who did not attend CPC. *The benefit-to-cost ratio was \$7 of benefit for every \$1 invested.*



A POSSIBLE MAINE SCENARIO

Recognizing that the sooner kids receive quality care and education the better the outcomes, researchers have projected possible outcomes for states considering investment in similar high-quality programs. The Economic Policy Institute looked at the benefit-to-cost ratios for states considering high quality public preschool for children living in the lowest income families (lowest 25%), as well as a universal public program serving all children.²²

MAINE PUBLIC PRESCHOOL

(children 3-4 years old)

Targeted Low Income Model (2007-2050)

- Lifetime benefit-to-cost ratio of \$16 to \$1;
- Annual cost of \$14 million;
- Program pays for itself in four years; and,
- Program pays for itself in budget savings alone in seven years.

Universal Model (2007-2050)

- Lifetime benefit-to-cost ratio of \$9 to \$1;
- Annual cost of \$95 million;
- Program pays for itself in nine years; and,
- Program pays for itself in budget savings alone in 17 years.

Additionally, the early care and education sector itself is an economic engine in Maine. *America's Edge* released a report that showed for every \$1 spent in the sector, \$1.78 of spending is generated within the state.²³ This is a greater impact than industries like transportation, construction, and retail, to name a few.

This is spending that purchases goods and services in communities across Maine and that supports employment both within and outside the sector. For scale, the report showed that, if Maine were to invest an additional \$145 million (estimated amount needed to give every child under 5 in Maine access to quality care and education) in this sector, we would not only realize the benefits highlighted earlier in this report, but also generate an additional \$115 million of spending in other sectors within Maine.

²² Lynch, Robert G., "Enriching Children, Enriching the Nation: Public Investment in High-Quality Prekindergarten," Economic Policy Institute, 2007

²³ Schaefer, S., Gates, S.L., and Kiernan, M., "Strengthening Maine Businesses through Investments in Early Care and Education: How Investments in Early Learning Increase Sales from Local Businesses, Create Jobs and Grow the Economy," America's Edge, 2011

RETURN ON INVESTMENT

The above numbers are very compelling and make a strong case for investing in early childhood development programs. There are three other considerations essential to success:

- 1** The first is *high quality programming*. Early care and education must meet a high standard to achieve the gains listed above. High-quality programs are generally described as having:²⁴
 - Low student to teacher ratios;
 - Well paid and trained teachers/care givers;
 - A supportive, warm and interactive environment;
 - Parent involvement;
 - A safe and healthy facility; and,
 - Diverse stimulating curricula.
- 2** The second is that *benefits build over time*. Research has shown that quality programs can generate measurable benefits (particularly for society) in a few years time. However, the full magnitude is realized over the lifespan of the individual, well into adulthood. This is a long-term investment policy and must be committed to as such.
- 3** The final consideration is that *all children benefit from quality programming, but universal programming may be cost prohibitive*. In that case, investment focused on the children of the poorest families will go the furthest in reaching the overarching goals and may be the best use of public money.



“For society to prosper, all children must have the opportunity to develop intellectually, socially and emotionally. We know brain plasticity and the ability to change behavior decrease over time. So, getting it right early is less costly, to society and individuals, than trying to fix it later. For these reasons, investing in quality early child care and education is a priority for the Sam L. Cohen Foundation.”

Nancy Brain
Executive Director,
Sam L. Cohen Foundation

²⁴ Institute for a Competitive Workforce, “Why Business Should Support Early Childhood Education,” U.S. Chamber of Commerce, 2010

PARTNERING AROUND THE NATION

Business leaders, policy makers, and philanthropy have embraced this approach to economic development and have partnered to drive good outcomes. The reality is that some public and private interests are already engaged, and have been, in high-quality, early childhood development activities in communities and states across the nation. The greatest successes come when private funds are used to enhance ongoing public efforts.

These activities range from program development and administration to tax credits for providers and parents. Unfortunately, quality and scale vary greatly, but a constant is that those who are embracing this as economic development policy have seen the need to partner and work together. Alone, public and private interests are not able to reap the desired returns.

