

EARLY CHILDHOOD IN BOSTON

What do children and families need?
What's available?
How good is it?

*A 2005 look at supply, demand, and quality of early care
and education in Boston*

Boston EQUIP
The Boston Early Education Quality Improvement Project

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Corey Zimmerman, Ed.M.
Katey Connaghan, Ph.D.

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Funding provided by
Boston Community Partnerships for Children
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A 2005 look at supply, demand, and quality of early care and education in Boston

By: Corey Zimmerman and Katey Connagahan
Boston EQUIP, Associated Early Care and Education.

Originally submitted on behalf of the Boston Community Partnerships for Children and Community Partnerships for Children At-Risk Enhancement Services to the Massachusetts Department of Education in fulfillment of the Community Partnerships for Children grant.

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Executive Summary

Major changes are underway to the field of early care and education in Massachusetts. As communities set forth to determine how to navigate these changes, it is imperative that they have data to inform their strategic planning decisions. To the extent that resources are community specific, communities will need access to data that can be analyzed by the community boundary within which they will do planning. This report has been written to both provide a one-stop data reference book for the city of Boston and its neighborhoods, and to complete the evaluation requirement of the FY05 Community Partnerships for Children grant. The data in this report are culled from the Community Profiles surveys, and other community and national sources. Data are analyzed about supply, demand, and quality of early care and education currently in Boston, with the last section provoking further questions about how we will move towards a system of high quality early education for all children.

The quick facts.

Supply & Demand

Population

- An estimated **42,822** infant, toddler, and preschool children live in Boston
 - **22,297** (52%) are infant-toddler age (0 to 32 months)
 - **20,525** (48%) are preschool age (33 to 64 months)
- Approximately **10,705** (25%) children live below 25% of the state median income, which is approximately 100% of the federal poverty level
- Approximately **32,973** (77%) of children live in families with working caregivers

Early Care & Education Supply

- There are **972** active providers of early care and education in Boston, comprising Community-Based Centers, Head Start Centers, Family Child Care, Boston Public Schools, and Other License-Exempt schools, providing an early care and education capacity of **18,876**
- Approximately 71% of the total capacity is for preschool age children and 29% is for infants and toddlers
- Community-Based and Head Start Centers provide 66%, Family Child Care provides 23%, Boston Public School provides 6%, and Other License-exempt schools provide 5% of the capacity for the city
- There are an estimated **13,064** full- and part-time (full/part-day; full/part-week; full/part-year) subsidized care slots

Supply:Demand

- Current early care and education capacity covers **23%** of the entire population of infants and toddlers, and **64%** of the entire preschool age population

- A *universal demand estimate* that assumes need by 50% of infants and toddlers indicates that current capacity meets **46%** of this need, and demand that assumes need by 77% of all preschoolers indicates that current capacity meets **83%** of the need. An additional **8,611** slots are required to equate capacity with these universal demand estimates
- Using a demand estimate based on children living in families with *working parents*, **84%** of the demand is met by capacity, indicating another **3,693** slots necessary to provide access to all children living in working families

Quality

Accreditation

- **15%** of program and providers (32% of the total early care and education capacity) across the city of Boston are NAEYC or NAFCC accredited:
 - 36% of Community-Based and Head Starts centers; 48% of Community-Based and Head Start Center capacity
 - 9% of Family Child Care providers (accredited or possess CDA); 17% of Family Child Care capacity
 - 3% of Public School Preschool programs; 8% of Public School capacity

Staff-to-child Ratios & Group Sizes

Boston Community-Based Center and Head Starts Centers (Average)		
Infant	1:4	7
Toddlers	1:4	9
Preschool	1:9	15
Boston Public Schools Preschool (Average)		
Half-day Preschool	1:6	15
School-day Preschool	1:10	18
Extended Day Preschool	1:12	17
Family Child Care Boston (Average)		
FCC	1:6	6

Teacher Quality

Education

Percentage of teachers in Boston who have a Bachelor’s degree or higher:

- 100% of Public School Preschool teachers

- 36% of Community-Based and Head Start Center Lead Teachers
- 14% of Family Child Care providers

Turnover rate

- 25% average turnover rate of Community-Based Center and Head Start Teachers
- 18% average turnover rate of Boston Public school staff, Teachers, and Paraprofessionals

Salary & Benefits

- Boston Public School Teachers earn **\$39.07/hour** on average
- Center/Head Start Lead Teachers earn **\$14.00/hour** on average
- A Health Plan is reportedly available to
 - 78% of Full Time Center/Head Start staff,
 - 100% of Full time Public School Preschool Teachers
 - 5% of Family Child Care Providers

Looking Ahead

Two major topics of future work and effort requiring dedicated attention and resources will be:

- Raising teacher quality by supporting the current workforce to pursue higher education degrees
- Planning and creating high quality voluntary universal preschool in Boston.

