

EARLY EDUCATION *for* ALL



A Report On The Cost Of Universal, High-Quality Early Education In Massachusetts

FALL 2006

Contributors To The Report

The Center for Labor Market Studies at Northeastern University is a research organization that examines a wide variety of employment, training, welfare, education and human resource issues. Their work on national, regional, state and local labor market developments has provided policymakers, program administrators and the general public with important information about educational practices, employment, workers' wages, and the economic and social conditions of American families. Associate Director **Paul Harrington**, Ed.D, is a nationally-renowned labor market analyst and economist. He and CLMS colleagues **Neeta P. Fogg**, Ph.D and **Kevin McCabe** prepared several research papers for Strategies for Children, Inc. that are incorporated into this report.

Anne W. Mitchell is the President of Early Childhood Policy Research, an independent consulting firm specializing in evaluation research, policy analysis and planning on early education issues for government, foundations and national non-profit organizations. She has conducted national studies of state and local pre-kindergarten policy and early education finance and has written widely on child care and early education policy and practice. She is currently the President of the National Association for the Education for Young Children. Ms. Mitchell served as a consultant to Strategies for Children, Inc. in the development of this report.

Jan K. Gilpin, J.D. specializes in writing and analyzing research on policy and professional development in the fields of early education and school age care. As an independent consultant for the past five years, her work has included managing training projects and writing legislation, policy briefs, grants and newsletters. Prior to becoming a consultant, her work experience included positions at state agencies, non-profit organizations and a research institute, all of which focused on issues directly or closely related to early education and care. Ms. Gilpin researched and drafted significant portions of this report.

Strategies for Children, Inc. is a non-profit organization specializing in public policy, advocacy and constituency building. As the home of the Early Education for All Campaign, Strategies for Children responded to the Massachusetts Legislature's request for this report. Its staff, led by Director of Research and Policy **Joan Wasser Gish**, had the privilege of designing, directing, writing portions and editing the entirety of this project in collaboration with the other contributors to this report.

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Paul O'Brien, President

The O'Brien Group
Campaign Co-Chair

Mara Aspinall, President

Genzyme Genetics
Campaign Co-Chair

Margaret Blood, President

Strategies for Children, Inc.
Campaign Director

EEA Campaign Advisory Committee

Mary Ann Anthony, President

MA Association for the Education of Young Children

Mara G. Aspinall, President

*Genzyme Genetics
Committee Co-Chair*

Douglas Baird, President and CEO

Associated Early Care and Education

Cort C. Boulanger, Vice President

MA High Technology Council

Roger Brown, President

Berklee College of Music

Lou Casagrande, President and CEO

Boston Children's Museum

Melissa Colon, Coordinator

Iniciativa-MA Education Initiative for Latino Students

Ronald A. Copes, Vice President, Community Relations

MassMutual Financial Group

Carole A. Cowan, President

Middlesex Community College

Donna Cupelo, Region President

Verizon

Joe Dart, President

MA Building Trades Council, MA AFL-CIO

Nancy deProse, Trustee

UAW Local 2322

William Eddy, Executive Director

MA Association of Early Educators and School-Age Providers

Thomas M. Finneran, President

Massachusetts Biotechnology Council

Jillayne T. Flanders, Representing

MA Elementary School Principals' Association

Don Gillis, Executive Director

MA Workforce Board Association

Carol Goldberg, President

The AvCar Group, Ltd.

Christopher E. Goode, Senior Director

*Government Corporate Affairs and Public Policy
EMC Corporation*

Sue Halloran, Representing

MA Child Care Resource and Referral Agencies Network

Kimberly Haskins, Senior Program Officer

Barr Foundation

Joan Kagan, President & CEO

Springfield Day Nursery

Kathleen Kelley, President

American Federation of Teachers-MA

Thomas S. Kingston, Representing

MA Urban Superintendents Network

Richard Lord, President

Associated Industries of MA

Alan Macdonald, Executive Director

MA Business Roundtable

Kathy Modigliani, Director

The Family Child Care Project

Gwen Morgan, Consultant

Wheelock College

John D. O'Brien, Legislative Liaison

Cape Cod Chamber of Commerce

Paul O'Brien, President

*The O'Brien Group, Inc.
Committee Co-Chair*

Sean Palfrey, MD, President

MA Chapter, American Academy of Pediatrics

Steve Perla, Executive Director

Parents Alliance for Catholic Education

S. Paul Reville, Executive Director

The Rennie Center for Education Research and Policy

Richard R. Rowe, Board Member

MA Business Alliance for Education

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Staples, Inc.

Thomas Scott, Executive Director

MA Association of School Superintendents

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Schott Foundation for Public Education

Chris & Katani Sumner, Representing

Boston TenPoint Coalition

Michael Supranowicz, Vice President & COO

Berkshire Chamber of Commerce

Stephen P. Tocco, Chairman

MA Board of Higher Education

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MA Head Start Association

Kathy Treglia, Representing

YMCAs of MA

Phillipe Villers, President

GrainPro, Inc.

Robert Wadsworth, Program Director

The Boston Foundation

Mary Walachy, Executive Director

The Irene E. and George A. Davis Foundation

James C. Ward, Executive Director

Early Childhood Centers of Greater Springfield

Anne Wass, President

MA Teachers Association

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Introduction

Over the last two decades, the steady stream of evidence documenting the benefits of high-quality early education has begun to change the way we think about how children learn and the ways in which we invest in their education.

We now know that more brain development occurs during the first five years than at any other time in a child's life. We are also discovering that experiences during these early years can have a profound influence on a child's future development and success. This is documented not only by scientists studying brain development, but also by social scientists and economists studying the impact of early education programs.

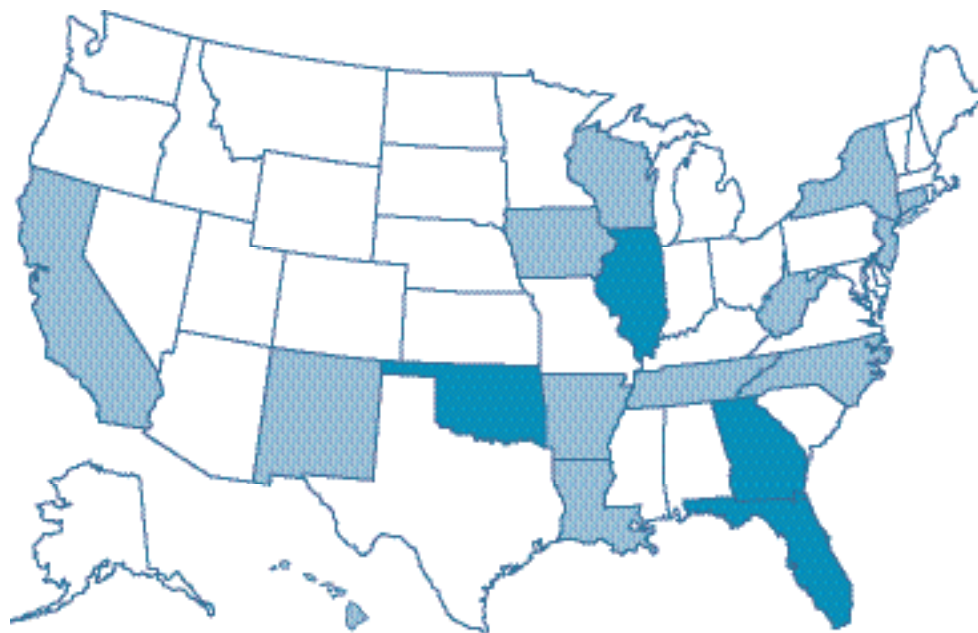
“On a purely economic basis, it makes a lot of sense to invest in the young,” concluded Nobel Laureate, Dr. James Heckman of the University of Chicago. He found that high-quality early childhood programs give children “the advantage of an early start to their skill development improving their chances of successfully participating in the job market in later years.”¹ The ramifications of this effect were analyzed by economists at the Federal Reserve Bank of Minneapolis and they found that for every public dollar invested in high-quality early education, taxpayers could see a 16% return.²

Across the nation, state legislatures and governors are taking notice. Today, 17 states have, or are moving toward providing, universal early education programs (Chart 1). “High-quality services for young children have direct implications for achieving a broad range of short- and long-term state policy goals including: promoting the productivity of the current and future workforce; preventing and reducing the incidence of social problems like juvenile violence and delinquency, teen pregnancy, welfare dependence and school failure; [and] preparing young children to succeed in school,” stated a report by the National Conference of State Legislatures.³

Families also understand the importance of high-quality early education for children ages three, four and five. In a 2006 survey of Massachusetts households, parents rated the quality of an early education program as their most important consideration when choosing where to enroll their children.⁴ But many families—yet too high to qualify for subsidies under the existing system of federal and state supports—do not have access to quality programs for their children.⁵

When it comes to early education, quality is of utmost importance. While high-quality early education programs provide extraordinary opportunities for learning,

CHART 1. States Moving Toward Universal Early Education



programs of low quality yield fewer benefits and can inhibit a child's future learning potential. The result is that even before children arrive at kindergarten or first grade there are significant differences in children's school readiness. This "readiness gap" often persists and widens as children move up through the public school system, eventually becoming an "achievement gap."⁶

Massachusetts has embarked on a plan to close this gap and reap the economic benefits associated with investment in early education. The Commonwealth has committed to provide every preschool-aged child in the state with access to a voluntary, universal, high-quality early education.⁷

This report is designed to assist the Legislature as it endeavors to realize this commitment. Inherent in the creation of a high-quality early education program is a series of complex policy decisions including: what constitutes a high-quality program?; how can the Commonwealth build upon the existing infrastructure of public and private early education providers to deliver high-quality preschool?; and what is the cost of providing universal access to high-quality early education to the children of the Commonwealth?

