Strategies for Children

Strategies for Improving the Early Education and Care Workforce in Massachusetts

SPRING 2010

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It is important to note that this work expands upon previous research commissioned by SFC including, "Labor supply issues in the organization and delivery of a high-quality early childhood education program" by the Center for Labor Market Studies, Northeastern University. It also draws on "Characteristics of the current early education and care workforce serving 3-5 year-olds," a report produced by the Wellesley Centers for Women, Wellesley College with financial support from SFC.

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Introduction

There is strong evidence and widespread consensus that high-quality early education and care improves children's development and increases their academic achievement, making it an important investment in human capital necessary for sustaining economic growth. Low-income children in model pre-kindergarten programs, research has shown, were 30% more likely to complete high school and twice as likely to attend college. They lived healthier lives, on average, and became more productive members of the workforce. Such gains provide immediate and sustained economic benefits.[1] In the short-term, investments in high-quality early education and care strengthen local tax bases and help reduce employee turnover and absenteeism, which cost American businesses $3 billion annually.[2] Over the long-term, improved educational, health and social outcomes reduce public-sector costs, leading Nobel laureate James Heckman and other leading economists to estimate a 10-16% return on investment.[3]

> "The handwriting is all over the place that professional development is the future of the industry. We've got to upgrade; we've got to get everybody to at least a level of what public school teachers are required for their education and compensation as well. That's the future."
>
> -Mark Leonas, Valley Opportunity Council

Acting on this evidence, a broad coalition led by Strategies for Children, Inc. (SFC) and its signature Early Education for All (EEA) Campaign successfully pressed the state to begin building a system of high-quality early education for all children. Key to this effort was improving program quality. It is children's participation in *high-quality* early education and care that is linked to improved academic and social outcomes, while lower quality early education settings appear to do little to mitigate the enormous challenges faced by families living in more disadvantaged communities.[4]

In 2005, Massachusetts took steps to lay the foundation for a comprehensive early learning system and consolidated its early education and child care bureaucracies to form the nation's first Department of Early Education and Care (EEC). In 2008, the enactment of "An Act Relative to Early Education and Care" codified into law a number of state policies and programs pertaining to children's early learning, including the following:

- Enforcement of quality standards and comprehensive developmental benchmarks for publicly-funded early education and care programs and services.
- Development of programs and services to address the unique needs of infants and toddlers with an emphasis on early literacy activities and family engagement.
- Establishment of a voluntary, high-quality universal pre-kindergarten (UPK) program to enhance Massachusetts children's cognitive, linguistic and social development and school readiness.
- Implementation of an educationally sound assessment system to evaluate all early education and care programs, including age-appropriate progress and school readiness in UPK programs.
- Creation of a comprehensive workforce development system that provides professional development and training and recognizes ways to improve educational attainment among early educators.

Increasing the supply of high-quality early educators is, perhaps, most critical to ensuring all children have access to high-quality early learning experiences. Well-trained teachers are more effective at guiding individualized child learning, planning appropriate curricula and recognizing children's needs. Teachers' educational levels have also been linked to greater gains in children's early writing skills, language and math skills, relationships with peers and later academic success.[5]

In fact, a meta-analysis of 32 studies of pre-kindergarten programs found a significant relationship between teachers who hold a bachelor's degree and improved student learning.[6] This evidence has led scholars in the field of early childhood education to conclude that the most effective early educators have a bachelor's degree with specialized training in early childhood education or child development.

Twenty states require lead teachers to possess a bachelor's degree with training or certification in early childhood education to work in state funded pre-kindergarten programs.[7] The National Association for the Education of Young Children (NAEYC), whose accreditation is a widely accepted proxy for quality, will require accredited programs to fulfill specific bachelor's degree requirements by 2020. The federal law reauthorizing Head Start will require 50% of teachers and all education coordinators in Head Start centers to hold a bachelor's degree plus specialized training by 2013. In Massachusetts, Early Childhood Program Standards require that by 2017 all newly hired preschool teachers hold a bachelor's degree that includes 18 credits in early childhood and a practicum in early education.

However, improving the education and training of the early education and care workforce presents a daunting challenge. Research commissioned by SFC indicates that approximately 70% of Massachusetts preschool-aged children are enrolled in formal early education settings (e.g. Head Start, community-based centers, family child care, and public preschools), but few of these children benefit from teachers who hold bachelor's degrees and have specialized training in early childhood education.[8]

Table 1. Educational attainment of workers by service category, 2004-2005[9]

Educational Attainment	Child care		Preschool and kindergarten		Elementary and middle school	
	Mass.	U.S.	Mass.	U.S.	Mass.	U.S.
Less than 12 years	19%	20%	0%	2%	0%	0%
HS diploma/GED	33%	36%	18%	17%	3%	2%
13 – 15 years, including associate degree	32%	33%	50%	31%	3%	5%
bachelor's degree or higher	16%	10%	32%	50%	95%	93%

Source: Fogg, N., Harrington, P., & McCabe, K. (2006). Labor Supply Issues in the Organization and Delivery of a High Quality Early Childhood Education Program. Northeastern University, Center for Labor Market Studies. Prepared for Strategies For Children.

An analysis of Census data shows that 32% of kindergarten and preschool teachers in Massachusetts possess a bachelor's degree compared to 50% nationwide (see Table 1). Only 16% of child care workers have graduated from a four-year institution. These numbers are significantly lower than

the educational attainment of teachers in elementary and middle schools in Massachusetts and across the country.[10]

Enacting new quality standards to raise educational attainment places new burdens on early education and care providers, as well as early educators themselves. This observation is particularly true for community-based and family child care providers that have traditionally received less public funding, and been held accountable to different teacher quality standards, than public school programs. Examining educational attainment by provider type reveals that only 30% of early educators in center-based programs and only 18% of family child care providers have earned bachelor's degrees (see Box 1).[11] Early educators in these settings tend to be paid less than those in public programs, leading to turnover rates of approximately 30%, or roughly three times the rate in the broader educational services sector. A recent report by the national advocacy organization Pre-K Now stated that key to professionalizing the early education and care field and improving program quality is achieving parity in supports and compensation across all settings.[12]

Box 1: Early Educators in Massachusetts

- Number of early educators (including Head Start, center-based, family child care, and public school preschool): 10,823
- Avg. preschool teacher salary: $30,690
- Avg. child care worker salary: $22,910
- Turnover rate: 29%
- Early educators with BAs (2009):
  Center-based: 30%
  Family child care: 18%

Sources: Early Education for All. (2006). A Report on the Cost of Universal, High-Quality Early Education in Massachusetts; U.S. Bureau of Labor Statistics. (2009). Mean annual wage for preschool teachers in Massachusetts; Massachusetts CCR&R Network. (2000). *Massachusetts Child Care Center and School-Age Program Salary and Benefits Report*; Marshall, N. L., et. al.(2005). Massachusetts Capacity Study Research Brief: Characteristics of the Current Early Education and Care Workforce Serving 3-5 Year-olds. Center for Research on Women, Wellesley

Increasing the educational attainment and training of all early educators necessitates a comprehensive workforce development strategy that facilitates access to higher education and guides early educators in successfully completing programs once enrolled. Currently, few coordinated opportunities exist within the higher education system to advance the careers of early educators. Massachusetts standards for working early educators require only a few credit hours of instruction, not a degree or any other credential. In 2005, Massachusetts colleges and universities awarded only 180 bachelor's degrees to students majoring in some kind of early education or kindergarten teacher preparation program.[13]

This report synthesizes lessons from previous research, existing state policies, and ongoing regional efforts among early education and care providers, colleges and universities, and business and community leaders to increase the supply of high-quality early educators in local communities. More specifically, our work is informed by original research on innovative programs in Worcester and Springfield—programs funded by Workforce Competitive Trust Fund (WCTF) grants administered by the Commonwealth Corporation, explained below. Concrete recommendations are provided for building a comprehensive workforce development system that increases the education, training and compensation of early educators.