The following are four examples that Maine can draw upon:²⁵

- **Alaska** (www.bestbeginningsalaska.org): Public, private, and philanthropic members are working to develop a comprehensive early childhood system for the State of Alaska. This includes early childhood workforce development, a uniform quality rating system for providers, raising and distributing funds, and educating the public.
- **Michigan** (www.greatstartforkids.org): Great Start for Kids, launched by Governor Jennifer M. Granholm, and created by Michigan's Early Childhood Investment Corporation. Public and private members raise funds from a variety of federal and state public sources, as well as philanthropy. The corporation funds efforts on the community level to advance physical, social, and emotional health, child care and early education, and parent and family support.
- **Virginia** (www.smartbeginnings.org): The non-profit Virginia Early Childhood Foundation was formed with public and private funds and manages the Smart Beginnings Initiative that supports a system of local and regional collaborations to deliver high-quality, early childhood development services. The foundation also engages in outreach and education to advance the concept of early childhood investment as a growth strategy for the state.
- **Minnesota** (www.melf.us): A board of private sector CEOs and researchers manage the Minnesota Early Learning Foundation (MELF), formed to direct state and federal dollars earmarked for early childhood education and leverage private funds to conduct research and implementation of best practices. Grants fund best practice pilots, provide tuition for low-income children, and help improve quality of providers. Their approach is market-based and gives parents a choice of high quality options.²⁶



²⁵ National Governor's Association Center for Best Practices, "Partnering with the Private and Philanthropic Sectors: A Governor's Guide to Investing in Early Childhood," 2008

²⁶ Grunewald, Rob and Arthur Rolnick, "A Proposal for Achieving High Returns on Early Childhood Development," Federal Reserve Bank of Minneapolis, 2006

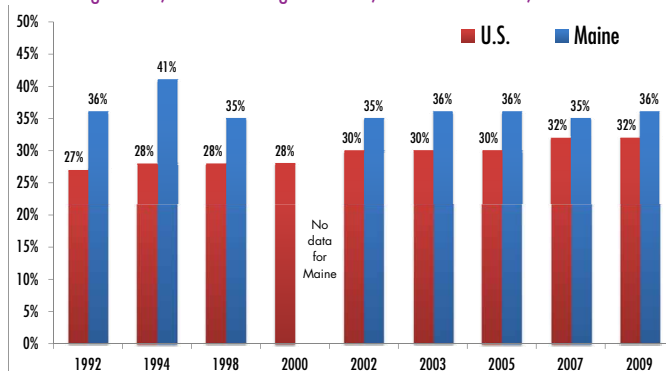
EARLY CHILDHOOD IN MAINE

Maine’s early childhood “system” is a collection of public and private efforts that provide services to children, prenatal to five years old, and their families. The public services are delivered from several state departments and agencies, mostly the Maine Departments of Health and Human Services and Education. The private sector efforts consist of a number of for-profit and non-profit operations ranging from home-based, micro businesses to large, center-based employers.

Despite limited resources, these efforts are able to accomplish quite a bit. However, the outcomes fall short of where Maine needs to be. Fourth grade reading scores offer just one view. A third of Maine kids are reading at a proficient or better level (Figure 11). The test is given at a key developmental time for children when they go from learning to read to reading to learn. These scores, although not the whole story, are one measure of the effectiveness of early childhood development efforts and also serve as a predictor of future success.



FIGURE 11: National Assessment of Education Progress (NAEP) Average 4th Grade Reading Scores, Share Scoring Proficient,* Maine and U.S., 1992 - 2009



*Proficient defined as competency over challenging subject matter, application to real-world situations, and appropriate analytical skills. SOURCE: National Center for Education Statistics

A Patchwork of Programs

The U.S. Census estimated a total population (2010) of 1.3 million in Maine. Of those, 69,520 (5%) were under the age of five. The *2010 Maine Kids Count* reports that approximately 21% of Maine children under the age of five lived in poverty in 2008. The Maine Children’s Growth Council’s *School Readiness Report 2011* indicates that approximately 64% of children birth to age 5 have both parents working. Maine’s youngest children need quality care.

There are a variety of programs and services already meeting the educational and care needs of our youngest children. (For some examples, please see Appendix on page 24.) It is not enough. There are large service gaps and need remains. Moving forward will involve pulling together many of the existing efforts and expanding service of high-quality, evidence-based practices.

“The Bingham Program is investing considerable time and money in promoting the understanding that investment in early childhood is essential, not just because it’s the right thing to do, but because Maine’s future prosperity depends on it. We couldn’t agree more with Ben Bernanke and James Heckman that if we want a strong economy, we need to be sure we are providing quality care and education beginning at birth.”

Karen Heck
Senior Program Officer,
The Bingham Program



TAKING ACTION

The benefits derived from investment in a child’s early development years are proven and have real potential for Maine. Thoughtful, evidence-based strategies with an emphasis on high-quality, early childhood care and education will have a high rate of return. There are some foundational pieces that must be in place for any strategy to work.

FOUNDATION 1: EVERYONE’S RESPONSIBILITY

The scope and size of this challenge requires public, private, and philanthropic resources working together. All sectors have something to gain and no one sector can tackle this challenge successfully in Maine on its own.