In 2005, key legislative offices asked the [Early Education for All Campaign \(EEA\)](#) to produce a report for the Legislature on the cost of providing universal access to high-quality early education for the preschool-aged children of the Commonwealth. EEA is a coalition of leaders from business, early childhood, labor, religion, health care, education and philanthropy, working in partnership with parents, grassroots leaders and state policymakers to make publicly-funded high-quality preschool education and full-day public school kindergarten available to every Massachusetts child.

In response to this request from the Legislature, EEA convened the Resource Analysis Working Group which tapped the expertise of leaders in business, state govern

ment, public finance, K-12 and early childhood education to help determine the cost of universal access to high-quality early education in the Commonwealth. Struck by the complexities of the task, this working group recommended that economists be brought in to determine the current state of early education in the Commonwealth and to estimate the incremental cost associated with realizing the state's commitment to provide universal access to high-quality early education to preschoolers.

“...for every public dollar invested in high-quality early education, taxpayers could see a 16% return.”

EEA engaged a team of economists from the [Northeastern University Center for Labor Market Studies \(CLMS\)](#). Led by Drs. Paul Harrington and Neeta Fogg, CLMS produced estimates of the cost of a high-quality, universal preschool program. Key elements of the resulting cost model, and the assumptions underlying it, were also informed by Anne Mitchell, a nationally recognized expert in the design and implementation of high-quality pre-kindergarten programs and in early education finance, as well as by the EEA Policy Committee made up of representatives from the early education and care field in Massachusetts.

The economists at CLMS approached the cost estimate on a macro-level. Their goal was to estimate the aggregate investment needed to implement a new high-quality, universal early education program in Massachusetts that builds upon the existing resources and infrastructure dedicated to early education. This estimate can inform the Massachusetts Legislature as the Commonwealth joins a nationwide movement toward early education for all.

PART I

The Benefits of Investing in Universal, High-Quality Early Education

Benefits of High-Quality Early Education to Children

Scientists studying the human brain have discovered that it develops more rapidly between birth and age five than during any other subsequent period.⁸ These first five years of life are a time of enormous social, emotional, physical and cognitive growth. A child's ability to be attentive, focused and follow directions emerges in the early years. As one researcher put it, the early years provide a window of opportunity to "set either a sturdy or fragile stage for what follows."⁹

We now know that brain development is much more vulnerable to environmental influence than ever before suspected. High-quality early education provides children with a stimulating environment to grow and develop. It provides learning opportunities to foster skills and abilities for later success in school and life.¹⁰

Studies show that children who participate in high-quality early education develop better language skills, score higher on school readiness tests and have better social skills and fewer behavioral problems once they enter school.¹¹ Evaluations of Georgia's Universal Pre-Kindergarten Program, the nation's first statewide voluntary, universal early education program for four-year-olds, found that participating children gained ground on their peers across the nation. By the beginning of kindergarten, they had made statistically significant gains on four cognitive development tests, reaching or surpassing the national norms on three of the measures. The children also improved in basic skills such as identifying colors, counting and naming numbers.¹² Kindergarten teachers in Georgia reported that children who attended the Universal Pre-Kindergarten Program were better prepared for kindergarten, especially in the areas of pre-reading, pre-math and social skills.¹³

A recent evaluation of state-funded early education programs by the National Institute for Early Education Research (NIEER) found that children who attended high-quality, state-funded preschool programs in

Michigan, New Jersey, Oklahoma, South Carolina and West Virginia increased their school readiness in language, literacy and mathematical development. According to NIEER, children who attended state-funded early education programs experienced a 31% growth in vocabulary skills, a 44% growth in early math skills and an 85% increase in print awareness.¹⁴

A number of research studies have documented the effects of high-quality early education over the long term by continuing to survey participants well into their adulthood. In 1995, a researcher from Rutgers University reviewed 36 studies of both model demon-

"...children who attended state-funded early education programs experienced a 31% growth in vocabulary skills, a 44% growth in early math skills, and an 85% increase in print awareness."

stration projects and large-scale public programs to examine the long-term effects of these programs on the children they served, most of whom were from low-income families. It included studies of preschools, Head Start, child care and home visiting programs. According to the report: "Results indicate that early childhood programs can produce large short-term benefits for children on intelligence quotient (IQ) and sizable long-term effects on school achievement, grade retention, placement in special education, and social adjustment."¹⁵ Higher quality programs with sufficient funding were more likely to produce significant results.

Results from these long-term research studies have documented the effects on children's achievement in higher grades and their success as adults as measured

through school achievement tests, graduation rates, college attendance, income potential and their rates of utilization of public assistance and involvement in the criminal justice system. On average, children who attend high-quality early education programs outperform those who did not on school achievement tests between ages 9 and 14.¹⁶ They are 40% less likely to repeat a grade.¹⁷ They are 30% more likely to graduate from high school, and more than twice as likely to go to college.¹⁸ Participants are also less likely to be school dropouts, dependent on welfare or arrested for criminal activity.¹⁹ Adults who have participated in high-quality early childhood education programs during their preschool years are more likely to be literate. Those who participated in high-quality early learning experiences had higher median annual earnings and were more likely to be homeowners.²⁰

Benefits of Universal Early Education Programs

Voluntary, universal early education ensures that children from all backgrounds enter school ready to succeed. Voluntary, universal programs reach all children whose families choose to enroll them including the children of working families who are often least able to access high-quality early education programs.

Impact on Children from Working Families

Children from middle-income working families often have difficulty accessing high-quality preschool programs.²¹ While the state and federal governments provide supports to some low-income families, and while many upper-income families reach into their pockets to pay for early education, middle-income working families often lack the resources to access quality programs. As a result, studies reveal that children from middle-income families are either unable to access early education or attend lower-quality programs than their peers; children from middle-income working families often start school unprepared.²²

Recent studies have documented that increasing middle-income children's access to high-quality early education programs can improve their school success. Middle-income children who attended high-quality preschool programs showed significant gains in cognitive skills as well as positive social outcomes.²³

Impact on Children in Special Populations

High-quality early education can be especially effective for certain populations of children, including children with special needs and children from disadvantaged backgrounds.

Research has shown that the achievement gap between low-income and higher-income children can be minimized with exposure to a high-quality early education that promotes school readiness across developmental domains. Children from low-income families who participate in high-quality early childhood education programs experience the most significant benefits relative to their peers—they repeat fewer grades, learn at higher levels and are more likely to succeed in the job market.^{24,25}

“Voluntary, universal early education ensures that children from all backgrounds enter school ready to succeed.”

Early education also provides an opportunity for developmental or physical disabilities to be identified and addressed early. For children with behavioral challenges, or for those lacking in basic skills at school entry, high-quality early education can help children to develop social, emotional and cognitive skills. In a national poll, 69% of parents of children with special needs agreed that many students would not need to be in special education if they had gotten extra help in school earlier on.²⁶

Benefits of High-Quality Early Education to Families

Many early education settings provide developmental and health screenings for children that help families understand and address the needs of their children. Comprehensive early education allows families to connect with health and support resources in their communities. These connections provide a dual service of improving children's health and well-being while simultaneously providing support and knowledge to families.

Parents often gain a positive sense of community through their interaction with program staff and with other parents. A 2001 statewide survey of Massachusetts parents of young children found that early childhood teachers were among the resources parents consulted most often for information and advice about raising their children.²⁷ In addition, studies have found that early education programs can improve parents' job productivity and rates of participation in the workforce, permitting parents to bring needed economic resources to their families.^{28,29}

Benefits of High-Quality Early Education to Employers

Employers realize both short- and long-term benefits from high-quality early education programs. In the near term, employers report reduced employee turnover, lowered absenteeism and increased productivity when workers have reliable and high-quality early education for their children.³⁰ Employee absenteeism as a result of poor quality early education arrangements costs American businesses an estimated \$3 billion per year.³¹ Companies large and small depend on early education programs to provide a critical work support to their employees.