State investments in early educators

> "We must build the quality of our early education teaching force and encourage more talented teachers to enter this system."
>
> –The Patrick Administration Education Action Agenda, June 2008

Massachusetts has traditionally taken a piecemeal approach to improving the educational attainment and professional development of early educators. From 1998 to 2004, the Department of Education administered "Advancing the Field," providing grants to colleges, universities, and other training organizations to support programs and courses addressing the unique needs of early educators. Grant recipients provided financial assistance, mentoring and career counseling, and were encouraged to develop articulation agreements that recognized prior learning. During this time, the Office of Child Care Services (OCCS) created a tiered reimbursement rate system to increase the compensation of early educators working for providers serving subsidized children. And, child care resources and referral agencies (CCR&Rs), community partnerships for children (CPCs), and other organizations administered professional development programs to help early educators working with infants, toddlers, preschoolers and school-age children pursue higher levels of training, education and credentialing.

In 2005, Massachusetts consolidated its early education and child care bureaucracies to create the nation's first Department of Early Education and Care (EEC). In addition to streamlining the delivery of services, the new department was required to establish a comprehensive workforce development system, that would:

- Align core teaching competencies with program quality standards;
- Provide training programs and professional development for early educators;
- Provide professional development in languages other than English;
- Define a career lattice outlining career pathways for early educators; and
- Promote, recognize and reward advancement in educational attainment.

This mandate was codified into law in 2008 with the enactment of "An Act Relative to Early Education and Care."

In response to its statutory mandate, the department joined with the United Way of Massachusetts Bay and Merrimack Valley and the Schott Fellowship in 2007 to convene the Massachusetts Early Education and Care and Out-of-School Time Workforce Development Task Force. This group of 73 diverse stakeholders within the field tackled key issues facing the early education and care workforce. The report the task force released in July 2008 recommended ongoing work in four critical areas: core competencies, orientation to the field, career lattice, and articulation agreements allowing for the transfer of credit. EEC also oversees several new and pre-existing programs designed to help early educators pursue advanced education and training (see Box 2).

Box 2: State investments in the education and training of early educators*

- **The Early Childhood Educators Scholarship program** provides financial assistance to early childhood educators working with children from birth through school-age after one year of paid employment. The program has received $15.2 million cumulatively since its creation in FY06. SFC and the Early Education for All Campaign worked with the Massachusetts Legislature to create the scholarship program in FY06 and since then, more than 3,300 scholarships have been awarded to early educators pursuing associate and bachelor's degrees.**
- **Building Careers** funds college courses and academic advising for early education and care and out-of-school time educators who are seeking a degree in early childhood education or a related field. The program is designed to help non-traditional students succeed academically and professionally by providing career and academic advising, using a cohort model, and scheduling courses at times that are convenient for working adults. More than 700 early educators are enrolled in Building Careers cohorts at 21 Massachusetts public and private colleges and universities.
- **The Universal Pre-Kindergarten (UPK) grant program** provides funding to early education programs serving preschool-age children (2 years and 9 months to school entry) to achieve and maintain high-quality standards. Approximately half of all grant funds (48% in 2008) are spent on staff compensation and professional development activities. This makes UPK unique as a key program-level resource for workforce development; program directors are able to assess the needs of their staff and use UPK funds to address those needs. Overall, $30.67 million has been allocated for UPK since its creation, resulting in 293 UPK Classroom Quality grants serving 6,600 children in nearly 100 cities and towns across the commonwealth.
- **The Child Development Associate (CDA) Scholarship** was designed to address costs associated with applying for the CDA credential through the Council for Professional Recognition. Scholarships covered the costs of the initial application assessment fee, the second site application fee, and the renewal application fee. State funding for this scholarship is currently unavailable.
- EEC in collaboration with child care resources and referral agencies (CCR&Rs), community partnerships for children (CPCs) and other organizations administers **professional development programs** to help early educators working with infants, toddlers, preschoolers and school-age children pursue higher levels of training, education and credentialing. In addition, EEC has endeavored to build infrastructure necessary for sustaining these activities, including a Web-based professional development calendar.

*Cumulative funding levels account for FY06 through FY10 state budget allocations; program data reflects FY09 grant reporting.
**The Early Childhood Educators Scholarship program is jointly administered by EEC and the Department of Higher Education.

However, while the department has made progress in laying the foundation for improving the education and training of early educators, it has yet to establish a comprehensive workforce development system. Current professional development programs remain disconnected from the realities of many early education and care providers as non-profit organizations and/or small businesses. Employers need a steady supply of high-quality early educators to meet impending Head Start standards, achieve NAEYC accreditation, and satisfy consumer demand—and children's needs—for quality. As a result, local and regional leaders have pursued other resources to support early educators.

The quasi-public Commonwealth Corporation administers the Workforce Competitiveness Trust Fund (WCTF) on behalf of the Executive Office of Labor and Workforce Development. Created as part of the Workforce Solutions Act/Economic Stimulus Bill of 2006, the trust fund's goals are "to improve the competitive stature of Massachusetts businesses by improving the skills of current and future workers, and to improve access to well-paying jobs and long-term career success for all residents of Massachusetts, especially those who experience structural, social, and educational barriers to employment success."

In 2008, the trust fund awarded grants to initiatives that focused on the employers of the early childhood workforce, thus acknowledging the importance of high-quality early education to the economic vitality of the state. The Springfield and Worcester regions, each with a history of addressing barriers faced by early educators, received grants totaling $500,000 and $343,905, respectively. These grants are being used to develop comprehensive career pathways for early educators, provide financial and technical support for obtaining associate and bachelor's degrees, and pursue wage enhancement strategies. Employers are expected to benefit from a more qualified workforce that can better serve children, satisfy consumer demand, and secure funding and accreditation to remain economically viable. A projected 285 early educators are expected to be served by workforce projects now underway in these two regions.

> "From a socio-economic perspective it is imperative… to invest in early education and care. There's a huge payback for every dollar invested in children from 0 to 5. We're working hard to educate the larger community on the value of that investment. And as a result, that also helps to position us to help further professionalize the field."
>
> –Eve Gilmore, Edward Street Child Services

Recognizing the importance of the work being done in Springfield and Worcester, as well as the potential for lessons to be learned and shared with the broader field, SFC commissioned Dr. Mindy Fried in 2009 to study the two regional efforts.* Based on this research (see Box 3), this report describes both the challenges faced by early educators and the steps these initiatives are taking to address these challenges. The lessons from Springfield and Worcester inform a set of recommendations designed to help state policymakers create a comprehensive system of workforce development for early educators.