To successfully support the current early care and education workforce to attain higher education credentials we will need more than anecdotal data, rigorous quantitative data is necessary to inform future planning. In particular very little hard data is available about the actual barriers to the higher education system for teachers/providers in Boston. Anecdotes and stories in the community abound and do echo similar themes, including

- “non-traditional students”
- English as a second language
- Reams of certificates and oodles of courses that are non-redeemable for required college courses
- Lack of time to take classes, or can’t attend classes offered at traditional hours during the day or in the summer.

Other important questions are, What is the motivation from the teacher’s perspective for obtaining a higher educational degree? And what is the capacity of higher education institutions in the community to train these teachers? The planning for how to support the current workforce and cultivate the future workforce will require creative thinking, a workforce needs assessment, and should benefit from working in tandem with the planning for high quality universal preschool.

Moving towards a system of high quality voluntary universal preschool in Boston will be directed by decisions made by the Board and Department of Early Education and Care and the Legislature. However, questions will most likely also be left to local communities regarding actual implementation. How Boston moves from the current picture of 64% of the current population of children in programs, to a sustainable system of high quality voluntary universal preschool will involve tackling the following issues:

- Capacity for universal preschool
- A qualified workforce
- Care and Education
- A planning process that involves a range of interested parties, identifies resources for the work, and begins with already evident strengths and barriers.

Conclusion

We all have everything to gain and everything to lose. As is demonstrated in this report there is an immense array of early care and education in Boston that currently provides care and education for more than 18,000 children every day. Unlike most American cities, our collective resources are more mature, primarily mission driven, and higher quality. We have already established a capacity to create, grow, and strengthen early childhood resources.

Each of our livelihoods is at stake, as well as the opportunity for every child born in the next ten years to be guaranteed the best start possible in life. Done with forethought, a transparent process of total community engagement will allow Boston to build a successful mixed delivery system of early care and education, which maximizes the provision of quality experiences for young children and strengthens both public and community institutions.

Introduction

Major changes are underway to the field of early care and education in Massachusetts. As communities set forth to determine how to navigate these changes, it is imperative that they have data to inform their strategic planning decisions. To the extent that resources are community specific, communities will need access to data that can be analyzed by the community boundary within which they will do planning. This report has been designed to both complete the requirements of the evaluation cycle of the Community Partnerships for Children grant, as well as to provide a one-stop data reference book. The data in this report are culled from the Community Profiles surveys and other community sources, and wherever possible have been provided at the neighborhood level to reflect Boston's preference for planning at this level. Overall, the data provide many useful answers about the current state of early care and education in Boston, and hopefully provoke further interesting questions about how we will move towards a system of high quality early education for all children.

Community Partnerships for Children in Boston

In Boston there are two Community Partnership for Children Councils, the Boston Community Partnerships for Children (Boston CPC) and the Community Partnership for Children At Risk Enhancement Services (CPCares). Together these councils provide increased access to high quality early care and education services to more than 1100 children. Each Council works with unique partners, but also strives to form collaborations across areas such as comprehensive services and quality enhancement.

The Boston CPC works with 75 Community-Based Centers, 24 independent Family Child Care providers, 10 Family Child Care Systems, and 19 Head Start Centers, with a priority to provide full-day full-year early education for three and four year old children. Boston CPC provides extensive accreditation support to programs and providers in the city to reach the high-quality standards of National Association for the Education of Young Children and the National Association for Family Child Care accreditation. This spring through its Collaboration committee, the Boston CPC has begun to host forums for community members to come together to discuss a process for strategic planning towards the vision of universal preschool.

CPCares exclusively focuses on the needs of at-risk children by expanding access to early care and education for at-risk children and ensuring that they have access to the support services they need once in care. This spring CPCares has begun to look at how the forthcoming changes in the system will affect at-risk children.

Both Councils partnered with Boston EQUIP to facilitate the Community Profiles survey, so as to have one coordinated effort for surveying the city.

Boston EQUIP

In 1994, Associated Early Care and Education launched the Boston Early Education Quality Improvement Project with the broad mission “to collaborate with members of the Boston early education community to systematically evaluate, set goals for, and improve upon the quality of early childhood programs.” In 1995, Boston EQUIP conducted its first inventory of the early education system in Boston, collecting data about children, facilities and quality. This original inventory, developed from existing validated and reliable survey tools used elsewhere in early childhood research, eventually become the template for the Massachusetts Department of Education’s Community Profiles surveys. Boston EQUIP has surveyed the field biannually since the first survey in 1995, with the most recent iteration in collaboration with the Boston Community Partnerships for Children Councils. Boston EQUIP has also been responsible for producing several reports for the community looking at, progress towards meeting a series of community established quality benchmarks, the unmet need for early care and education in Boston, and the availability of screening and therapy services in Boston early care and education programs.

Community Profiles 2003-2004

A required component of the Community Partnerships for Children grant was the administration of the Community Profiles surveys including the Community Profiles 2003-2004 Center / Head Start survey, the Community Profiles 2003-2004 Family Child Care survey, Community Profiles 2003-2004 Public School survey, and the Community Profiles 2003-2004 Teacher survey. Boston EQUIP worked with the Boston Community Partnerships for Children Councils to perform this task, and the resulting data analysis.