Over the longer term, the caliber and productivity of the future workforce can be profoundly influenced by high-quality early education. Dr. James Heckman found that high-quality early childhood programs give children “the advantage of an early start to their skill development improving their chances of successfully participating in the job market in later years.”³² He emphasized that it was not only children's improved cognitive ability that influenced future job success but also their social skills and motivation which enhanced performance in school and in the workplace.

Benefits of High-Quality Early Education to Society

A 2003 report from the Federal Reserve Bank of Minneapolis, *Early Childhood Development: Economic Development with a High Public Return*, found that investments in early childhood education yield high public returns—an estimated 16% for every dollar invested.³³ In Massachusetts, a similar analysis was con-

ducted by economist Dr. Clive Belfield of Queens College and Columbia University in collaboration with Dr. Patrick McEwan of Wellesley College. They found that for every \$1 spent on two years of high-quality preschool, Massachusetts would recoup at least \$1.18 in savings and additional revenue.³⁴

Savings to taxpayers are attributed to the increased strength of the tax base and cost savings tied to reduced utilization of public programs such as special education and welfare, and diminished need for investment in crime reduction.^{35,36} Children who attended high-quality preschool programs are more likely to be employed as adults and secure higher annual earnings thus contributing to the tax base.³⁷ They have a better chance of becoming productive members of society—depending less on welfare, owning their own homes and holding savings accounts.³⁸ Research also links children's attendance in early education programs to significantly lowered rates of juvenile arrests, as well as overall arrests in adulthood.^{39,40} Children participating in these programs were less likely to be arrested in adulthood for violent crimes, property crimes or drug crimes than their non-participating peers.⁴¹

The enormous potential of investment in high-quality early education has prompted the Massachusetts business community, including Associated Industries of Massachusetts, the Massachusetts High Technology Council, the Massachusetts Biotechnology Council, the Massachusetts Business Alliance for Education, the Massachusetts Business Roundtable, local chambers of commerce, and senior executives from companies like EMC Corporation, Genzyme Genetics, MassMutual Financial Group, Staples, Inc. and Verizon, all to support the Early Education for All Campaign and the goal of universal, high-quality early education for Massachusetts.

PART II

Defining Universal, High-Quality Early Education For Massachusetts

The Massachusetts Legislature furthered the Commonwealth's commitment to provide universal access to high-quality early education by creating the Massachusetts Universal Pre-Kindergarten program (MA UPK) and funding a pilot initiative in its FY2007 budget.⁴² The Legislature has recognized that to implement the MA UPK program effectively, the Commonwealth must clearly define what constitutes a "high-quality" early education and create accountability for its delivery by early education providers choosing to participate. It has also committed to build the new program upon the resources and infrastructure of the existing delivery system for early education comprised of public and private providers including: non-profit centers, for-profit centers, sole proprietorship family child care homes, federal Head Start programs and public school preschools. Moreover, the Legislature has articulated a goal of ensuring that MA UPK is sufficiently flexible to meet the diverse needs of families.⁴³

These foundational commitments by the Legislature impact the estimated cost of full implementation of a high-quality early education program for children aged three to five in the Commonwealth. The following sections of this report explore the substance of a proposed program quality standard for all providers participating in MA UPK, describe Massachusetts' existing resources and infrastructure tied to early education and highlight the needs and desires of Massachusetts' families with young children.

Massachusetts Efforts to Define High-Quality Early Education

From 1993 to 2003, the Massachusetts Board of Education convened the Massachusetts Early Childhood Advisory Council which brought together a diverse group of representatives from the field of early childhood education to contribute to the development of the *Massachusetts Early Childhood Program Standards for Three and Four Year Olds* and *Learning Guidelines for Three and Four Year Olds*. In 2003, the *Standards* and *Guidelines* were approved by the Massachusetts Board

of Education and established as a requirement for early education programs receiving funding through a state program known as Community Partnerships for Children (CPC).

The *Standards* were built upon researchers' consistent observations and findings about learning environments and their impact on young children. The *Standards* were also informed by existing standards in use by the Massachusetts Department of Education, the Massachusetts Office of Child Care Services and federal Head Start programs, as well as by the *accreditation* process of the National Association for the Education of Young Children (NAEYC). Accreditation involves the voluntary, independent evaluation of providers relative to rigorous program standards defined by national organizations.

“...the most effective early education teachers have bachelor's degrees.”

The *Standards* meet or exceed current state licensing regulations, support a research-based curriculum and are designed to guide ongoing development, evaluation and improvement of center-based preschool programs. The *Standards* are aligned with the state's K-12 curriculum frameworks and advance the goal of a high-quality program standard that promotes healthy emotional, social, physical and cognitive outcomes for children.⁴⁴

Program Standards for Massachusetts Universal Pre-Kindergarten

In 2006, the Massachusetts Legislature proposed through *An Act Relative to Early Education and Care (H. 4755)* that the *Standards* become adopted as, or serve as the basis for, the program standards of a new Massachusetts Universal Pre-Kindergarten program.⁴⁵ The *Standards* address the broad spectrum of excellence required to deliver high-quality early education. In the

context of the Massachusetts UPK program, research suggests that the *Standards* can be strengthened with special attention to teacher quality.

The *Standards* relative to Staff Qualifications and Staff Development require that within seven years of the effective date of the *Standards*, newly hired Lead Teachers hold an associate's degree that includes 12 credits in early education, and that within 14 years, newly hired Lead Teachers hold a bachelor's degree that includes 18 credits in early education.⁴⁶ While this differs significantly from the current staff qualification regulations for programs licensed by the Department of Early Education and Care—which require a Lead Teachers to have some training in child development plus work experience—research suggests that to guarantee high-quality early learning opportunities through MA UPK, the Commonwealth should make teacher quality an uncompromised element of the program.⁴⁷

Early childhood research draws a direct line between program quality, the formal education level of the teacher and adequate compensation. Studies have found that the most effective early education teachers have bachelor's degrees and that teachers with a four-year college degree are strongly and consistently linked to early education program quality.⁴⁸ Some studies have also found that specialized training in early childhood education, whether part of or supplemental to a bachelor's degree, is also linked to early education program quality.⁴⁹

This research has gained the attention of policymakers across the country. The United States Congress has taken steps to raise teacher qualifications in Head Start programs and 13 of the 17 states investing in pre-kindergarten programs require Lead Teachers to hold a minimum of a bachelor's degree or its equivalent.⁵⁰

Attracting and retaining teachers is also strongly associated with program quality in early education settings. Researchers have found that preschool teacher compensation is directly associated with educational quality as it impacts teacher qualifications, teacher behaviors, morale and turnover rates.⁵¹ Staff turnover can be harmful to children's learning and development by compromising the strong, trusting relationships that are vital for children's cognitive, social and emotional

development.⁵² A study conducted on teacher retention by the former Office of Child Care Services found turnover rates as high as 29% among Massachusetts' early education programs. This contrasts dramatically with a 10% rate of turnover for education occupations generally in the state.⁵³ In order to ensure high-quality early learning experiences for children participating in the MA UPK program, teacher quality and the compensation required to attract and retain high-quality teachers must be accounted for in estimating the cost of the MA UPK program.

“Early childhood research draws a direct line between program quality, the formal education level of the teacher and adequate compensation.”

Other considerations regarding the cost of ensuring program quality include the wide range of resources needed by a qualified teacher to deliver high-quality early learning experiences to children. These may include: support by well-qualified assistant teachers or paraprofessionals, as well as by program directors or principals; access to materials and equipment for implementation of a curriculum that contributes to children's learning of language, mathematics, science, music, movement, and other concepts and skills; assessments of a child's progress to inform teachers and parents of opportunities for additional learning; professional development, technical assistance and accreditation to foster teacher and organizational transformation in support of high-quality early education; comprehensive services, such as health and dental screenings and mental health supports, to provide important resources for at-risk children and families; and, initiatives to help smooth the transition from early education programs into the K-12 public school system in order to improve a child's chances for future school success.

Finally, the costs of MA UPK implementation must also account for basic infrastructure needed to ensure accountability for the use of public funds. Data main-

The MA UPK program quality standards should thus guarantee:

- An early education program that meets the Department of Education's *Early Childhood Program Standards for Three and Four Year Olds* and *Guidelines for Preschool Learning Experiences*;
- At least one teacher per classroom or family child care setting who holds a bachelor's degree and who has received specialized training in early childhood education;
- Highly qualified staff including assistant teachers or paraprofessionals and program directors or principals;
- Support for vital quality enhancements such as: professional development, curriculum development and implementation, materials and equipment, child assessments, transitions to kindergarten, technical assistance, comprehensive services like health and dental screenings and mental health supports where needed, accreditation, and data maintenance and reporting.

tenance and reporting is an integral part of high-quality program administration and its capacity to function within, and be accountable to, the state's system of early education and care.