Box 3: Research methodology

The research for this study was conducted in collaboration with leaders in both Springfield and Worcester (see Appendix A for list of local partners). Researchers worked in partnership with local leadership teams to refine interview protocols and identify research subjects to ensure successful data collection. Interviews were conducted with 16 individuals in Springfield and 13 individuals in Worcester (29 total), representing the diverse interests of the early education and care field including college administrators and instructors, early childhood program providers, business and community leaders, as well as coordinators of the WCTF grant program. In addition, focus groups were conducted with key stakeholders including early educators, representatives from institutions of higher education, and early education and care program interns about to pursue early childhood studies at post-secondary institutions. Interviews were audio recorded, and data from interviews were then analyzed by themes. A qualitative software package, ATLAS.ti, was used to organize the data and facilitate the process of data synthesis and analysis. A theme-based analysis was conducted, which identified recurring themes that were then clustered and refined. Data were coded using a standard protocol, facilitated by ATLAS.ti, and communication among researchers was maintained to ensure internal consistency of findings.

* Dr. Mindy Fried was assisted in her research by Meg Lovejoy, M.Ed.

Challenges facing Massachusetts early educators

In interviews, teachers and administrators in Springfield and Worcester described the background of typical participants in workforce development initiatives, as well as the challenges and barriers they face when returning to school. Many early educators are non-traditional students who did not enroll in college directly after graduating from high school. They are often employed fulltime and have children of their own and thus may face greater challenges than younger students. In addition, some older, experienced teachers may resist returning to school. Some feel that going back to school is not relevant to their work and that their years of experience make a college education unnecessary. Others are intimidated by the higher education system and may have had negative experiences in the past. To be effective, a workforce development program must provide comprehensive support and encouragement to overcome the following:

Financial and indirect costs

Perhaps the largest challenge early educators face in attending school is an inability to afford tuition and fees. According to the Bureau of Labor Statistics, the average annual salary for center-based preschool teachers is approximately $30,000, and for a child care worker only $22,910.[14] College tuition costs in Massachusetts are among the highest in the nation (see Box 4). In a field defined by low-wages, college is only possible for most early educators if they receive significant financial assistance.[15]

In addition to tuition, students need financial support for other costs, including books, student fees and computer access. Depending on location, lack of public transportation can make travel prohibitive, while costs associated with private travel, parking and gas can be overly burdensome. Finally, early educators who take classes during the day may lose pay and may be unable to coordinate their work and class schedules. Programs offered at night present different challenges, such as the cost of child care. The absence of a comprehensive system of support for the professional development of early educators can make college unattainable even when scholarships cover tuition costs.

Box 4: College Tuition and Fees in Massachusetts, 2009-10

Two-year, public

- Tuition and fees, 2009-10: $4,316
- Tuition and fees, 2008-09: $3,925
- Percent change: 10%

Four-year, public

- Tuition and fees, 2009-10: $9,240
- Tuition and fees, 2008-09: $8,239
- Percent change: 12.1%

Four-year, private

- Tuition and fees, 2009-10: $33,762
- Tuition and fees, 2008-09: $32,500
- Percent change: 3.9%

Sources: College Board. (2010). *Trends in College Pricing, Tuition and Fees by State.* Retrieved from http://www. trends-collegeboard.com/college_pricing/2_4_ tuition_ fees _by_state.html?expandable=0.

Accessing the system

Early educators returning to college—or entering for the first time—tend to come from families and/or communities with lower levels of education and fewer economic resources than typical college students. For students who have been out of school for some time, everything from applying for admission and financial aid to deciding what courses to take can be daunting. They often need help to navigate the higher education system. Yet early educators taking classes at night or on weekends, instead of during regular business hours, may have less access to academic and other support services than traditional day students.

In addition, the higher education system offers few opportunities for early educators who are adequately prepared and ready to pursue advanced learning. Limited course offerings, degree-granting programs in early childhood education, and full-time faculty positions able to accommodate the full diversity of the early education and care workforce all undermine efforts to develop career tracks for early educators within post-secondary institutions. A key issue is the inability of most colleges and universities to establish and maintain articulation agreements that recognize early educators' previous work and allow for the transfer of credits among institutions, adding to the cost and difficulty facing early educators completing bachelor's degrees.

Lack of college preparation

> "We have folks who have high school [degrees], but you know what? They've never written a paper. And so they have to be able to write papers. And they need support in this. They need somebody who can look at it with them and help them understand what a structure of a paper is and how it will work."
>
> –Michael Denney, *New North Citizens Council*

Once students enter college, many struggle with the foundational skills needed to succeed. This is a persistent problem for college students across Massachusetts and is not unique to early educators. A study conducted jointly by the Massachusetts Departments of Elementary and Secondary Education (ESE) and Higher Education found that 37% of Massachusetts high school graduates entering public colleges took at least one remedial course in their first semester.[16] For students entering the state's community colleges, nearly two-thirds took a remedial course. For early educators, according to the interviews that Dr. Fried conducted, writing skills and computer literacy are major academic challenges.

As the field of early education and care increasingly incorporates new technologies, early educators must become computer literate. Teachers and directors are beginning to put child assessment data online, for instance, and are using the Internet more and more to communicate with families. It has also become increasingly important for early educators to be competent writers. Teachers and directors may be expected to engage in child observations, write reports for families, and complete other written communications in order to meet national accreditation standards and fully monitor child progress.

Challenges for English language learners

For a growing number of early childhood educators, English is a second or third language. Although these educators may speak English on the job, many are not proficient enough to take college-level courses in English. Most colleges require early educators to be proficient in English before they enter degree programs. Few programs offer early childhood courses in languages other than English, leading to disparate opportunities for advancement. A key issue is determining whether students are "developmental students" not yet prepared for the rigor of college courses, or simply non-native English speakers struggling to learn new material in a second language. The absence of a statewide support system for the specific learning needs of those who are academically ready to attend college, but require specific language supports limits the number of qualified staff available to serve children.

In the next section, we outline WCTF grant funded programs in Springfield and Worcester specifically designed to address these challenges.

The Developing Early Childhood Educators (DECE) initiative

Springfield and the broader Western Massachusetts region have historically struggled to attract and retain highly qualified early educators. As a result, leaders in the Springfield area have frequently come together to advance a number of strategies to address barriers to improving teacher quality. Notable among these efforts is the QUEST program begun in 2005 with funding from the Irene E. and George A. Davis Foundation. QUEST provides financial assistance and other supports to enable early educators to return to school while they continue to work. The program works closely with both institutions of higher education and employers to provide adequate support for teachers pursuing professional credentials and post-secondary degrees.