The Community Profiles Surveys Timeline:

Beginning in the late summer of 2003 through September of that year, suggestions and comments on the content of the Community Profiles surveys were solicited by the Department of Education. In December 2003, the surveys were finalized and received by communities. In January of 2004, the surveys were sent out to programs and providers and in February through March of 2004 follow-up was done to survey participants. March through May of 2004, Boston EQUIP staff cleaned the surveys, submitting all of the surveys for digitization in late May of 2004. The digital data files were returned to the Boston CPC and Boston EQUIP, Center/Head Start in late January 2005, the Family Child Care survey in early March 2005, and the Public School Preschool in mid-April 2005. This report will be submitted as completion of this survey process on June 30, 2005.

Distribution of the Community Profiles Surveys and Response Rates:

Center / Head Start: A list of the current licensed Community-Based Centers and Head Start Centers was obtained from the Office for Child Care Services, and further cleaned by the Boston EQUIP Advisory Committee. All 211 Community-Based Centers and Head Start Centers were surveyed. Surveys were sent to 182 Community-Based Centers, 94 were returned for a response rate of 52%. Surveys were sent to 29 Head Start Centers, 25 were returned, for a response rate of 86%. Table 1 presents the response rates by neighborhood.

Table 1: Response rates to Community Profiles 2003-2004 Center / Head Start Survey

<u>CPC Neighborhood</u>	Total sent (#)	Received (#)	Response rate (%)
Allston-Brighton	15	10	67
Back Bay/ Beacon Hill / Downtown	18	6	33
Charlestown/North End	8	6	75
Dorchester	47	25	53
East Boston	12	6	50
Jamaica Plain/Roxbury	46	27	59
Mattapan	6	3	50
Roslindale/West Roxbury/Hyde Park	22	11	50
South Boston	11	9	82
South End/ Chinatown/ Fenway	26	14	54
Boston Total	211	117	55

Family Child Care: A list of all licensed Family Child Care providers was provided by the Department of Education. This list contained 1027 Family Child Care providers. Recognizing that a high percentage of Family Child Care providers in Boston may be licensed but not active, a list of licensed – active- Family Child Care providers was obtained from the Region 6 child care resource and referral agency (Child Care Choices of Boston [CCCB]). It is possible that a provider may be actively serving children, but not be interested in being on CCCB’s active referral list. However, using this list was deemed the most accurate method to discount the list of total licensed providers to estimate the number of active providers. At the time of the survey, the CCCB list contained 532 active Family Child Care providers. A stratified random sample was taken from this list, with smaller clusters over-sampled. Surveys were sent to 321 Family Child Care providers, and 146 were returned for a response rate of 45%. Surveys were available in English and Spanish. Table 2 shows the response rate to the Community Profiles 2003-2004 Family Child Care survey by neighborhood.

Table 2: Response rates to the Community Profiles 2003-2004 Family Child Care Survey

Neighborhood	Total sent (#)	Received (#)	Response rate (%)
Allston-Brighton	8	7	88
Back Bay/ Beacon Hill / Downtown	1	0	0
Charlestown/North End	6	3	50
Dorchester	113	54	48
East Boston	17	12	71
Jamaica Plain/Roxbury	67	22	33
Mattapan	19	8	42
Roslindale/West Roxbury/ Hyde Park	74	32	43
South Boston	3	1	33
South End/ Chinatown/ Fenway	13	7	54
Boston Total	321	146	45

Public Schools: A list of all the Boston Public Schools offering preschool or Kindergarten was provided by the Department of Education. This list contained 88 schools. Surveys were sent to the all of these schools, and 44 were returned for a response rate of 50%.

Follow-up: Several follow-up measures were enacted. Surveys were sent in early January with a return date of January 31, 2004. Surveys were mailed with stamped return envelopes, and all participants were offered the opportunity to participate in several raffle drawings. Starting in February, phone calls were made to all programs and providers encouraging them to complete and return the survey. Surveys were resent, faxed, or emailed if the participant requested. Some surveys were completed over the phone. A bilingual (Spanish and English) volunteer called family child care providers and completed several surveys by phone. As well, Family Child Care systems, the Boston Community Partnerships for Children, and other large child care organizations assisted by encouraging their members to complete and return the survey. The surveys were cleaned for internal consistencies prior to submitting them to the Department of Education.

Throughout this report, it is important to note that when the Community Profiles are the data source that survey data are inherently self-report data.

Neighborhood Boundaries

The Community Partnership for Children Councils in Boston both use neighborhood boundaries modeled on the Boston Public Health Commission neighborhood boundaries. Using these, there are 10 neighborhoods in Boston.

- Allston – Brighton

- Back Bay / Beacon Hill / Downtown
- Charlestown / North End
- Dorchester
- East Boston
- Jamaica Plain / Roxbury
- Mattapan
- Roslindale / West Roxbury / Hyde Park
- South Boston
- South End / Chinatown / Fenway

The Boston Community Partnerships for Children works with all the neighborhoods, except for Back Bay / Beacon Hill / Downtown, while the CPCares Council focuses on the four neighborhoods of Dorchester, East Boston, Jamaica Plain/Roxbury, South End/Chinatown/ Fenway. All ten neighborhoods have been used in this report's analysis to provide a comprehensive picture of the city.