ACTION: Fully utilize groups – like the Maine Children’s Growth Council, the Maine Early Learning Investment Group (MELIG), and philanthropic efforts to connect all interested parties, share information, and collaborate on action.

FOUNDATION 2: A UNIFIED SYSTEM

The current early childhood “system” in Maine is a collection of programs and efforts – some coordinated and some not. The best outcomes for Maine children will occur when these programs and efforts work together and are managed collaboratively, efficiently, and sustainably at scale.

ACTION: Utilize the newly formed State Agencies Interdepartmental Early Learning Team to coordinate the efforts of the Department of Health and Human Services and the Department of Education in their work with children. Use the Maine Children’s Growth Council as a means of coordinating the efforts of philanthropy, non-profit community groups, and legislative action.

FOUNDATION 3: HEALTHY SYSTEMS FOR LIFELONG LEARNING

Investment in early childhood alone is not enough. The investment can be lost if a child moves into dysfunctional systems later in life. Managing healthy education systems for all stages of life in conjunction with sound early investments is critical, particularly at points of transition.

ACTION: Improve the transition from early childhood into the K-12 system by instituting a common statewide kindergarten assessment given to every child upon entrance into kindergarten. This will provide consistent and reliable statewide data on need that can be used to prepare and improve curricula, school administration, and professional development.

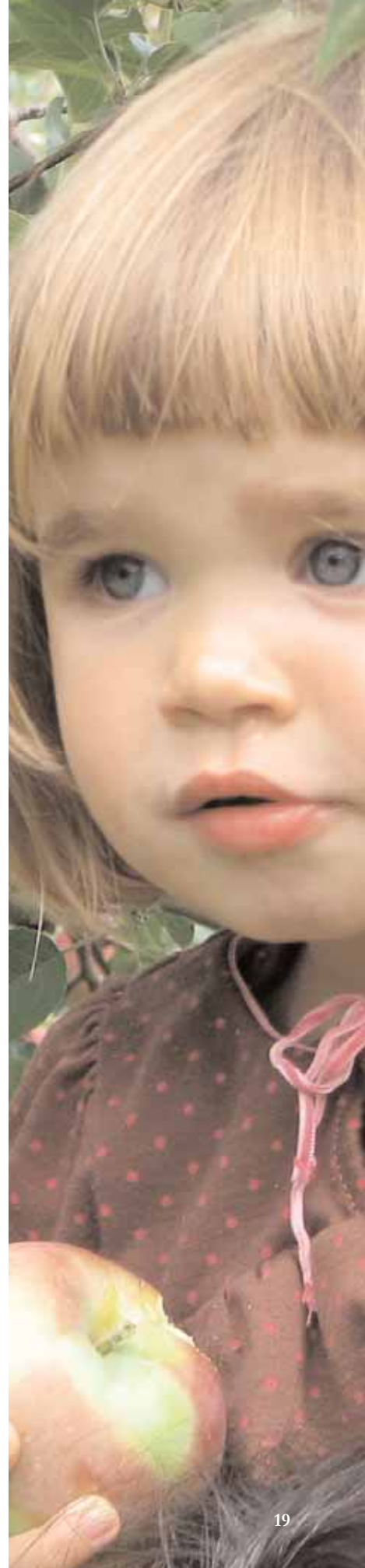
ACTION: Include early childhood activity in the State's overall education budget. Treat it as one education system with a global budget (as recommended in the original *Making Maine Work* report, July 2010).

FOUNDATION 4: SAFE ENVIRONMENTS ARE IMPERATIVE

Evidence is clear that toxic stress leads to bad outcomes. Without safe responsive environments and relationships, free from experiences that produce toxic stress such as exposure to domestic violence, we cannot expect our children to reach their full potential.

ACTION: Expand support of existing, evidence-based efforts (e.g., Home Visiting, Head Start, and Strengthening Family) that work directly with families in need of help to create safer environments for their children.

ACTION: Expand support of the Governor's initiative, working with the Maine Department of Labor and the Maine Coalition to End Domestic Violence, to provide employers with information and resources to address domestic violence issues that affect their employees.





“Our investment in Educare was a great leap of faith for our community and for Joan and me. Our teachers, backed by research, tell us that we must start earlier to educate our children because too many of Maine’s children are entering the K thru 12 system without knowledge of their colors and their letters. Every Maine child should enter kindergarten on a level playing field. We can no longer wait for ‘Superman’.”