The QUEST program also brought together a diverse set of stakeholders, including business, community and education leaders, eager to tie private dollars to additional funding sources to build a broader, more comprehensive approach to developing the early education workforce. High-quality early education and care was recognized as not only critical to improving educational outcomes, but sustaining both the short- and long-term economic vitality of the region. A planning group that included Senator Stephen Buoniconti and Representative Sean Curran, the Hampden County Regional Employment Board (REB), Cherish Every Child (an initiative of the Davis Foundation), and representatives from higher education and early education applied for a grant from the Commonwealth Corporation through the trust fund. In 2008, the fund awarded the Springfield region $500,000 for three years for the Developing Early Childhood Educators (DECE) initiative.

The goals of the grant are to:

- Reduce staff turnover and the cost of replacing and retraining employees.
- Increase the number of teachers enrolling in college degree programs or otherwise working toward obtaining degrees and/or other credentials.
- Increase the ability to train more staff by grouping employers with common needs.
- Increase the ability to meet staff qualifications for Universal Pre-Kindergarten funding and other initiatives that increase quality and teacher compensation.

The DECE model is designed to build and expand upon existing workforce development models—in particular, the QUEST Program—and to have an impact in the broader Chicopee, Holyoke and Springfield region. The regional model expands the potential target population, thus achieving greater economies of scale and increasing opportunities for coordinated activities. The regional model also places greater pressure on the infrastructure—including institutions of higher education and early education and care programs—to meet the existing need.

In the first year of the DECE initiative, direct financial support was provided to 136 early educators. The completion rate for those enrolled in college courses or professional training programs was 95%. Equally important, baseline data was made available to program administrators to help them identify early educators' unique needs. Specific steps taken to support early educators' professional development include: college enrollment and financial aid assistance; bilingual and fast track programs for CDA certification; a comprehensive lead teacher certificate program; and career counseling for early educators pursuing degrees.

The Central Massachusetts Early Education and Care Professional Advancement Program

Like Springfield, Worcester's early education and care community has a strong record of working on child care advocacy issues. Led principally by Edward Street Child Services—a non-profit social service agency focused on advocacy, resource development and support for the early education and care community—leaders in the Worcester area formed the Coalition for Early Education Careers (CEEC). The coalition includes the Central Massachusetts REB, the CCR&R Child Care Connection, and representatives from early education and care programs. The coalition also includes the Worcester Public Schools and YouthWorks, an employment initiative, which works with the public schools and CEEC to help low-income youth enter the early education and care field. Finally, and perhaps most importantly, the Colleges of Worcester Consortium—five area colleges offering early education and care programs—joined the coalition: Quinsigamond Community College, which offers an associate degree in early education, and Anna Maria College, Bay Path College, Becker College and Worcester State College, which all offer bachelor's degrees in education, human services and/or psychology with core courses in education.

In 2008, CEEC applied for and received a WCTF grant from the Commonwealth Corporation totaling $343,905 for three years to establish the Central Massachusetts Early Education and Care Professional Advancement program. The goals of the program are:

- The implementation of a viable salary and incentive-driven career lattice for current and prospective early educators employed in the Worcester area;
- Increased numbers of employees in the field of early childhood education with associate and bachelor's degrees;
- Increased wages and benefits for early childhood education employees.

The program established specific outcomes to be achieved by the end of the three-year grant period. The program must enroll a minimum of 100 participants. Of these, 32 must enter the program as new recruits into the field, either as recent high school graduates or unemployed individuals interested in careers in early education and care. The remaining 68 participants must be incumbent workers at one of four participating early education and care providers. They must be pursuing a degree or other credential in early education or take nine courses (three a year) toward a credential or degree.

First year outcomes show that 115 early educators entered the program and 73 participants completed a total of 182 college credit courses and basic education courses. Nine participants have already completed the full range of requirements needed to obtain new professional credentials. Specific emphasis was placed on providing supports to early educators navigating the higher education system, including: working with career specialists to properly register for courses and complete Free Application for Federal Student Aid (FAFSA) forms, connecting early educators to tuition aid available through EEC, providing academic advising on college coursework, and assigning prospective students to appropriate training tracks to facilitate successful course completion. In addition, strong partnerships with local employers led to wage enhancements for early educators successfully completing college courses.

Recommendations

The experiences of Springfield and Worcester provide important lessons for building a statewide system to support all early educators in pursuing and earning post-secondary degrees. Based on the positive initial impact of workforce development initiatives funded by WCTF grants, combined with the review of existing research on promising practices for improving the educational attainment and professional development of early educators, we offer the following recommendations for developing a comprehensive statewide workforce development system.

1. The Executive Office of Education should improve collaboration across state level agencies to better support early educators attending state colleges and universities.

Research into public policy suggests that the centralization of key functions is necessary to align standards and services, effectively distribute resources and achieve economies of scale.[17] Decision-makers at both the federal and state levels have recognized the importance of establishing high-level support to help facilitate the implementation of early education and care policies, including workforce development. For example, the 2007 reauthorization of Head Start requires the creation of a State Advisory Council to oversee ongoing professional development for early educators and individual professional development plans.[18] In Massachusetts, EEC is positioned to serve this purpose.

Interviews with leaders in Springfield and Worcester indicated that the establishment of EEC merged disparate funding streams and brought greater consistency to state regulations that guide workforce development policies. The result has been an expanded focus on professional requirements and increased public awareness of the important role early educators play in determining program quality. The next step is to leverage state leadership to better coordinate public policy with the disparate activities of post-secondary institutions. In Springfield and Worcester, the willingness of institutes of higher education (IHEs) to work with local leaders to improve access to college courses and align programs with state policy goals has been critical to the success of their workforce development initiatives (see Box 5).

Box 5: Partnerships with higher education

Springfield	Worcester
▪ American International College ▪ Bay Path College ▪ Cambridge College ▪ Elms College ▪ Greenfield Community College ▪ Holyoke Community College ▪ Springfield College ▪ Springfield Tech Community College ▪ Westfield State College ▪ UMass Amherst (University w/o Walls)	▪ Quinsigamond Community College ▪ Bay Path College ▪ Becker College ▪ Anna Maria College ▪ Worcester State College

Leaders at the state level should now foster similar enthusiasm in other areas of the commonwealth and coordinate offerings across institutions, encourage the development of early childhood education programs, and establish articulation agreements allowing for the transfer of credit between institutions to provide a more uniform statewide system that effectively serves all early educators.

Under the direction of the newly established Secretary and Executive Office of Education (EOE), EEC and the Department of Higher Education (DHE) have formed a joint task force to address inefficiencies in the delivery of the Early Childhood Educators Scholarship program. The next step is to collaborate on addressing the recommendations of the Massachusetts Early Education and Care and Out-of-School Time Workforce Development Task Force and work with IHEs to develop shared understandings of core competencies for early educators and articulation and transfer of credit agreements for early childhood education programs. One strategy for facilitating collaboration between EEC and DHE and Massachusetts colleges and universities is to create a full-time position at EOE or DHE responsible for the coordination and alignment of curriculum and programs serving the early education and out-of-school time fields across state agencies.

2. Public and private investment should support regional and/or local entities in developing infrastructure to sustain workforce development programs.

While state guidance is necessary to build a comprehensive workforce development system, support for early educators must be provided closer to home for programs to be successful. NAEYC, through its Early Childhood Workforce Systems Initiative, advocates for an integrated system of professional development that coordinates activities at the state and local levels across the early childhood sectors, including child care, Head Start, prekindergarten, public schools, early intervention, special education services, etc. [19] In the absence of regional and local infrastructure, early educators may struggle to navigate a career path that leads to advancement.