The Cost of Quality

What will it cost to provide Massachusetts' three-, four- and five-year-old children access to early education programs meeting these standards under MA UPK? If asked in a vacuum, or in a state without an infrastructure on which to build, this question is relatively easy to answer. But Massachusetts has a strong foundation of private and public providers of early education with the ability, or potential, to deliver high-quality early learning experiences for children.

The relevant—and more complex—question is: *What is the incremental cost of providing universal access to high-quality early education in Massachusetts?* To determine the differential between what exists now and the early education that should be provided to preschool-aged children under MA UPK, the next section of the report looks at the existing federal, state and private resources supporting early education and analyzes the current capacity of providers to serve the preschool-aged children of Massachusetts.

PART III

Early Education in Massachusetts

Early Education Programs in Massachusetts

Early education for preschoolers may go by one or more of the following names: child care, day care, nursery school, preschool, pre-kindergarten (or pre-k) or early education. It can take place in a variety of settings, including community-based centers, family child care homes and public and private schools. Some programs are part-day, part-year, while others offer full-day, full-year services. Programs can be delivered in the private sector by non-profit or for-profit centers, or sole proprietorship family child care homes; they can also be delivered through local public schools or through federally-funded programs like Head Start. This mixed system is the foundation upon which the Commonwealth has committed to build its Massachusetts Universal Pre-Kindergarten program.⁵⁴

The Department of Early Education and Care

In 2005, the Massachusetts Legislature created a first-in-the-nation independent Board and Department of Early Education and Care (EEC). This department consolidated the administration of the early education programs previously under the jurisdictions of the Office of Child Care Services and the Early Learning Services division of the Department of Education. The EEC licenses early education programs, distributes most public funds available to support early education, oversees licensed programs, and has a statutory mandate to implement a program of universal, high-quality early education for the preschool-aged children of the Commonwealth.⁵⁵ Under the EEC's licensing regulations a preschool-aged child is defined as a child aged two years and nine months through kindergarten eligibility.⁵⁶

Current Funding of Early Education Programs in Massachusetts

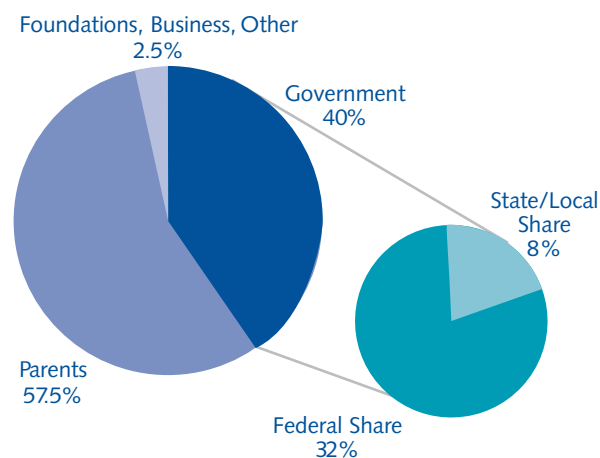
Who Pays for Early Education?

The Commonwealth's contributions to early education financing are small in comparison to the resources con-

tributed by the federal government and by families paying out-of-pocket for services.

Studies of early education financing in the United States calculate that the majority of early education costs in the United States are borne by parents—anywhere from 55% to 60%.⁵⁷ Government subsidies—from the federal, state and local governments—account for about 35% to 45% of early education funding.⁵⁸ It is estimated that federal funding accounts for 80% of the public dollars spent on early education in Massachusetts.⁵⁹ This suggests that the Commonwealth contributes approximately 20% of the public funds, or 8% of the total public and private resources spent on early education in Massachusetts.

CHART 2. Total Current Expenditures on Early Education by Source



Sources of Percentage Breakdown: W.S. Barnett and Leonard N. Masse, "Funding Issues for Early Childhood Care and Education Programs," National Institute for Early Education Research, Chapter 8 in *Early Childhood Education and Care in the USA*, Edited by Debby Cryer, Ph.D., & Richard M. Clifford, Ph.D., Brookes Publishing, 2003; and A. Mitchell, L. Stoney, and H. Dichter, "Financing Child Care in the United States: An Expanded Catalog of Current Strategies," The Ewing Marion Kauffman Foundation, 2001. Source of Massachusetts Expenditures: Percentages calculated by EEA and CLMS based on FY04 budget data and research data on spending breakdown.

The remainder is contributed by private organizations. Philanthropies may support programs through grants or scholarships to enrolled children. Employers may subsidize early education programs or offer dependent

care assistance plans to their employees. However, the overall percentage of private organizations' support for early education remains low, around 1% to 5% (Chart 2).⁶⁰

A rough estimate of the federal and state early education-related expenditures for children ages three to five in Massachusetts was \$528 million in FY04.⁶¹ If government spending accounts for approximately 40% of total spending, then total expenditures on early education can be estimated at more than \$1.3 billion. About 57.5% (\$759 million) of the total is paid directly by parents. The remaining percentage, approximately 2.5% (\$33 million) comes from foundations, businesses or other private sources.

Current Capacity of Early Education Providers in Massachusetts

Providers of early education are categorized, for EEC administrative purposes, as licensed, license-exempt or informal. Licensed programs include community-based for-profit and non-profit centers and family child care homes. License-exempt programs are run by the public schools, where the Department of Education provides oversight in lieu of the EEC. Informal care

arrangements are those typically made between parents and relatives, friends, neighbors and babysitters and are not part of the EEC licensing system.

How many early education providers are in Massachusetts?

CLMS' review of the available records from the Department of Early Education and Care and the Department of Education revealed that there are a total of 11,400 licensed or license-exempt providers of early education in the state that have some capacity to serve children ages three, four and five in a center-based, family-based or public school-based preschool or kindergarten classroom. A total of 10,823 providers or 95% of the total serve preschool-aged children and the remaining 5% serve only children enrolled in kindergarten.⁶²

Where are providers located?

CLMS looked at provider location statewide and within six regions: Metro Boston, Metro West, Northeast, Southeast, Central Massachusetts, and Western Massachusetts. Family child care providers represented the largest number of providers in each of the six regions; center-based providers were the second largest group, and public school preschool providers represent the smallest share of all providers in the state and each

TABLE 1. Number of Preschool and Kindergarten Providers in Massachusetts and in Each of the Six Regions, by Type of Provider, 2006 (Public school data pertain to the 2005-06 school year)

	Total	Western MA	Central MA	Northeast	Metro West	Southeast	Metro Boston
Total PreK & K	11,400	1,698	1,850	2,593	2,111	1,776	1,372
Public school-only K	577	87	59	120	148	121	42
Total PreK*	10,823	1,611	1,791	2,473	1,963	1,655	1,330
Total PreK*	10,823	1,611	1,791	2,473	1,963	1,655	1,330
Group/center-based	2,223	275	239	372	640	431	266
Family provider	8,101	1,246	1,470	2,007	1,238	1,138	1,002
Public school preschool, total	499	90	82	94	85	86	62
Only PreK	63	6	15	10	14	15	3
PreK & K	436	84	67	84	71	71	59

*Total PreK=total PresK & K minus public school-only K

Sources: Data on public schools with preschool and kindergarten enrollment were obtained from "2005-06 Enrollments by Grade," Massachusetts Department of Education; data on licensed group (center-based) and family-based care providers were obtained from "Provider Regional List," Massachusetts Department of Early Education and Care.

of the six regions, ranging from a high share of 5.6% in Western Massachusetts and 5.2% in the Southeast region to a low share of just 3.8% in the Northeast region. However, there are wide variations in the location of these three different provider types across regions of the state (Table 1).

How many programs presently have the capacity to deliver high-quality early education?

CLMS used the standards of the two national accreditation agencies—the National Association for the Education of Young Children (NAEYC) and the National Association for Family Child Care (NAFCC) as a proxy measure for “quality” early education.⁶³ While there is not a direct correlation between the standards of the national accrediting agencies and the recommended program standard for the MA UPK program, and program accreditation alone does not guarantee the provision of high-quality early education to children, the accreditation data are a standard and accepted proxy for measuring program quality.

“...the state’s accredited preschool capacity is capable of enrolling only 22% of all preschool-aged children.”