Bill Alford

RECOMMENDATIONS AND ACTIONS

The following recommendations build upon evidence-based approaches that research has shown lead to the desired outcomes identified in this report. Generally speaking, those approaches focus on access to quality, public outreach, and the resources needed to make all that happen. Maine needs more children enrolled in and receiving high quality care that prepares them for success as they enter the education system and, ultimately, the workforce. In order to do this, the people of Maine need to support this as a priority that affects everyone’s well-being. For this to ultimately be successful, we must engage parents in ways that educate and give them the options to make the best choices for their children. (See the report from Maine’s Business Roundtable on Early Childhood Investment for more information.²⁷)

RECOMMENDATIONS TO IMPROVE ACCESS TO QUALITY

1 Provide options and access for all Maine families, particularly low income families, to a coordinated system of quality public and private early childhood services, early care and education, parent support, early physical and mental health, nutrition services, and early intervention.

ACTION:

Bring best practices and evidenced-based programs to all communities in Maine.

- Export the knowledge and expertise of Educare Central Maine beyond Waterville by partnering with community organizations, like YMCAs, libraries, child care centers, etc., to provide quality care for infants and toddlers and their families, as well as training for child care providers and educators. ; and,
- Expand the Maine Children’s Alliance “shared service” approach, which would allow early child care and education organizations to be more accountable, financially stronger, and better equipped. (Refer to work by Kennebec Valley Community College, KVCAP, and Educare Central Maine, which offers quality training to child care professionals through on-line continuing education instruction as well as in-person mentoring.)

²⁷ Maine Business Roundtable on Early Childhood Investment, “Report of Priority Recommendations For Early Childhood Investments in Maine,” <http://mainecgc.org/BRECI%20Report%20to%20Governor%20Baldacci%201-8-09.pdf>, December 2008

Expand the current public preschool program to every school district in the state using a network of public schools and local community providers.

- The Lower Kennebec River Regional School Unit (RSU 1) already uses this approach successfully to educate more young children. The states of Virginia, North Carolina, and Minnesota also offer helpful examples of network development and administration.²⁸

Continue the work to coordinate Home Visiting and home-based services across Maine so that more infants and toddlers and their families are served in a collaborative, efficient, and cost effective manner.

2 Require and provide a means for 100% of Maine child care providers to meet a high level of quality as defined by Maine's Quality for ME program to support parent choice.

ACTION:

Require a quality standard of at least a Step 2 in the Quality for ME program (www.maine.gov/dhhs/ocfs/ec/occhs/qualityforme.htm) for a provider to receive state money, and continue to fund a tiered reimbursement system that gives providers the incentive to earn greater quality ratings.

Use the Maine Roads to Quality program and the public and private higher education system to increase access to evidence-based training and education for child care providers and educators.

- A priority must be given to non-traditional students already in the workforce, and efforts must include options like distance learning, flexible hours, credit for work experience, and on-site instruction.

Improve existing tax incentives by adopting the approach like those used in Louisiana (School Readiness Tax Credits – SRTC) and like those in the Military Childcare Act:

- Families can use subsidies for children in high quality child care, and the credit increases with the quality rating of the provider;
- Providers earn credits for serving target populations, and credit increases as the providers increase their quality rating;
- Teachers receive credit for teaching at high quality rated centers, and the credit increases as their education/training increases; and,
- Businesses receive credits for financially supporting high-quality, early learning and development programs, and the credit increases with the program's quality rating.



²⁸ Institute for a Competitive Workforce, "Why Business Should Support Early Childhood Education," U.S. Chamber of Commerce, 2010



RECOMMENDATIONS TO IMPROVE PUBLIC OUTREACH

3 Increase public support for early childhood development through an organized and coordinated statewide communications plan connecting high quality child care and education to economic growth.

ACTION:

Support and expand upon the efforts of the Maine Children's Growth Council, Mission Readiness, Fight Crime Invest in Kids, and America's Edge to speak to the benefits of evidence-based early childhood investment.

Engage Maine broadcasters to make this message a priority public service topic in their editorials and their PSAs.

Create a means to coordinate efforts and to share information and resources that help good evidence-based messages reach the biggest population possible.

RECOMMENDATIONS TO IMPROVE RESOURCES AND FUNDING

4 Increase the public investment in early childhood development and align investment to outcomes throughout a person's life with K-12, higher education, and other training opportunities.

ACTION:

Increase the State's investment, via General Fund dollars, in Maine's early childhood system as a means of controlling rising K-12 remediation costs and to control public assistance expenses.

- This expenditure should be viewed as part of the complete public education funding of a person and be set to achieve the desired outcomes with a priority on low-income families.

5

Create a means for private funds to support and enhance improved access to quality services for Maine children.