The development of effective partnerships was a key prerequisite to building infrastructure in the Springfield and Worcester regions. These partnerships coordinate educational and training activities and strengthen each area's institutional capacity to support a sustainable system. By bringing together diverse interests around shared purposes, both communities leveraged their unique skills and resources to obtain the WCTF grants that enabled them to take significant steps toward building comprehensive career pathways for early educators.

> "We weren't in the business of early education, but (the Regional Employment Board) needed to attack the issue of teachers in the classroom…The quality of teaching is so critical. This was the impetus for the development of our current programs and policies to advance the career pathways of early childhood teachers in Springfield."
>
> – Bill Ward, *Hamden County Regional Employment Board*

In Springfield, the Hampden County REB played a key leadership role in highlighting the issue of workforce development and securing support from the Commonwealth Corporation. The Davis Foundation funded programmatic pieces not covered by the WCTF grant. The Preschool Enrichment Team offered counseling and support services to participants in the WCTF funded program, as they do via QUEST. Individual early education and

care providers supplied on-the-ground resources and grass roots support to ensure successful implementation of the overall program.

In Worcester, key stakeholders played similar roles. Edward Street Child Services provided leadership in forming the CEEC to apply for funding from the Commonwealth Corporation. Both the Colleges of Worcester Consortium, with its career and financial advisement resources for low-income and non-traditional students, and the Worcester Technical School, with its specialized pre-college programs and courses in early childhood education, enabled stakeholders to capitalize on a preexisting infrastructure.

Although the collaborations described above emerged from self-motivated community members already engaged in early education and care, the experiences of Springfield and Worcester offer "lessons learned" that can be used to develop statewide policies to produce similar successes. State funds for workforce development programs should be tied to criteria designed to help develop local and regional plans and then the infrastructure to fulfill them, including:

- Establishing regional program coordinators to improve the management of workforce development programs by communicating with key stakeholders;
- Promoting needs assessments to identify local early educator needs and leverage community resources to support project goals;
- Requiring formal collaboration, such as monthly meetings among stakeholders to review program outcomes and encourage widespread participation; and
- Enforcing accountability standards for lead agencies and program participants to achieve defined program outcomes, including the collection and maintenance of data, development of strategic plans for coordinating activities, and help facilitating the formal evaluation of state-funded programs.

A number of existing and emerging public policies in Massachusetts provide opportunities to strengthen regional and local infrastructure for workforce development. For example, professional development requirements linked to program licensing, as well as a Quality Rating and Improvement System (QRIS) designed to evaluate and support program quality, provide incentives for greater local investment in workforce development. The creation of an electronic workforce registry will make it easier to assess community needs, collect data and measure progress. Finally, Massachusetts recently created regional Readiness Centers that will offer instructional and professional development support to teachers across the education spectrum. These centers aim to improve the quality of teaching from birth through higher education and will offer services and activities that address local and regional educational needs and statewide priorities. The Readiness Centers will "support the development of more aligned and comprehensive models for professional development, will provide focused and consistent collaboration, create a stronger network for disseminating information about best practices, etc."[20]

3. Public and private investment should be directed to providing tuition assistance for early educators seeking post-secondary degrees.

Research shows that better educated professionals provide higher quality education and care.[21] Promoting advancements in teacher education is an important part of a comprehensive workforce

development initiative. However, as noted above, many early educators face barriers to obtaining a post-secondary degree. The heavy cost of tuition and fees is one of the greatest obstacles facing teachers. As a result, a number of states have enacted financial assistance programs for early educators seeking higher education. Pennsylvania's Keys to Professional Development program provides reimbursements for courses that earn college credits and subsidies for CDA assessment fees. The state's Education and Retention Awards provide additional funding to programs for highly-qualified staff, including directors with bachelor's degrees and staff with bachelor's and associate degrees and CDAs.[22] The T.E.A.C.H. (Teacher Education and Compensation Helps) Early Childhood Scholarship Program developed in North Carolina offers scholarships and support systems for improving the education and compensation of child care workers. Twenty states have adopted the T.E.A.C.H. model.[23]

In Springfield increasing access to higher education is a substantial focus of the WCTF-funded programs. Direct support for college tuition accounts for 48% of the total budget. Overall, funding totaling $500,000 is projected to support 185 early educators pursuing post-secondary education and advanced training.

At the state level, Massachusetts provides a number of programs that offer financial support to early educators. The Early Childhood Educators Scholarship program provides tuition assistance to early educators after one year of employment to pursue an associate or bachelor's degree in exchange for continued employment in the field. The program has received $15.2 million cumulatively since its creation in FY06. It has awarded more than 3,300 scholarships to early educators pursuing degrees. Increased investment in this program and Building Careers (described in Box 2) would address one of the most significant barriers to improved education and training among early educators.

4. Workforce development programs should use a "cohort model" to support early educators attending institutes of higher education.

The Center for the Study of Child Care Employment (CSCCE) at the University of California, Berkeley has stated that "cohort model" programs are a particularly promising approach to workforce development. Cohorts provide adult learners in a participating institution with a support structure built around similar courses of study. CSCCE's research into six cohort programs in California revealed widespread satisfaction with this approach among both students and program administrators. The group experience, CSCCE reported, "facilitated the creation of learning communities and provided sources of social-emotional and academic support, and opportunities for reflection about teaching practice."[24]

Worcester's WCTF-funded program is designed to enhance the success of program participants by grouping them into different cohorts according to their level of educational preparedness and progress toward attaining a certificate or degree. Examples include:

- Recent high school graduates participating in YouthWorks or employed adult learners who require college preparatory coursework to qualify for degree matriculation (e.g., GED, ESL or other college preparatory coursework);
- Student workers enrolled in a CDA or associate degree program; and
- Student workers transferring to or enrolled in a bachelor's degree program.

Similarly, Springfield has established a lead teacher cohort to better support early educators pursuing this credential. These cohort models are ultimately expected to lead to greater educational attainment because grouping students by course load and education level increases peer support, improves program administration and advisement, and creates cost efficiencies.

The Massachusetts Building Careers program provides grants to IHEs to fund college courses and academic advising for early education and care and out-of-school time providers seeking degrees in early childhood education or related fields. Building Careers is specifically designed to help non-traditional students succeed academically and professionally by using a cohort model and scheduling courses at times that are convenient for working adults. In fiscal year 2008, the Building Careers program served 759 students at 21 public and private colleges and universities at a cost of $1.2 million. In the same year, Building Careers provided 103 courses and more than 400 hours of services that included academic advising, matriculation support and English for speakers of other languages (ESOL) support.[25] Overall, $1.8 million in cumulative state funds have been provided since FY08 when initial federal funding expired and advocacy by Strategies for Children led to state financial support.