Demand for Early Care & Education in Boston

Sources of Population Data

Determining the population of children of interest for this report, those children ages birth to 5 years, 4 months, proved a surprisingly complicated task. Traditionally the U.S. Census has been employed as the primary source of population figures by both researchers and the community. However, many experts agree that certain population groups, such as children, ethnic minorities, and undocumented immigrants, are particularly vulnerable to a Census under-count¹. Therefore, other methods to calculate population were considered. This report includes a range of estimates of the population of children of interest living in Boston. These estimates were derived from the 2000 U.S. Census and Boston birth record data. This range affords a high level of confidence that the actual population values are represented in the data series.

The population of interest, potential consumers of early care and education, are children from birth to 5 years, 4 months. Because children enter Boston's Kindergarten if 5-years-old by September 1st, one-third of 5-year-olds are still of an age to participate in early care and education and are captured by including children up to 5 years, 4 months of age.

2000 U.S. Census Data

According to the 2000 Census, Boston ranked 5th out of 23 of the largest U.S. cities for proportion of immigrant residents, with 25% of Boston's population being foreign-born. Using Census population data to determine the number of young children living in Boston was concerning due to the number of young children with immigrant parents who may be particularly vulnerable to Census undercount. An additional limitation of the Census is that it is conducted decennially, with the most recent Census conducted in 2000 and potentially outdated. Because of these concerns, it was necessary to seek additional formal sources of population estimates. Consultation with a number of organizations providing services to immigrants and refugees and with researchers and advocates working with these populations revealed the Census as a commonly employed source of population figures. Although this search did not yield additional sources of population information, it did provide confirmation that Census data is one accepted source of population data, albeit a low estimate.

The Census population estimate was calculated from the Census 2000 Summary File 1 (Table P12. "Sex by age"). For each neighborhood (based on Boston Public Health Commission Boston neighborhoods), the total number of males and females aged 0-5

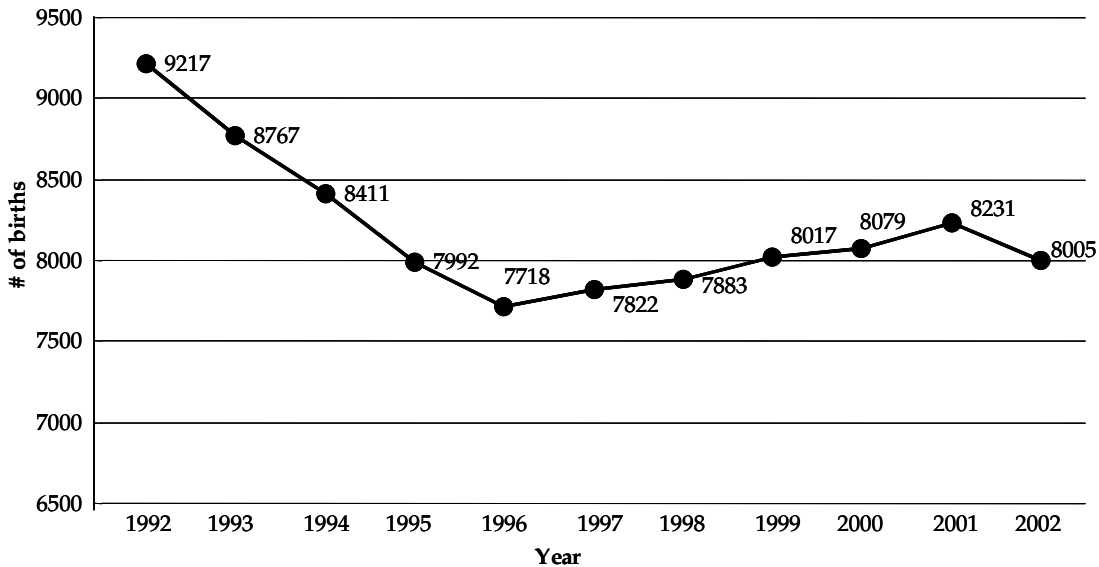
¹ Lowenthal, T.A. (2005). "Counting Kids in Census 2000: Results and Challenges." Baltimore, MD, The Annie E. Casey Foundation.

years was summed. One-third of the number of children age 5 years was added to derive the population estimate for each neighborhood. As can be found in Table 3, the 2000 Census data estimate of the population of children ages 0 to 5 years, 4 months in Boston was **34,195**.

Boston Birth Records

An intermediate estimate of the early child population in Boston was obtained from Boston Public Health Commission records of live births. These records include any child born in the city with a maternal residence of Boston. As 93% of children of immigrants living in the United States are U.S.-born citizens², birth record figures capture the vast majority of children of immigrants, a group at-risk for undercount in the Census. However, although these data are more recent than 2000 Census data (at the time of this report, the most recent birth records were from 2002), they still present a 3-year lag. Figure 1 summarizes the total number of births (1992-2002) to mothers residing in Boston. As demonstrated in this figure, the number of births in 2002 shows a decline from the previous three years.