ACTION:

Establish a private endowment with private, philanthropic, and public dollars.

- The endowment would be privately managed and offer money to subsidize child care costs, to support services like home visiting and parent education, to provide tuition for providers pursuing quality training, and to support schools. Endowment money could be used in combination with other dollars as match/leverage for greater federal and philanthropic support/grants. This must be certified by the State to enable its use as matching funds. Investments are market driven and give parents and providers incentives and choices.

Organize a core group of business leaders and economists willing to lend their expertise to help the public sector adapt proven market-based approaches to sustain investment in high-quality early childhood development.

- Engage the Maine Early Learning Investment Group (MELIG) for guidance; and,
- Engage regional business networks, such as chambers and leadership networks (Leadership Maine, Bangor Region Leadership Institute, Midcoast Leadership Academy, etc.) to provide guidance and support for Early Childhood initiatives in their regions and statewide.



“We know that one in four Maine children live in households where there is not always enough food on the table. Good Shepherd Food Bank, Preble Street Resource Center and many other organizations make an invaluable difference in reducing food insecurity across Maine. We need strong public-private partnerships to ensure proper nutrition for our kids, especially in early childhood.”

Beth Newlands Campbell
President
Hannaford Supermarkets



APPENDIX:

EXISTING PROGRAMS AND SERVICES

The following is a summary of *some of the major public programs* and other efforts that make up Maine's early childhood system and serve our children and families (service data is included where available):

- **Child Development Services** which provide case management for children birth to age 5 with disabilities, and served 930 infants and toddlers and more than 3,800 children ages 3-5 in 2010.
- **Early Childhood Workforce Development:**
 - **Quality for ME** provides a four-step rating system for child care providers in which approximately 46% of licensed providers participate; just over half have a rating of 2-4 (4 is the best and a level 1 rating requires no more than a license).
 - **Maine Roads to Quality** offers a professional development program for individual providers.
- **Head Start Programs'** early care, education, and health services for children prenatal to age 5 in low income families served more than 3,700 Maine enrolled children (30% of all eligible children) in 2009.
- **Health:**
 - **Maine CDC Immunization Program** provides vaccines for preventable disease.
 - **Early Periodic Screening Diagnosis and Treatment**, called Bright Futures, provides preventive care and oral care for young children on Medicaid.
 - In 2006, there were 475 dentists who served children birth to age 5, and in 2004, there were 851 pediatricians, family practitioners, and general practitioners in Maine.
- **Home Visiting Program**, called "Maine Families," serves first-time families and young parents by providing education and support services to those parents – more than 2,580 families (2,616 children) were served in 2010.
- **Income and Nutrition Support:**
 - **Child and Adult Care Food Program** pays providers for meals for low income children.
 - **Women, Infants and Children's (WIC)** nutrition program for pregnant women and children up to age 5 served more than 31,300 children age 5 and younger in 2009.
 - **Temporary Assistance for Needy Families (TANF)** provides income support for families with children, which included more than 9,000 children birth to five years of age in 2009.
 - **Supplemental Nutrition Assistance Program's (SNAP)** for low income families served more than 25,500 children 5 years and younger in 2009.
- **Maine Children's Growth Council**, comprised of parents, educators, health care providers and other experts and stakeholders in the field, advises the Legislature and Governor on policy matters concerning Maine children prenatal to five years of age.

- **Preschool programs** for children four years old were conducted in 121 Maine elementary schools in 2009, serving approximately 2,780 children age 4 (about 20%).

There are also a number of efforts, outside of government, servicing the early childhood sector in Maine. Some include:

- **Educare Central Maine** in Waterville serves approximately 200 primarily low-income children birth to age 5 and their families.
- **Harold Alfond College Challenge** is a statewide scholarship program that gives a \$500 grant to every Maine resident baby during the first year of life to start an account with Maine's college savings program called the NextGen College Investing Plan.
- **Child Care:** As of August 2011, there were 1,436 licensed family child care providers and 743 licensed center-based child care providers in Maine. Maine uses the Child Care Development Fund to subsidize child care and provide professional development for child care providers – in 2010 over 3,200 Maine children received vouchers for child care.
- **Public and private higher education**, like the University of Maine and UM-Farmington, Thomas College, Kaplan University, and Kennebec Valley Community College, offer programs for early childhood care providers and educators.
- Various **Community Action Programs** (CAPs) provide services statewide.
- **Philanthropy groups**, like the early childhood funders collaborative in Maine, which helps to fund public and private initiatives.



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Photos provided by Nicole Witherbee, Ben & Jess Gilman, and Melanie Baillargeon

Making Maine Work: Investment in Young Children = Real Economic Development

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