5. Workforce development programs should take a "case management approach" to addressing the needs of early educators.

A number of states recognize the need to provide early educators with intensive support, often through mentoring or career advisement, to facilitate their progress through post-secondary institutions. For example, the Connecticut Charts-A-Course early childhood professional development system and registry offers career counseling in English and Spanish in the form of career advisement, transcript evaluation, scholarship guidance and other trainings.[26] Programs in Arkansas, California and Georgia prepare early childhood professionals to serve as trainers and mentors to other teachers and program directors.[27] The Pennsylvania Infant Mentoring Project, created by the Capital Area Early Childhood Institute, provides training and information to child care providers and parents of children birth to age three.[28] An evaluation of this program found that individualized mentoring produced positive changes in the overall quality of child care programs and in caregiver interactions, as well as a greater feeling of professionalism among participants.[29]

> "[Career counselors have] been really great at sitting down with people and saying, 'These are what your college options are… How important is it that you be in a classroom? How important is flexibility? Do you know how to use a computer? What courses do you already have under your belt?' And so they have done a really wonderful job of helping teachers figure out how best to go ahead and get their degree."
>
> –Linda Calkins, *Springfield College*

More broadly, research into career mentoring programs has demonstrated that after controlling for formal education, the extent to which teachers were supervised and mentored predicted their responsive involvement and engagement with children.[30] A study investigating the mentoring and training of 103 urban early childhood educators in the Los Angeles area concluded that clearly defined and supported professional development pathways are important for encouraging effective teaching behaviors.[31]

This evidence suggests mentoring and career advisement are critical components of effective workforce development systems. Both the Springfield and Worcester WCTF-funded programs address this need through a case management approach that provides a multi-faceted and coordinated method of helping early educators navigate the complex systems of institutes of higher education. A career specialist serves as case manager and provides college admissions counseling, career and financial aid advisement, and referrals to tutoring, ESOL services and study skills coaching. The career specialist also monitors and documents student progress and outcomes and acts as a liaison between students and colleges. In programs where funding does not cover the full cost of students' tuition, a career specialist can explain financial aid options and teach students how to fill out the FAFSA forms.

In an effort to better serve early educators as they navigate professional development and higher education, EEC has established an Educator and Provider Support (EPS) Unit in its central office and plans to establish branches within each regional office.[32] The presence of EPS will help EEC better serve its mission of being responsive to the workforce. EEC has also empowered local entities to support the workforce through its newly consolidated Program and Practitioner Supports grant. This $2 million grant program permits several possible local support expenditures, including accreditation supports. Finally, another source of mentoring and career counseling lies in the Building Careers, described in the preceding recommendation.

In the coming years, a fully developed professional development registry would gather comprehensive annual data about who in the workforce needs career counseling, how "case management" should be structured to meet providers' needs, and who should be responsible and accountable for delivering these services.

6. EEC should develop a career lattice that identifies appropriate levels of education, training, and experience for early educators and a pathway for professional success.

The term "career lattice" refers to a framework of multiple pathways for professional growth. It allows early educators to move vertically, horizontally or diagonally through the system throughout their careers. The ideal career lattice for the early education and care workforce would not only acknowledge experience, education and expertise but also provide the early educator with a clearly defined career pathway.

The National Child Care Information and Technical Assistance Center (NCCIC) states that a career lattice "defines levels of mastery connected to a progression of roles or a progression of training and education in the early childhood field." State professional development systems often use career lattices tied to core knowledge and competency acquisition as the framework for provider and training registries. Some states align career lattices with their QRIS.[33] Career lattices can provide empowering financial and personal incentives, as well as flexibility for teachers throughout their careers.[34]

In each of the two cases in our study, local leaders examined this critical issue. Through their Developing Early Childhood Educators initiative, Springfield planned to create a career lattice that would bring together opportunities for people of varying experience, education and personal aptitude across the field of early education and care. One goal of Worcester's WCTF grant is to implement an incentive-driven career lattice for current and prospective early educators.

EEC is still in the early stages of developing a statewide career lattice. The Massachusetts Early Education and Care and Out-of-School Time Workforce Development Task Force recommended professional development strategies that include establishing a road map or career lattice for educators. The career lattice would delineate a career path with compensation linked to achievement. The Professional Development Task Force, the working group charged with helping EEC implement these workforce recommendations, has begun drafting a streamlined "career ladder," based on research-based evidence and the state's core competencies for the workforce. Designing core competencies—clearly defined professional development standards and content areas—in 2009 was a critical precursor to designing a career ladder, as is the drafting and piloting of QRIS standards. The staff qualifications outlined in the QRIS levels form a natural career pathway and progression for providers to follow. The career lattice/ladder should align with existing policies to help ensure professional growth and degree attainment for early educators in a systematic way. Acknowledging diverse provider types within the field, EEC plans to complete separate career ladders for center-based programs, family child care, and school-age programs.[35]

7. EEC in collaboration with other state agencies and private organizations should ensure that workforce development programs are linked to increased compensation.

A major barrier to attracting and retaining qualified early educators is low wages. Linking advanced education and training to increased compensation is a critical step in constructing an incentive-driven career lattice. Early childhood professionals who earn higher wages provide higher quality care, research shows. In addition to teachers' level of education and specialized training, their wage rate is one of the strongest predictors of program quality.[36] Children served by higher-paid early educators achieve higher academic outcomes.[37, 38]

Despite this evidence, early childhood educators remain among the most poorly paid professionals in the nation.[39] Low wages add to job instability and are associated with high staff turnover in early education and care settings.[40] "The Massachusetts Early Care and Education Staff Recruitment and Retention Report," conducted by the Office of Child Care Services in 2001, found that early childhood program directors and staff, as well as educators in institutes of higher education all agreed that low compensation was a key barrier to both recruiting and retaining staff. According to research by the Wellesley Centers for Women, turnover rates in Head Start and center-based programs are approximately 30%, or roughly three times the rate in the broader educational services sector.

A number of states have models for addressing early educator compensation. For example, California, Florida, Georgia, Illinois, Kansas, Minnesota, Montana, North Carolina, Oklahoma, Oregon, Utah, Washington and Wisconsin all have initiatives to increase early educator salaries.[41] One notable program is WAGE$, currently operating in Florida, Kansas and North Carolina. This program is "designed to provide preschool children more stable relationships with better educated teachers by rewarding teacher education and continuity of care." WAGE$ provides education-based salary supplements to low-paid early educators working with children from birth to age 5.[42] Pennsylvania's Education and Retention Awards target early education and care providers and offer financial incentives to programs that employ highly-qualified staff, including directors with bachelor's degrees and early educators with bachelor's and associate degrees and CDAs.

The WCTF-funded programs in Springfield and Worcester have focused on including compensation components for early educators achieving higher levels of education or credentialing. Early education and care providers participating in the Worcester program were asked to sign memorandums of understanding to provide teachers with increased wages. The Springfield plan includes a number of projected business outcomes linked to increased early educator compensation, including reducing staff turnover by at least 25% and reducing the cost of temporary staffing by at least 30%.

While Massachusetts has yet to directly address early educator salaries statewide, a number of programs administered by EEC provide important sources of financial support. The Massachusetts Universal Pre-Kindergarten (UPK) program provides grants to public school, center-based, and family child care providers that meet high standards to improve and sustain program quality. Research by Abt Associates found that UPK grantees, on average, spent 24% of their grant funding on increased staff compensation in the first year of funding. In the second year of the grant award, they increased funding for staff compensation to 31%.[43] Furthermore, 50% of family child care providers, 60% of public school programs and 70% of child care centers identified staff compensation as the area of greatest financial need and indicated that if additional funding was available, they would use it to increase staff compensation.