Figure 1. Boston births from 1992-2002



Source: Boston Public Health Commission (2004). "Boston Births 2002".

To obtain an estimate of the size of the population of young children in the city of Boston, the birth records from 1998-2002 and one-third of the records from

²Capps, R., Fix, M., Ost, J., Reardon-Anderson, J., & Passel, J.S. (2003). "The health and well-being of children of immigrants." Washington D.C., The Urban Institute.

1997³ were summed⁴. The total number of children based on this formula was **42,822**. Birth record population estimates by neighborhood and for the city are found in Table 3. This table demonstrates that the greatest percentage of children ages birth to 5-years, 4-months reside in Dorchester (28%), whereas the fewest are found in Back Bay/Beacon Hill/Downtown (4%).

Boston Birth Records + Foreign-born Children

A third (high) estimate of the young child population in Boston was calculated to include child immigrants. This estimate included the addition of foreign-born children moving into Boston. The 2000 Census provided data on the number of foreign-born individuals living in each Boston neighborhood⁵ and an estimate of the percentage of foreign-born individuals by age on a national level⁶. Based on the percentage of foreign-born individuals of interest to this report (children ages birth to 5-years, 4-months⁷), it was possible to calculate the number of foreign-born children by applying this percentage to the foreign-born individuals in each neighborhood. To obtain the high estimate, this number was added to the birth record data for each neighborhood. As can be seen from Table 3, this formula yielded a total of **44,875** children ages birth to 5-years, 4-months in the city of Boston.

Population Estimates Throughout Report

As seen in Table 3, the population estimates range from 34,195 to 44, 875, reflecting a difference of over 10,000 children between the high and low estimates. Given the range of population estimates, the remainder of the report will use birth record data, the intermediate estimate, for base population numbers in calculations of supply and demand. Although the Boston birth record data has a 3-year lag, it provides the most up-to-date information available and does an adequate job capturing those individuals vulnerable to undercount in the Census. It should be noted that the birth record data does not lag when one is determining the current preschool population. For instance, those children born in 2002 have or will be turning 3 years this year.

³ Neighborhood birth record data provided by Mary Ostrem, Dr.Ph, Boston Public Health Commission; Analysis by Boston EQUIP.

⁴ An attempt was made to subtract death records from birth records. Although death record information for children ages birth to 6 years was obtained from the Boston Public Health Commission for the same time period as the birth records, the appropriate ages for each year could not be disaggregated from the total deaths of children under 6 years.

⁵ U.S. Census Bureau, 2000 Census Summary File 3. (TableP21. "Place of birth by citizenship status".)

⁶ Malone, N., Baluja, K.F., Costanzo, J.M., & Davis, C.J. (2000). "The Foreign-Born Population: 2000." U.S. Census Bureau, Census 2000 Briefs. Available at <http://www.Census.gov/prod/2003pubs/c2kbr-34.pdf>

⁷ The percentages of foreign-born children of interest were provided for children ages 0-4 years and 5-9 years. To include children up to 5 years, 4 months, 1/15 of the percentage of foreign-born children ages 5-9 years (.16%) was added to the percentage of children ages 0-4 years (1.2%), for a total of 1.36%.

Table 3. Estimates of population of children aged birth to 5 years, 4 months for Boston and neighborhoods

Neighborhood	2000 Census	Birth Records	Birth Records + Foreign Born
Allston-Brighton	2285	3226	3525
Back-Bay /Beacon Hill / Downtown	749	1531	1611
Charlestown /North End	1193	1647	1697
Dorchester	10273	11849	12374
East Boston	2903	3665	3883
Jamaica Plain /Roxbury	5220	6495	6734
Mattapan	1651	1740	1831
Roslindale /West Roxbury /Hyde Park	6724	7556	7847
South Boston	1603	2044	2095
South End / Chinatown /Fenway	1594	2454	2663
Boston Total	34195	42822*	44875*

*Boston Total is greater than sum of neighborhoods by 615 children. The Boston birth record data provided by the Boston Public Health Commission included children with birth records with either missing census tract information (therefore could not be assigned to a neighborhood) or indicated as a Boston resident, yet presenting with non-Boston census tract⁸.

Source: Boston Public Health Commission birth records (1997-2002), U.S. Census Bureau
 Analysis: Boston EQUIP

Characteristics of the Population

Age

The population of young children in Boston was also considered by age group. Infants and toddlers represent the population from birth to age 2-years, 8-months and preschoolers include children from 2-years, 9-months to 5-years, 4-months. Table 4 presents the number of children in these age ranges based on birth records and as a range from lowest estimate (2000 Census) to highest estimate (birth records + number foreign born children).

⁸ Information provided by Phyllis Simms, Boston Public Health Commission – personal communication.