Out of a total of 11,400 preschool and kindergarten education providers licensed in Massachusetts, only 1,241 or 11% are accredited by either NAEYC or NAFCC. The rate of accreditation among preschool providers (excluding public schools with kindergarten programs only) is 10.6%. Within all preschool providers, the rate of accreditation is the highest among center-based providers. Nearly 41% of all center-based providers in Massachusetts are accredited. Public school preschool programs have an accreditation rate of 35%. Public schools operating only preschool programs have a higher rate of accreditation (41%) compared to those offering preschool as well as kindergarten programs (34%). Public schools that did not run preschool programs but operated kindergarten programs had an accreditation rate of 16%. Less than 1% of all family child care providers in the state have NAFCC accreditation.⁶⁴

Summary Portrait of Early Education Providers and Capacity in Massachusetts

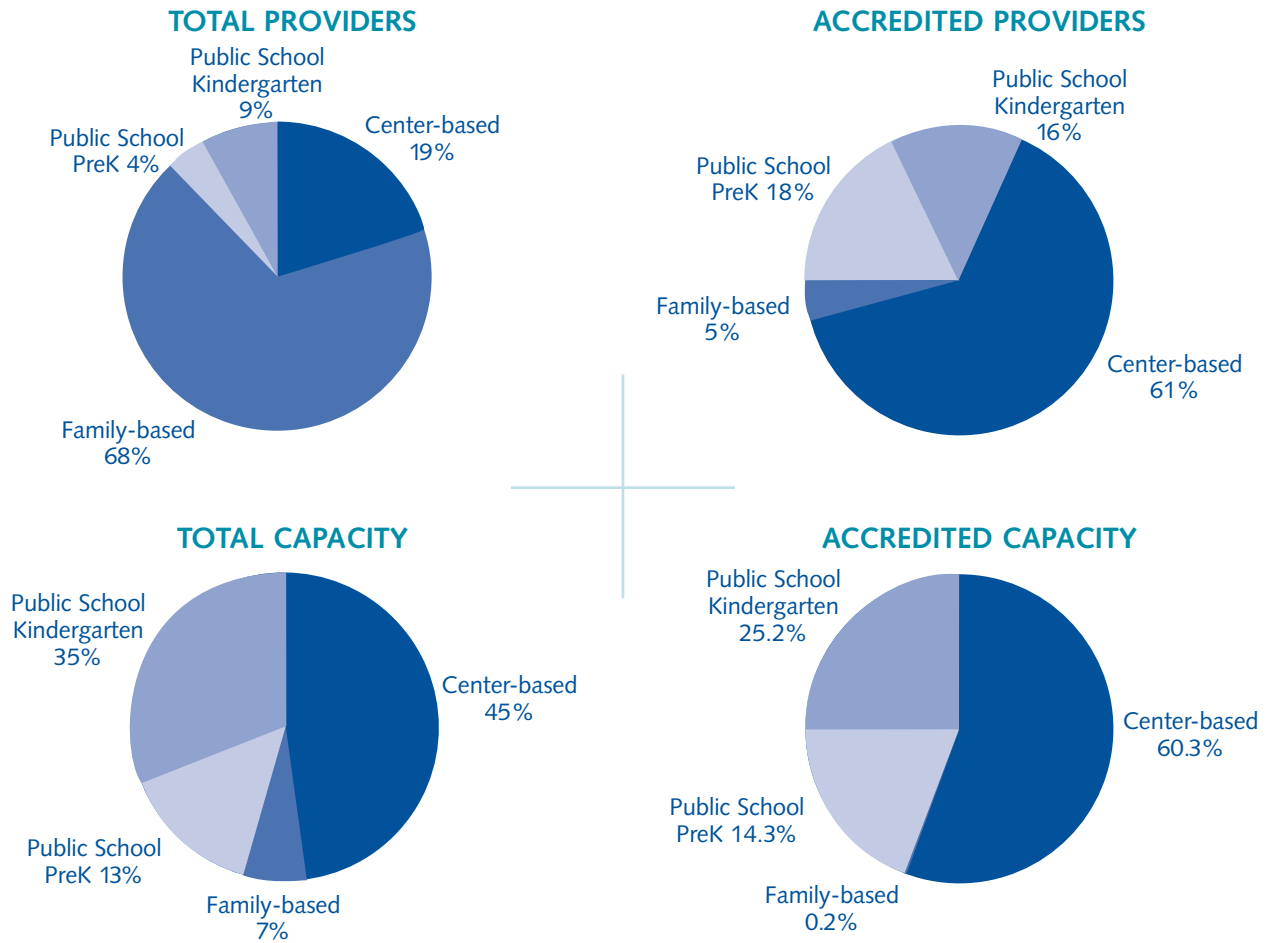
Chart 3, below, contains a portrait of all providers, accredited providers, the total capacity and accredited capacity by type of provider. The chart also includes information on public school kindergarten programs because they serve many five-year-olds. This analysis permits a direct comparison of the composition of each of these categories by type of provider.

- Family-based providers account for over two-thirds of all providers of early education but only 5% of all accredited providers, 7% of the total early education capacity and 0.2% of the accredited early education capacity in the state.
- Center-based providers account for 19% of all providers and 61% of all accredited providers. Forty-five percent of the total early education capacity is housed in center-based programs and a larger share of the accredited early education capacity comes from center-based programs.
- Public school preschool programs account for 4% of all providers, 18% of all accredited providers, 13% of total early education capacity and 14% of the total accredited early education capacity in the state. In addition, public school kindergartens account for 9% percent of all providers, 16% of all accredited providers, 35% of total early education capacity and one-quarter of the accredited early education capacity in the state.

What proportion of preschool-aged children does Massachusetts have the capacity to educate in a “high-quality” early education setting?

A comparison of the total preschool capacity of accredited programs (54,154)—including center-based, family-based and public school-based early education settings—with the number of preschool-aged children (241,577 under the 2005 Census Population Projection) indicates that the state’s accredited preschool capacity is capable of enrolling only 22% of all preschool-aged children. Adding in the total capacity of accredited public school kindergarten programs—which serve some five-year-olds—increases the accredited preschool and kindergarten capacity to children ratio to 30%.

CHART 3. Percentage Distribution of Early Education and Care Providers and Capacity in Massachusetts, by Type of Provider, 2006



Sources: Data on public schools with preschool and kindergarten enrollment were obtained from "2005-06 Enrollments by Grade," Massachusetts Department of Education; data on licensed group (center-based) and family-based care providers were obtained from "Provider Regional List," Massachusetts Department of Early Education and Care; data on accredited public school- and center-based providers were obtained from the National Association for the Education of Young Children (NAEYC); data on accredited family-based providers were obtained from the National Association for Family Child Care (NAFCC).

PART IV

The Preschool-Aged Children of Massachusetts

In order to better understand the characteristics of the preschool-aged children of Massachusetts, and the experiences and desires of their families when it comes to early education, EEA sought two research initiatives: an [Early Education Massachusetts Household Survey](#) conducted by the Opinion Dynamics Corporation and published as *The Statewide Parent Survey* and a [statistical analysis of demographic data](#) conducted by Drs. Paul Harrington and Neeta Fogg of the Northeastern University CLMS. These data inform the cost estimates associated with full implementation of the MA UPK program for preschool-aged children in the Commonwealth.

Early Education Massachusetts Household Survey

The statewide Early Education Massachusetts Household Survey was designed to gain insight into the experiences and desires of parents of young children in Massachusetts, as well as to develop a profile of current early education and care arrangements. Among the major findings of the survey were the following:⁶⁵

- Almost all young children regularly receive early education and care from someone other than their parents. In fact, 92% of children receive early education and care from someone other than a parent at least once a week.
- On average, children were enrolled in an early education program 3.9 days per week, 27 hours per week for a total of 1,082 hours per year.
- On average, Massachusetts' parents of young children report spending \$574 per month per child for early education, or \$6,888 per year.
- Parents of children ages three to five report spending, on average, \$525 per month per child, or \$6,300 per year.⁶⁶
- In selecting early education and care arrangements, parents indicate that issues of quality are of greater importance than issues of cost and convenience.
- Parents felt it was very important that early education and care arrangements provide social and emotional development and prepare children for school. Many

parents indicated that they wished their current arrangements were better in this regard.

- Latino and black parents are more likely than white parents to say it is important that early education programs prepare children for school and are less likely to think their current arrangements are doing so.
- Parents expressed very high levels of interest in enrolling their child in a universal pre-kindergarten program. Interest in universal preschool is especially high among those with household incomes between \$60,000 and \$100,000 (87%), non-married parents (88%), Latinos (89%), and those with household incomes of \$25,000 or less (89%).

“Parents expressed very high levels of interest in enrolling their child in a universal pre-kindergarten program.”

Demographics of Massachusetts Children Ages Three to Five

Economists at the Northeastern University Center for Labor Market Studies analyzed the 2000 U.S. Census to determine the demographic characteristics of Massachusetts' young children.

In the year 2000, there were 239,190 children between the ages of three and five. By 2005, the absolute numbers of children in this age range had increased slightly, to about 241,577. Census population figures can be broken down into six geographic regions throughout the state: Western Massachusetts, Central Massachusetts, Northeast, Metro West, Southeast, and Metro Boston. The percentage of preschool children in each region is presented in Table 2.