The proposed Massachusetts Quality Rating and Improvement System (QRIS) may provide a more systematic statewide approach to increasing early educator compensation. To reach higher quality ratings, the state envisions programs demonstrating use of a salary scale that increases employee wages based on education, experience and performance. Financial incentives and tiered reimbursements awarded to programs participating in the QRIS can also be used to increase teacher wages and establish an incentive-driven career lattice. The EEC Board recently voted to allocate $4 million dollars for maximum grants of $10,000 to early education and care programs participating in a QRIS pilot program. QRIS standards include a sliding salary scale in the District of Columbia and a number of states: Delaware, Louisiana, Maine, Maryland, New Hampshire, New Mexico, Ohio, Oklahoma, Pennsylvania and Tennessee.[44] Establishing a framework for identifying and monitoring quality standards for programs and early educators is critical to developing an effective and efficient approach to increasing compensation.

8. Massachusetts colleges and universities should address the needs of English language learners (ELLs) through bilingual courses and other educational supports.

Proficiency in reading, writing and speaking English are important prerequisites for full participation in the labor market. People who struggle with English face limited access to education and worker training programs. In Massachusetts, individuals self-identifying as Latino or Hispanic make up the state's largest racial/ethnic minority (8%) and tend to be overrepresented in the early education and care workforce.[45] The Wellesley Centers for Women at Wellesley College found that 22% of Head Start teachers, 8% of center-based staff and 11% of family child care providers identify as Latino or Hispanic.[46] While many of these individuals are proficient in English, roughly one-third are foreign born and, potentially, non-native speakers. ESE reports that a substantial majority of ELLs in public schools are Spanish-speakers (54.6%), but language supports are also needed for significant numbers of students speaking an estimated 112 different primary languages, including Portuguese (9.3%), Khmer (4.1%), Creole/Haitian (4%), Vietnamese (3.5%), Chinese (3.2%), Cape

Verdean (2.7%), etc.[47] It is appropriate to assume similar proportions of adults require language supports, creating a unique challenge for workforce development programs that frequently serve non-traditional students, but rely on traditional education pathways to facilitate career advancement.

The National Literacy Panel of Language-Minority Children and Youth, created by the U.S. Department of Education, reported that the most effective approach to improving proficiency in reading, writing and speaking English is to engage non-native speakers in their own language.[48] Studies show that students at both the elementary and secondary school levels who participate in bilingual education programs demonstrate greater proficiency in English, on average, than students who participate in English-only programs. Research focusing on adult learners is more limited, but has produced similar findings. Non-native adult speakers receiving instruction in their own language exhibit greater English language proficiency.[49]

Acting on this evidence, a number of small scale projects in other states target the education and professional development of early educators who are not yet fluent in English. The National Council of La Raza reports that Cabrillo Community College in California provides a Spanish/English Early Childhood Teaching Skills Certificate program in partnership with a local Head Start agency. The program includes bilingual college courses in early education and care, as well as paid internships and tutoring for Spanish-speakers. Portland Community College, in Oregon, partnered with a local Migrant and Seasonal Head Start agency to create the "Un Puente al Futuro: Educating Head Start Teachers and Staff of Latino Children" project. Latino teachers are given assistance in obtaining an associate degree in early childhood education through a program that offers introductory classes in Spanish. Advanced classes are offered only in English, but English-language support, mentoring and tutoring is provided to help ELLs.[50]

In Springfield, where 48% of teachers participating in the WCTF-funded program identify as Latino and 20% report limited English skills as a barrier to career advancement, similar strategies have been employed. A number of instructors at nearby IHEs teach early childhood classes bilingually and are committed to breaking down barriers for Spanish-speaking teachers. Building on such examples, the WCTF-funded program applies an innovative and more systematic approach to addressing the needs of ELLs. Early educators are now able to take ESOL classes with early childhood content and/or complete a "fast track bilingual CDA." Providing bilingual options has begun to chip away at some of the barriers non-native speakers face in advancing their careers.

At the state level, despite a number of programs designed to support early educators, Massachusetts has yet to adequately address the needs of non-native speakers. EEC's FY10 Annual Legislative Report identifies the creation of a "workforce system that maintains worker diversity" as a key goal, and the department has made efforts to translate its website, trainings, and policy documents, such as the newly adopted licensing regulations. Further, the implementation of the workforce registry will likely help improve understanding of the participation and needs of language-minority populations in the early education and care workforce. However, a more specific and targeted strategy is needed to help non-native speakers access post-secondary education and develop the knowledge and skills that lead both to career advancement and better outcomes for young children.

9. EEC and ESE should work together to ensure early childhood programs in vocational high schools create a pipeline of highly-qualified early educators.

According to the U.S. Department of Labor, from 2006 to 2016 the number of employed child care workers is expected to grow by 21% as more parents enter the workforce.[51] Vocational education offers important options to high school graduates who consider themselves unlikely to attend college and enhances their chances of employment in high-demand fields.[52] Offering early education and care tracks in vocational schools addresses a state economic need, increases career opportunities for students who might otherwise struggle to enter the workforce, and prepares them to pursue post-secondary training in early childhood.[53]

> "It's just not retention and increasing the quality of our current staff, but identifying high school and young college age students to see this as a profession of choice, and giving them opportunities also."
>
> –Joan Kagan, Square One

A critical component of Worcester's WCTF program is an entry-level early education career path for high school students and recent graduates. By partnering with YouthWorks, the Worcester WCTF program effectively incorporated existing infrastructure into its program design, creating a pathway that starts in high school with the Worcester Public Schools providing pre-college coursework in early education. The youth employment initiative pays eligible students to work in centers after school and/or for part of the summer. Those students placed in early education and care programs participating in the WCTF-funded program are eligible to receive case management services and other supports to pursue a certificate or degree in early education. A further advantage of this approach is that it can cut down or eliminate a prospective student's waiting time for an Early Childhood Educators Scholarship administered by EEC and funded by the state. This scholarship requires recipients to have been employed in the early education field for one year.

Similar opportunities are available to students through the Massachusetts career/vocational technical education system. Thirteen of 26 vocational high schools in the state offer programs in early education and care, as do a handful of local and regional school districts. However, it is important to note that critics of vocational education argue that due to preexisting factors vocational education students are more likely to have deficiencies in basic academic skills, less likely to take challenging courses in math and science and more likely to drop out of high school.[54] The potential exists for creating a two-track educational system that denies access to college and entry into higher-paying occupations.

For vocational education programs to be successful, it is imperative that career training allow for college attendance and career advancement. To address this concern Massachusetts is working to revise current Career/Vocational Technical Education Standards to incorporate the Common Core Standards, which are more aligned with college preparation. More generally, High Schools that Work (HSTW), an initiative of the Southern Regional Education Board, focuses jointly on providing students with challenging academic courses and career technical training to raise overall achievement. There are currently 1,100 HSTW sites in 32 states, including 10 schools in Massachusetts.[55] These schools can be used as templates for providing secondary students with training in early education and care in a way that does not limit their future options. Finally, the state's newly formed Readiness Centers can play a vital role once students graduate from high school by organizing professional development opportunities to facilitate college entry for working

adults. Readiness Centers can also help early educators create the kind of professional communities that lead to long-term learning and success.