Table 4. Population of young children in Boston, broken out by Infant-Toddlers (0-2 years, 8 months) and Preschoolers (2 years, 9 months – 5 years, 4 months)

	Birth Records	Range (Census – Birth Records + Foreign Born)
Infant-toddlers	22297	18111 - 23307
Preschoolers	20525	16085 - 21581

Source: Boston Public Health Commission birth records, U.S. Census Bureau
 Analysis: Boston EQUIP

The number of infant-toddlers and preschoolers living in the neighborhoods is found in Appendix A. The relationship between the number of infant-toddlers versus preschool children is fairly consistent throughout the neighborhoods, with the exception of Mattapan, which demonstrates a slightly greater number of preschool children than infant-toddlers.

Income

Another method for describing the population of young children in Boston is by determining the number of children living in low-income families. At the time of the 2000 U.S. Census, 25% of children under the age of 5 years in Boston lived in poverty⁹. The federal poverty level has been roughly equated with 25% of the Massachusetts state median income (SMI for 4-person family = \$78,025 in 2000¹⁰), although this value (\$19,562) is greater than the 2000 federal poverty threshold (\$17,603). The percentage of children living below the poverty level was determined from 2000 Census and then applied to the birth record estimation of population¹¹. The estimated number of children living below 25% of the SMI can be found in Table 5. Because the calculations were based on birth record data, please note that the sum of the neighborhoods does not equal the Boston Total.

The methodology recommended by the Massachusetts Department of Education to obtain an estimate of the children living in families with incomes below 200% the poverty line (below approximately 50% SMI) is to simply double the number of children living below 100% the federal poverty level (below approximately 25% SMI). These estimates are found in Table 6. It should be noted that there is error associated

⁹ Average federal poverty threshold for 4-person family in 2000 = \$17,603. U.S. Census Bureau "Poverty Thresholds 2000" at <http://www.census.gov/hhes/www/poverty/threshld/thresh00.html>

¹⁰ U.S. Census Bureau. Available at <http://www.census.gov/hhes/income/4person.html>

¹¹ see Methods section for detail

with the assumption that income is distributed evenly across the population of children, and therefore the values yielded from this method are just estimates.

Table 5. Number and percentage of children living below the federal poverty level (approximately 25% of state median income)

Neighborhood	% below 25% of SMI	# below 25% of SMI
Allston-Brighton	23	526
Back Bay /Beacon Hill / Downtown	3	46
Charlestown /North End	32	527
Dorchester	28	3318
East Boston	29	1063
Jamaica Plain /Roxbury	32	2078
Mattapan	24	418
Roslindale /West Roxbury / Hyde Park	13	982
South Boston	34	695
South End /Chinatown / Fenway	37	908
Boston Total	25	10705

Source: Boston Public Health Commission birth records (1997-2002),
 U.S. Census Bureau
 Analysis: Boston EQUIP

Based on these estimates, approximately **21,410** children residing in Boston live below 50% of the state median income (below 200% federal poverty level) and **10,705** live below 25% of the state median income (below 100% federal poverty level). The highest neighborhood concentrations of children from low-income families are found in both the South Boston and the South End/Chinatown/Fenway neighborhoods, whereas the smallest concentration of children from low-income families are found in the Downtown/Back Bay/Beacon Hill neighborhood.

Table 6. Number and percentage of children birth to 5-years, 4-months living below 50% of state median income

Neighborhood	% below 50% of SMI	# below 50% of SMI
Allston-Brighton	46	1052
Back Bay /Beacon Hill / Downtown	6	92
Charlestown /North End	64	1054
Dorchester	56	6636
East Boston	58	2126
Jamaica Plain /Roxbury	64	4156
Mattapan	48	836
Roslindale /West Roxbury / Hyde Park	26	1964
South Boston	68	1390
South End /Chinatown / Fenway	74	1816
Boston Total	50	21410

Source: Boston Public Health Commission birth records (1997-2002),
 U.S. Census Bureau
 Analysis: Boston EQUIP

Working Families

Another descriptor of the population of young children in Boston relevant to the demand for early care and education is the number of children living with working/non-working caregivers. The employment status of parents of children under 6 years of age was determined from the 2000 Census¹². Percentages of parents working

¹² U.S. Census Bureau, 2000 Census, Summary File 3. (Table P46. "Age of own children under 18 years in families and subfamilies by living arrangement by employment status of parents".)

and not working were calculated and applied to the birth record population estimate to calculate the current number of children living with working/non-working caregivers. As shown in Table 7, an estimated 77% (32,973) of the young children residing in Boston live with at least one working caregiver. It should be noted that this value is an estimate, as the Census information included children living in families and subfamilies only, and the proportion was applied to the population of all young children in the city. In addition, the Census data included children less than 6 years, whereas we applied the proportion to children under 5 years, 5 months.