Poverty and Economic Hardship

The decennial census survey contains information about annual family and household incomes. This information is combined with the official poverty

TABLE 2. Number of 3-5 Year Old Children in Massachusetts and in Six Regions within the State, 2000

	Western MA	Central West	Northeast	Metro West	Southeast	Metro Boston	Mass.
Total age 0-5	58,454	70,640	108,448	106,369	86,821	47,150	477,882
% distribution	12%	15%	23%	22%	18%	10%	100%
3-5 years old	30,083	36,474	53,652	52,644	44,567	21,770	239,190
% distribution	13%	15%	22%	22%	19%	9%	100%
3 years old	9,929	10,962	17,472	17,583	14,384	6,986	77,316
4 years old	9,570	12,065	18,110	17,532	15,158	7,477	79,912
5 years old	10,584	13,447	18,070	17,529	15,025	7,307	81,962
Percent, Total	100%	100%	100%	100%	100%	100%	100%
3-5 years old	51%	52%	49%	49%	51%	46%	50%
3 years old	17%	16%	16%	17%	17%	15%	16%
4 years old	16%	17%	17%	16%	17%	16%	17%
5 years old	18%	19%	17%	16%	17%	15%	17%

Source: U.S. Census Bureau, Census 2000 Public Use Microdata Samples (PUMS), Massachusetts public use data file; tabulations by Center for Labor Market Studies.

income threshold to produce the poverty rate. The poverty rate measures the proportion of individuals or families whose income is below the official poverty income threshold. The 2000 Census used the 1999 official poverty income threshold; for a family of three it was \$13,290. Measuring a range of income to poverty ratios of families of three- to five-year-old children—estimates of the ‘distance’ of the family income from the poverty threshold—provides a picture of the number of children who live in families with different degrees of economic hardship.⁶⁷

The state had 30,000 preschool age children living in poor families, yielding a poverty rate of just below 13%. About 39,000 children (16.6%) were living in families whose income was below 130% of the official poverty line. Statewide, 19,600 preschool age children (8%) were living in families with incomes that were higher than 130% of the poverty line but lower than 185% of the poverty line. One out of four children between the ages of three and five (58,700) had family income levels that made them eligible for free or subsidized school lunch under the National School Lunch

Program. Nearly 27% of the state’s youngest children (63,500) lived in families with income below two times the poverty threshold and 104,600 or 44.3% lived in families with annual incomes below three times the poverty line.

Children residing in the Metro Boston and Western Massachusetts regions had the highest incidence of poverty. Nearly 27% of the children in the Metro Boston region and 22% of their counterparts in Western Massachusetts lived in poor families. Nearly one half (49%) of the three- to five-year-old children in the Metro Boston region and 41% in the Western Massachusetts region were being raised in families with incomes below two times the poverty line or \$26,500 for a family of three. The lowest incidence of poverty was among children residing in the Metro West region. Only 3,200 children out of 52,300 were living in families with incomes below the poverty line, representing a 6% poverty rate. Poverty and economic hardship was also slightly below the state average in the Central Massachusetts, Northeast, and Southeast regions.

State and federal eligibility guidelines for early education subsidies are based upon a comparison of the income of a child's family with the state median family income (SMI). Presently, families can apply for subsidies if their income is less than 50% of the SMI and they remain eligible so long as their income does not exceed 85% of the SMI. In 2000 the Massachusetts SMI was \$61,400; therefore 50% of SMI was \$30,700 and 85% of SMI was \$52,190.

A quarter of the state's three- to five-year-old residents (58,600) had family incomes that were lower than 50% of the SMI and 44% (104,900) had incomes that were lower than 85% of the SMI. In the Metro Boston and the Western Massachusetts regions, 45% and 39% of the children, respectively, lived in families with incomes below 50% of the SMI. Over four out of ten young children in these communities would meet the income eligibility criterion for subsidized care. Two-thirds of the three- to five-year-old children in the Metro Boston area and 62% in the Western

Massachusetts region lived in families that had incomes below 85% of the SMI.

The share of children residing in families with less than half the SMI level income varied among the remaining four regions from 25% in the Southeast region, 24% in Central Massachusetts, 20% in the Northeast region, and 12% in the Metro West region. Children living in families with incomes below 85% of the SMI accounted for nearly one half of the three- to five-year-olds in the Southeast region, 44% in Central Massachusetts, 37% in the Northeast region and 28% in the Metro West region (Table 3).⁶⁸

These data from the Early Education Massachusetts Household Survey and the demographic analysis of Massachusetts' children ages three to five inform the estimate of costs associated with full implementation of universal, high-quality early education in Massachusetts.

TABLE 3. Distribution of 3-5 Year Old Children in Massachusetts by the Ratio of Their Family Income to the Official Poverty Income Threshold

Ratio of Income to Poverty Threshold	Western MA	Central MA	Northeast	Metro West	Southeast	Metro Boston	Mass.
Number with a valid poverty status	29,489	35,950	53,188	52,322	44,040	21,312	236,301
Percent of the poverty							
Poor (Under 100%)	6,439	3,865	5,407	3,186	5,441	5,665	30,003
Under 130%*	8,413	5,459	6,959	4,234	7,240	6,819	39,124
130% to < 185%**	3,006	3,015	4,130	2,504	4,145	2,821	19,621
Below 200%	12,111	9,054	12,118	7,421	12,409	10,391	63,504
Below 300%	18,283	15,446	20,366	14,120	21,561	14,855	104,631
At or above 300%	11,206	20,504	32,822	38,202	22,479	6,457	131,670
Percent Distribution							
Poor (Under 100%)	21.8%	10.8%	10.2%	6.1%	12.4%	26.6%	12.7%
Under 130%*	28.5%	15.2%	13.1%	8.1%	16.4%	32.0%	16.6%
130% to < 185%**	10.2%	8.4%	7.8%	4.8%	9.4%	13.2%	8.3%
Below 200%	41.1%	25.2%	22.8%	14.2%	28.2%	48.8%	26.9%
Below 300%	62.0%	43.0%	38.3%	27.0%	49.0%	69.7%	44.3%
At or above 300%	38.0%	57.0%	61.7%	73.0%	51.0%	30.3%	55.7%
Income relative to State Median Family Income (SMI)							
Total 3-5	30,037	36,460	53,521	52,604	44,537	21,690	238,849
50% SMI or lower	11,680	8,706	10,903	6,459	10,992	9,855	58,595
85% SMI or lower	18,463	15,847	20,064	14,643	21,207	14,676	104,900
Percent Distribution							
50% SMI or lower	38.9%	23.9%	20.4%	12.3%	24.7%	45.4%	24.5%
85% SMI or lower	61.5%	43.5%	37.5%	27.8%	47.6%	67.7%	43.9%

*Eligible for free school lunch **Eligible for subsidized school lunch

Source: U.S. Census Bureau, Census 2000 Public Use Microdata Samples (PUMS), Massachusetts public use data file; tabulations by Center for Labor Market Studies.

PART V

The Cost of Universal, High-Quality Early Education

What will it cost to implement universal, high-quality early education for the three-, four- and five-year-old children of Massachusetts? More specifically, *what is the incremental cost of implementing MA UPK, a universal, high-quality early education program that is built upon the strengths and resources of the existing system?*

To implement an early education program meeting the program quality standards linked to successful outcomes for children, and drawing from the analyses in Part III of this report exploring the financial resources and capacity of today's early education field, as well as information provided by the Early Education Massachusetts Household Survey and the demographic analysis of Massachusetts' children ages three to five described in Part IV, CLMS and EEA have estimated the total costs of implementing the Massachusetts Universal Pre-Kindergarten program.

In order to fulfill the Commonwealth's commitment to provide universal access to high-quality early education it will cost \$600 million or just over \$3,000 per child in 2006 dollars. This figure reflects the investment needed in addition to all public and private sources of funds presently in the early education system.

The Cost of Quality

CLMS estimated the cost of quality according to the following guiding principles:

- Produce cost estimates that are credible and can withstand tough scrutiny;
- Minimize the role of assumptions and guesses about program costs;
- Use valid empirical data as the basis for cost estimates; and
- Develop cost estimates consistent with the Early Education for All Campaign's vision of a high-quality early education program.

To make estimates of the costs associated with components of a high-quality early education program, CLMS analyzed a wide range of data sources. Elements of the CLMS analysis include:

- Population estimates derived from the U.S. Census Bureau's 2000 decennial census.
- Population estimates derived from the U.S. Census Bureau's 2004 Census State Population Estimates program.
- Projected population estimates derived from the U.S. Census Bureau's 2005 Census State Population Projections Program.