10. State government should ensure that state-funded workforce development programs are outcome-driven and accountable for achieving high-quality standards.

For workforce development programs to be successful, it is critical to identify and achieve goals aligned with improving teacher quality. Both the Springfield and Worcester WCTF-funded programs outline specific outcomes to be achieved (see above), including employee outcomes and business outcomes that can be communicated to policymakers. Identifying outcomes at the start of any initiative establishes clear goals and informs program design. Furthermore, in order to track progress and measure success over time, it is critical to rigorously evaluate the implementation, process and outcomes of workforce development programs. Data should be collected in an ongoing manner to provide programs with continuous feedback that allows them to make adjustments to better reach their articulated goals. Outcome-based data should be collected regarding the impact of a program. This can include the numbers of teachers who pursue and complete degreed programs, the number of institutes of higher education that create articulation agreements, and the effect of the initiative on developing a pipeline to the field. Ultimately, having an evaluation system in place could provide important information about the impact of workforce development initiatives on the quality of teaching in the classroom, teacher compensation, teacher retention rates, and overall program quality.

Concluding remarks

Adopting the above recommendations and increasing the supply of high-quality early educators is expected to provide widespread benefits to participants in the early education and care field. Early education and care programs will gain access to a more qualified workforce that meets national accreditation and state standards, and by extension demonstrate to consumers a continued capacity to provide high-quality learning experiences for young children. Early educators will take steps toward professionalizing their field, which may result in higher wages for this historically underpaid profession. And finally, as noted above, children and families will benefit from better educated and trained early educators, leading to greater exposure to high-quality early education and care, better opportunities for learning and development, and increased preparedness for school and future success in life.

Appendix A

Provided below is a list of community leaders interviewed in Springfield and Worcester. Their insights on the early education and care workforce, as well as ongoing regional efforts to improve workforce development, including WCTF-fund initiatives, were integral to crafting SFC's recommendation for building a comprehensive workforce development system.

Springfield

- Amy Carey, Department of Early Education and Care
- Arlene Rodríguez, Springfield Technical Community College
- Bill Ward, Hamden County Regional Employment Board
- Debbie Flynn Gonzalez, Square One and adjunct faculty at Cambridge College
- Janis Santos, Holyoke-Chicopee Head Start, Inc.
- Janet Steigmeyer, Holyoke-Chicopee Head Start, Inc.
- Joan Kagan, Square One
- Judi Goodwin, Springfield Public Schools
- Karen Stevens, UMass Amherst, University Without Walls
- Keith Hensley, Holyoke Community College
- Linda Calkins, Springfield College
- Mark Leonas, Valley Opportunity Council
- Michael Denney, New North Citizens Council
- Rosemary Hernandez, Developing Early Childhood Educators, Hampden County REB
- Susan O'Connor, Western Massachusetts Out-of-School Time (West MOST)
- Vicki VanZee, Preschool Enrichment Team

Worcester

- Bob Morrison, YouthWorks
- Carol Donelly, Worcester State College
- Eve Gilmore, Edward Street Child Services
- Donna Cohen-Avery, Department of Early Education and Care
- Linda Cavaioli, YWCA of Central Massachusetts
- Marsha Forhan, Worcester Educational Opportunity Center
- Mary Rose, Worcester Technical High School
- Paula Rigero, Colleges of Worcester Consortium Inc.
- Linda Granville, YWCA of Central Massachusetts
- Sheila Diggins, Worcester Comprehensive Child Care Services
- Jeffrey Turgeon, Central Massachusetts Regional Employment Board
- Charlene Mara, Quinsigamond Community College
- Joanne Gravell, Child Care Connection

Notes & References

1 "Model programs" refers to three widely cited high-quality early education programs, each with rigorous gold-standard research evaluation designs: Chicago Child-Parent Centers, Abecedarian Project, and Perry Preschool. For further reading see: Reynolds, A. J., et al. (2001). Long-term effects of an early childhood intervention on educational achievement and juvenile arrest. JAMA, 285(18), 2339-2346; Reynolds, A.J., et al. (2002). Age 21 cost-benefit analysis of the Title I Chicago Child-Parent Centers. Education Evaluation *Policy Analysis, 24*(4), 267-303; Reynolds, A. J., et al. (2007). Effects of a school-based, early childhood intervention on adult health and well-being. *Archives of Pediatrics & Adolescent Medicine*, *161*(8), 730-739; Campbell, F. A., et al. (2002). Early childhood education: Young adult outcomes from the Abecedarian Project. *Applied Developmental Science, 6*(1), 42-57; Masse, L. N. and Barnett, S. W. (2002). *A Benefit-Cost Analysis of the Abecedarian Early Childhood Intervention*. New Brunswick, New Jersey: National Institute for Early Education Research, The State University of New Jersey; Schweinhart, L. J. (2005). Lifetime Effects: The High/Scope Perry Preschool Study Through Age 40. Ypsilanti, Michigan: High/Scope Press.

2 Shellenback, K. (2004). *Child Care and Parent Productivity: Making the Business Case.* Ithaca, NY: Cornell Department of City and Regional Planning.

3 Rolnick, A. and Grunewald, R. (2003). *Early childhood development: Economic development with a high return.* Retrieved from http://www.minneapolisfed.org/publications_papers/studies/earlychild/abc-part2.pdf; The Heckman Equation. (2009). Retrieved from www.heckmanequation.org.

4 Dearing, E., McCartney, K., and Taylor, B. (2009). Does higher-quality early child care promote low-income children's math and reading achievement in middle childhood? *Child Development, 80*(5): 1329-1349.

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6 Kelley, P. and Camilli, G. (2007). The impact of teacher education on outcomes in center-based education programs: A meta-analysis. *NIEER Working Papers*. New Brunswick, New Jersey: National Institute for Early Education Research, The State University of New Jersey

7 Bueno, M., Darling-Hammond, L., and Gonzales, D. (2010). *A Matter of Degrees: Preparing Teachers for the Pre-K Classroom*. The Pew Center on the States. Retrieved from: http://www.preknow.org/documents/teacherquality_march2010.pdf.

8 Opinion Dynamics Corporation. (2006). *Statewide Parent Survey*. Prepared for Strategies For Children.

9 BLS defines preschool teachers as workers who "instruct children (normally up to 5 years of age) in activities designed to promote social, physical, and intellectual growth needed for primary school in preschool, day care center, or other child development facility." These individuals are typically thought of as leading organized classroom activities. Child care workers "attend to children at schools, businesses, private households, and child care institutions. Perform a variety of tasks, such as dressing, feeding, bathing, and overseeing play." The fact that these occupational categories contain obvious points of overlap highlights the difficulty in properly defining and effectively serving the early education and care workforce. For this reason, we provide data on both populations to provide a full picture of the workforce.

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