Table 7. Percentage and number of children living in Boston with parents in/not in labor force

	% of Children	# of Children
Living with two parents:		
Both parents in labor force	29	12418
Father only in labor force	17	7280
Mother only in labor force	4	1713
Neither parent in labor force	5	2141
Living with father:		
In labor force	5	2141
Not in labor force	2	856
Living with mother:		
In labor force	22	9421
Not in labor force	16	6852

Source: Boston Public Health Commission birth records (1997-2002),
 U.S. Census Bureau
 Analysis: Boston EQUIP

Conclusion

Three estimates of the number of children ages birth to 5-years, 4-months living in Boston are presented, suggesting a population of **42,822** (range of 34,195-44,875). According to birth records, there are 22,297 infant-toddlers and 20,525 preschoolers

living in the city. Approximately 25% of these children (**10,705**) live below 25% of the state median income and **21,410** children live below 50% of the state median income. In addition, 77% (**32,973**) of the young child population lives with at least one working caregiver.

Supply of Early Care and Education in Boston

Boston's supply of early care and education yields an active capacity of **18,876**. Community-Based centers and Head Start centers provide **66%** of this capacity and **71%** of the city's total capacity is slotted for preschool-age children. There are approximately **13,064** subsidies available. This section of the report will further describe the amount and type of care available for young children. The following section will include a discussion of the relationship between demand and supply and how effectively the current supply of early care and education in Boston meets the demand.

Programs and Providers

Boston's supply of early care and education is diverse. Programs vary by setting, length of day, number of days that service is provided per year, and by the quality of the program. To generate the most current list of possible programs for this report, several sources were contacted. The Massachusetts Office of Child Care Services (OCCS) and the child care resource and referral agency for Boston (Child Care Choices of Boston) were the sources of capacity information for licensed Community-Based centers and Head Start centers. There are currently **228** Community-Based and Head Start centers in Boston. The Child Care Choices of Boston (CCCB) list of active licensed Family Child Care providers was considered the most accurate list for Family Child Care (FCC). CCCB maintains a list of active providers, updated according to each provider's responses to requests by CCCB for information and confirmation that they wish to remain on the referral list. There are **676** active FCC providers in Boston.

Some providers of early care and education in Boston are license-exempt. The Boston Public Schools (referred to as "Boston Public Schools" throughout the report) is the largest license-exempt provider, and other providers include religious and private programs (referred to as "Other License-exempt" throughout the report.) The Boston Public Schools provided the list of schools with K0 and K1 classrooms. There were **37** Boston Public Schools with preschool for 3 year olds (K0) and preschool for 4 year olds (K1) during the 2004-2005 school year. To identify Other License-exempt programs, sources such as the Massachusetts Department of Education and the Archdiocese of Boston were contacted (see Methods section for further description). These programs yielded an additional **31** programs.

Overall, there are **972** providers of early care and education in Boston. Appendix B shows the number of each type of program located in each neighborhood.

Capacity

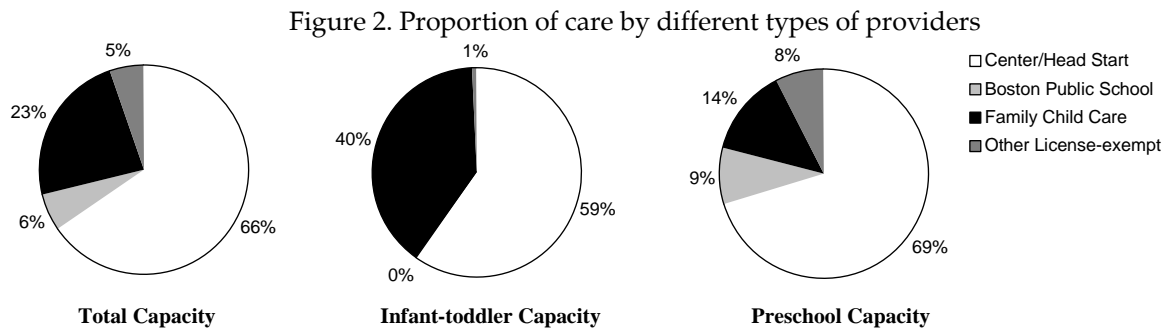
Based on the licensed capacity of Boston Family Child Care, Community-Based Centers, Head Start centers, and the reported capacity of the Boston Public School and Other License-exempt programs, the total capacity of early care and education in the city of Boston is **20,411**. This figure is likely an over-estimation of the supply, as this number is reduced to **19,094** when only those FCC providers considered active by CCCB are included. It should be noted that there are likely some active FCC providers who choose not to be listed with CCCB, so reducing the capacity by those inactive providers may slightly underestimate FCC capacity. The total child care capacity is further reduced to **18,876** if Family Child Care licensing for school-aged children is removed (two children subtracted from the capacity for each Family Child Care Plus license). Unless otherwise noted, a capacity of 18,876 is used throughout the report. It is also important to document that capacity may include both full- and part-day, full- and part-week, and full- and part-year slots. For example, many of the Other License-exempt programs and the Boston Public School preschools provide service for the school year only.