\$600 million for Massachusetts Universal Pre-Kindergarten would support:

- An expected participation rate of 82% of preschool-aged children, based on the responses of parents of children ages three to five who indicated that they would likely enroll their child in a universal, high-quality early education program.
- One teacher holding a bachelor's degree and one assistant teacher meeting the current EEC licensing requirements in every classroom. It also supports program directors who hold a bachelor's degree credential, as well as other qualified staff needed to deliver high-quality education in a classroom or family child care setting.
- Quality enhancements including: professional development, curriculum development and implementation, materials and equipment, child assessments, transitions to kindergarten, technical assistance, comprehensive services like health and dental screenings and mental health supports where needed and accreditation.
- Infrastructure to support data maintenance and reporting.
- Ensuring that the MA UPK program is affordable to all families that would choose to enroll their children.

- Alternative pre-kindergarten enrollment levels and rates derived from: CLMS analysis of the U.S. Census Bureau's 2000 decennial census public use micro data files; National Center for Education Statistics, Digest of Education Statistics, U.S. Department of Commerce; Census Bureau, Current Population Survey (CPS), October 1980 through October 2004, unpublished tabulations; and CLMS analysis of data collected from the Opinion Dynamics Early Education Survey of Massachusetts Households, 2006.
- Estimates of the expected aggregate demand for early education derived from the Early Education Survey of Massachusetts Households data to measure the demand for services as represented by the average annual number of hours that parents of three- to five-year-old children in the state would enroll their children in the proposed new high-quality early education program.

“...to fulfill the Commonwealth’s commitment to provide universal access to high-quality early education it will cost \$600 million or just over \$3,000 per child.”

- Teacher to child ratios derived from National Center for Education Statistics, Digest of Education Statistics, 2005, Table 65, Teachers, Enrollment and Pupil Teacher Ratios in Public Elementary and Secondary Schools, by State.
- Estimates of the number of currently employed pre-kindergarten teachers in Massachusetts derived from the U.S. Bureau of Labor Statistics, Occupational Employment Statistics Survey Program, Massachusetts Estimates.
- Estimates of the hourly and annual earnings of pre-kindergarten teachers in Massachusetts derived from Bureau of Labor Statistics, Occupational Employment Statistics Survey Program, Massachusetts Estimates.
- Estimates of the earnings of highly qualified teachers with the skills needed to deliver high-quality early education derived from the U.S. Bureau of the Census, National Survey of College Graduates (NSCG), 2003. Estimates were produced by CLMS from analysis of the NSCG 2003 public use data files.

- Estimates of non-wage compensations costs derived from the U.S. Bureau of Labor Statistics, Employer Costs for Employee Compensation, March 2006, Table 2 Employer Costs Per Hour Worked for Employee Compensation and Costs as a Percent of Total Compensation, Civilian Workers, by Occupational And Industry Group, March 2006.

Using these elements, CLMS applied the following methodology to estimate the cost of quality.

1. Estimate the size of the total population of three- to five-year-olds in Massachusetts;
2. Estimate the *take-up rate*, the proportion of age-eligible children likely to enroll;
3. Determine the expected enrollment (total 3-5 year old children * take-up rate);
4. Estimate average current utilization of early education and care programs in hours per year;
5. Determine the average number of hours of early education per year to be delivered (expected enrollment * average current utilization of early education and care programs);
6. Determine the number of bachelor’s-degreed teachers needed (hours of early education per year / 1,690 = Full Time Equivalents; Full Time Equivalents / teacher to child ratio = number of bachelor’s degreed teachers needed);
7. Determine the mean incremental teacher compensation costs (estimate target compensation (earnings of pre-kindergarten and kindergarten teachers holding a bachelor’s degree + non-wage compensation); estimate current compensation of all pre-kindergarten teachers; subtract current compensation from target compensation);
8. Determine the aggregate incremental teacher compensation costs (mean incremental teacher compensation costs * number of bachelor’s-degreed teachers needed);
9. Determine the mean incremental program director compensation costs (estimate target compensation (earnings of pre-kindergarten and kindergarten directors holding a bachelor’s degree + non-wage compensation); estimate current compensation of all pre-kindergarten directors; subtract current compensation from target compensation);

10. Determine the aggregate incremental program director compensation costs (mean incremental program director compensation costs * number of program directors);
11. Determine the total incremental labor costs (aggregate incremental teacher compensation costs + aggregate incremental program director compensation costs);
12. Determine the quality enhancement costs (10% of total incremental labor costs).

Together, these elements yielded a cost of \$303 million to provide high-quality early education to every preschool-aged child in the Commonwealth whose family would choose to participate. This figure does not, however, account for the costs associated with ensuring that high-quality early education is affordable to all families.

The Cost of Affordability

The Massachusetts Legislature has committed to provide universal *access to high-quality* early education for every preschool-age child whose family chooses to participate. As a result, the estimated total cost, \$600 million, includes the inputs linked to effective early learning opportunities as well as funds to ensure that the MA UPK program is affordable to all families.

Today, many Massachusetts families with young children struggle to afford quality early education programs. In a recent national study, the Commonwealth was ranked the fourth “least affordable” state in the nation for preschool education.⁶⁹ Parents responding to the Early Education Massachusetts Household Survey most frequently cited cost as an element of their current early education and care arrangements that they would most like to change.⁷⁰ And thousands of preschool-aged children from families qualifying for public subsidies to help them access early education programs are placed on a waitlist because funds are not available to cover all eligible children.⁷¹

Under the MA UPK program, existing challenges to affordability could persist, and new issues could arise. It is presently impossible, given the data available, to quantify the magnitude of investment needed to ensure affordability, but the challenge of accessing affordable, high-quality early education is palpable to many of Massachusetts’ families.

In order to address both the current and anticipated affordability challenges, the Early Education for All Campaign has determined that for every dollar invested in high-quality early education, another should be invested to ensure its affordability to families. Though the Campaign believes that early education is worthy of becoming a free public good, this recommendation acknowledges the fiscal climate in the state and shares the responsibility for cost between the state and families with young children. By investing in both quality and affordability, this approach would give the Legislature and the Department of Early Education and Care the wherewithal to ensure that a high-quality early education is affordable and accessible to all preschool-aged children in the Commonwealth.

Looking Ahead

As state policymakers implement the Massachusetts Universal Pre-Kindergarten program, they must determine how to invest and allocate \$600 million to achieve the goal of universal access to high-quality early education. While the Legislature and the Department of Early Education and Care are best situated to make the myriad of policy decisions inherent in MA UPK implementation, the Early Education for All Campaign offers guiding principles for implementation of universal early education in Massachusetts:

- Universally accessible for all three, four, and five-year olds;
- Voluntary for participation by children, families, and providers;
- Flexible enough to meet the diverse needs of children and families;
- Delivered through the existing mixed system of public and private programs;
- Defined by a universal program standard that promotes healthy emotional, social, physical, and cognitive outcomes for children;
- Designed and funded to recruit, train, and retain qualified staff;
- Built on current program and system strengths; and
- Phased-in incrementally.

EEA recommends that the Commonwealth phase-in incremental investments in MA UPK over five years, by 2012. The timeframe in which universal, high-quality

early education becomes implemented impacts the futures of Massachusetts' young children and the state economy. EEA believes that this timeframe is sufficient to ensure the responsible and effective use of funds, while keeping faith with voters and families who would like for children to participate in MA UPK.

During this five year period, the level of incremental investment should account for the capacity of the Department of Early Education and Care to effectively administer and ensure accountability for the funds, opportunities to build the infrastructure and incentives needed to reward high-quality early education, the resources required by providers to deliver high-quality early education, and the funds needed to ensure affordability for all families choosing to enroll a preschool-aged child in MA UPK. Funding levels—even during a period of incremental, step-wise investment—must be

sufficient to sustain the Commonwealth's goals of access to high-quality early education for three-, four- and five-year-olds. "Inadequate funding limits access, as well as program quality and effectiveness. Poorly funded programs...put at risk the gains in children's learning and development and the high returns to taxpayers that research has shown is possible," writes Dr. W. Steven Barnett of NIEER.⁷²

Research has demonstrated the benefits of high-quality early education for children of all backgrounds, but the magnitude of benefits is greatest for low-income children. Accordingly, the Early Education for All Campaign recommends that the Commonwealth prioritize the high-quality early educational opportunities of Massachusetts' low-income children while moving toward universal access for all three-, four- and five-year-olds.

PART VI

Conclusion

Massachusetts' taxpayers could realize a significant return on an investment of \$600 million per year to provide high-quality early education to three-, four- and five-year-olds. While these financial benefits accrue to taxpayers, research across the disciplines of neuroscience, early childhood development and economics finds that participating children experience significant short- and long-term benefits including: improved cognitive, linguistic, mathematic and social skills; improved chances for success in school, graduation from high school and college attendance; and greater likelihood of becoming a productive member of the workforce, contributing to the tax base and owning a home.

Massachusetts has joined the vanguard of states implementing universal early education. With the creation of

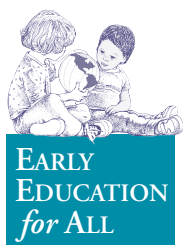
the new Department of Early Education and Care, the ongoing commitment to provide high-quality universal early education, and the funding of the Massachusetts Universal Pre-Kindergarten pilot program, the Commonwealth has laid the building blocks for responsible, accountable and effective investment in high-quality early learning opportunities for preschool-aged children. With the estimation of costs associated with implementation of MA UPK presented in this report, the state can now assess the appropriate level of incremental investment needed over the next five years to phase-in and fulfill its commitment to universal access to high-quality early education for the preschool-aged children of the Commonwealth.

Footnotes

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- 42 Massachusetts General Court Legislative Session 2004-2006, *An Act Making Appropriations for the Fiscal Year 2007*, line item 3000-5075 referencing M.G.L. Chapter 15D.
- 43 Massachusetts General Court Legislative Session 2004-2006, *An Act Relative to Early Education and Care*, Section 25 "SECTION 25: Said chapter 15D is hereby further amended by adding the following ... sections: ... Section 13 (b) The Massachusetts universal pre-kindergarten program shall be delivered through a mixed system of providers and programs. Programs shall be sufficiently flexible to serve families with various work schedules...."
- 44 The *Standards* address the following areas: (1) Interactions between staff and children and among children; (2) Curriculum and assessment; (3) Physical environment; (4) Family involvement; (5) Staff qualifications and staff development; (6) Group ratio and size; (7) Health and safety; (8) Nutrition and food service; (9) Transportation; (10) Administration; and (11) Accreditation and evaluation.
- 45 Massachusetts General Court Legislative Session 2004-2006, *An Act Relative to Early Education and Care*, Section 100 "SECTION 100. Notwithstanding any general or special law to the contrary, in developing the program standards required by sections 11 and 13 of chapter 15D, as inserted by this act, *the board of early education and care shall adopt the standards and requirements entitled Early Childhood Program Standards For Three and Four Year Olds and those entitled Guidelines For Preschool Learning Experiences approved by the board of education in April of 2003, until such time as any superseding standards and requirements are adopted by the board.* The department shall base any superseding standards on the Early Childhood Program Standards promulgated by the department of education, the Head Start Standards, and such other program quality standards as the department considers relevant and applicable.
- 46 Early Childhood Advisory Council to the Massachusetts Board of Education, *Early Childhood Program Standards for Three and Four Year Olds*, Area 5B, (Malden, MA: Massachusetts Department of Education, 2003), 24.
- 47 Current EEC Certification Requirements for Massachusetts Preschool Lead Teachers:
- Must be at least 21 years of age or have a high school diploma or equivalent and meet one of the following sets of requirements:
 - Have successfully completed three credits in category Child Growth and Development and have nine months of work experience or one practicum; or
 - Have a Child Development Associate (CDA) Credential; or
 - Have graduated from a two-year high school vocational program in early childhood education, approved by the Office for both the education and experience requirements and have been evaluated and recommended by the program instructor.
 - The following education may substitute for a portion of the required work experience:
 - An Associate's or Bachelor's degree in early childhood education or a related field of study may substitute for six months of the required experience.
 - A Bachelor's degree in an unrelated field of study may substitute for three months of the required experience.
- To be qualified as a preschool teacher, three months of the required work experience must be in caregiving to preschool age children.
- See <http://www.eec.state.ma.us/docs/TQApplication.pdf>
- 48 L. Berk, "Relationship of caregiver education to child-oriented attitudes, of satisfaction, and behaviors toward children," *Child Care Quarterly*, 14:2 (1985), 103-129; C. Howes, E. Smith and E. Galinsky, *The Florida child care quality improvement study: Interim Report*, (New York: Families and Work Institute (1995); N.L. Marshall, et al., *The cost and quality of full day, year-round early care and education in Massachusetts preschool classrooms*, (Cambridge, MA: Wellesley Center for Women and Abt Associates, 2001); N.L. Marshall, et al. *Early Care and Education in Massachusetts Public School Preschool Classrooms*, (Cambridge, MA: Wellesley Centers for Women and Abt Associates Inc., 2002); M. Whitebook, C. Howes, and D. Phillips, *Who Cares? Child Care Teachers and the Quality of Care in America (First report of the National Child Care Staffing Study)*. (Washington, DC: Center for the Child Care Workforce, 1990); N. Zill et al., *Head Start FACES: Longitudinal Findings on Program Performance, Third Progress Report*, (Washington, DC: Research, Demonstration and Evaluation Branch & Head Start Bureau, Administration on Children, Youth and Families, U.S. Department of Health and Human Services, 2001); and Shonkoff.
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- 51 W. Steven Barnett, "Low Wages = Low Quality: Solving the Real Preschool Teacher Crisis," *Preschool Policy Matters*, National Institute for Early Education Research, (March 2003), 2.
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- 53 Mills & Pardee, Inc., *The Massachusetts Early Care and Education Staff Recruitment and Retention Research and Recommendations*, (Boston, MA: Massachusetts Office of Child Care Services, 2001).
- 54 See note 43, supra.
- 55 M.G.L. Chapter 15D Section 3.
- 56 102 C.M.R 7.02.
- 57 W.S. Barnett and Leonard N. Masse, "Funding Issues for Early Childhood Care and Education Programs," in *Early Childhood Education and Care in the USA*, ed. Debby Cryer, Ph.D., and Richard M. Clifford, Ph.D., (Baltimore, MD: Brookes Publishing, 2003); and A. Mitchell, L. Stoney, and H. Dichter, *Financing Child Care in the United States: An Expanded Catalog of Current Strategies*, (Kansas City, MO: The Ewing Marion Kauffman Foundation, 2001).
- 58 Barnett, "Funding Issues for Early Childhood Care and Education Programs;" and Mitchell.

- 59 S. Traill and J. Wohl, *The Economic Impact of the Child Care and Early Education Industry in Massachusetts*, (Oakland, CA: National Economic Development and Law Center, 2004), 23.
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- 61 Strategies for Children worked with the Center for Labor Market Studies to estimate the portion of early education-related spending directed toward children ages three to five in FY2004 in Massachusetts. After analyzing 19 separate sources of federal and state funds that were either completely or partially targeted to early education and care, the total figure arrived at was \$528 million. The methodologies adopted and assumptions underlying these estimates are described in the report "Public Expenditures on Early Education and Care Services for 3-5 Year Old Children in Massachusetts," prepared by CLMS and SFC, May 2006.
- 62 Some public schools operate preschool programs as well as kindergarten programs. These are included in the number of "preschool public school providers" but are identified separately within this category and labeled as "PreK and K." Those public schools that operate a preschool program and not a kindergarten program are identified as a subset of "preschool public school providers" labeled "only PreK."
- 63 The accreditation standards of the NAEYC require that at least 75% of teachers in a center-based program have a bachelor's degree. *NAEYC Program Standards and Accreditation Criteria: The Mark of Quality in Early Childhood Education*, (Washington, DC: NAEYC 2005), 94.
- 64 Varied rates of accreditation between different types of providers may be attributed to contextual factors including the impact of state policy incentives and the historic variations in opportunity for center-based and family-based providers to obtain accreditation from their respective national organizations; the NAFCC accreditation system is more recent than the NAEYC system.
- 65 Opinion Dynamics.
- 66 Opinion Dynamics, data file analyzed by CLMS.
- 67 Children who do not live with their parents or with other relatives or who reside in group quarters are not included in these poverty statistics.
- 68 Today, only a fraction of children from families meeting the income eligibility criteria of the Department of Early Education and Care receive a subsidy. When available funding is insufficient to meet demand, children are placed on a waitlist. See <http://www.eec.state.ma.us/docs/REChildrenWaitbyAgeGrouping.pdf>
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About the Early Education for All Campaign

The Early Education for All (EEA) Campaign, launched in the summer of 2000 to address the pressing need for high-quality early education in Massachusetts, is an initiative of Strategies for Children (SFC), Inc. SFC is a non-profit organization specializing in public policy, advocacy and constituency building. SFC's mission is to improve the well-being of children and families by moving their issues to the top of the agendas of communities, states, and the nation.

The EEA Campaign is a coalition of leaders from business, early childhood, labor, religion, health care, education and philanthropy, working in partnership with parents, grassroots leaders, and state policymakers to make publicly-funded high-quality pre-kindergarten education and full-day public school kindergarten available to every Massachusetts child.

The Campaign's goals are to ensure:

- That every preschool-aged child has access to a high-quality early childhood education, which meets professionally accepted standards, is staffed by well-trained early educators and is delivered through a mix of public and private programs;
- The creation of a state system to improve the training, education, and compensation of the early childhood and school-age workforce; and
- Access to high-quality, full school-day public kindergarten for all families who choose it.

For more information, visit www.earlyeducationforall.org.