Table 8. Early care and education capacity for Boston neighborhoods

Neighborhood	Total	% of total Boston capacity
Allston-Brighton	1162	6
Back Bay /Beacon Hill /Downtown	984	5
Charlestown /North End	519	3
Dorchester	4994	26
East Boston	956	5
Jamaica Plain /Roxbury	4295	23
Mattapan	932	5
Roslindale /West Roxbury /Hyde Park	2398	13
South Boston	672	4
South End /Chinatown /Fenway	1964	10
Total	18876	100

The early care and education capacities for the Boston neighborhoods are summarized in Table 8. The greatest capacities were found in Dorchester and Jamaica Plain/Roxbury, which provide 26% and 23% of the capacity for the city respectively, whereas the lowest capacities were found in Charlestown/North End (3%) and South Boston (4%).

Appendix C provides an estimate of the infant-toddler versus preschool capacity across the neighborhoods. The total capacity for early care and education in Boston was calculated by aggregating the capacity of Community-Based and Head Start programs, Family Child Care programs, Boston Public School preschool programs, and Other License-exempt programs. The proportion of care provided by the different types of programs, and specifically for infant-toddlers and preschoolers, is depicted in Figure 2.



As shown in Figure 2, two-thirds of the care (66%) is provided by Center and Head Start programs. FCC provides 23%, Boston Public Schools provides 6%, and Other License-exempt programs provide 5% of the total early care and education capacity in Boston. Across the city, 71% of the early care and education capacity is for preschool children, whereas 29% is for infant-toddlers. Of the preschool capacity, 69% is provided by Community-Based and Head Start Centers, 14% by FCC, 9% by the Boston Public Schools, and 8% by Other License-exempt programs. The distribution of capacity by types of providers within the neighborhood is found in Table 9.

Family Child Care (FCC)

The total number of licensed FCC providers in Boston is 899, with a child care capacity of 5,852. The number of active FCC providers is 677 with a capacity of 4,535 slots. The latter capacity figure includes those providers with specific capacity slots for school-age children (Family Child Care Plus license). When considering children under school-age only by removing these school-age specific slots, the capacity is reduced to 4,317. As shown in Figure 2, FCC accounts for 23% of the total capacity for the city. Less than 1% of FCC capacity is found in Back Bay/Beacon Hill/Downtown, whereas 39% is located in Dorchester.

Based on currently active FCC providers, FCC supplies **2,041** slots for infants and toddlers (40% for the city), **1,769** slots for preschool-aged children (14% for the city), and **726** slots for school-aged children. The proportion of FCC services for infant-toddlers versus preschoolers was estimated from responses to the Community Profiles Family Child Care Survey. The process to determine this proportion can be found in the Methods section.

Table 9. Capacity by types of programs & providers, across neighborhoods

Neighborhood	Family Child Care	Center & Head Start	Boston Public Schools	License-exempt	Total
Allston-Brighton	73	863	132	94	1162
Back Bay /Beacon Hill /Downtown	6	967	0	11	984
Charlestown /North End	39	454	9	17	519
Dorchester	1668	2635	364	321	4988
East Boston	146	649	114	47	956
Jamaica Plain /Roxbury	850	3178	150	123	4301
Mattapan	391	399	121	21	932
Roslindale /West Roxbury /Hyde Park	1024	1106	78	190	2398
South Boston	26	480	79	87	672
South End / Chinatown /Fenway	94	1729	51	90	1964
Total	4317	12460	1098	1001	18876

Vacancies

To further describe FCC capacity, the vacancy rates were considered. These data were obtained from the Community Profiles Family Child Care survey. Sixty-nine percent of respondents indicated that they had at least one full-time vacancy and 43% percent of respondents indicated that they had at least one part-time vacancy. When these percentages were applied to the population of FCC providers in Boston, it was estimated that approximately 466 providers have full-time vacancies, and 290 providers have part-time vacancies. Based on the survey responses, the combination of full-time

and part-time vacancies yielded a vacancy rate of **37%**. This rate reflected an estimated total of **1,678** vacant slots when applied to the total capacity of FCC slots.

Waitlists

Waitlist for early care were also investigated to further describe capacity. Again, the Community Profiles Family Child Care Survey was consulted. Twenty percent of respondents indicated that they had a waiting list, with 47% of the waitlist for infant and toddler slots, 37% for preschool slots, 14% for kindergarten slots, and 3% for school-age slots. The number of waitlist slots for infant-toddlers and preschoolers corresponded to 6% and 4% of total capacity, respectively. When these proportions were applied to the total licensing capacity of FCC providers in Boston, the estimated waitlist across the city for infant-toddler slots was **272** and for preschool slots was **101**.

Community-Based & Head Start Centers

The 228 active Community-Based and Head Start Centers provide care to **12,460** children and provide **66%** of the early care and education capacity in Boston. Twenty-five percent of these slots are available for infant-toddlers and 75% for preschoolers. Community-Based and Head Start Centers supply **3,081** (59% of city total) of the infant-toddler slots and **9,068** (69% of city total) of the preschool slots in Boston. At least 10% of the children receiving Head Start services receive special education. Approximately 20% of these children with special needs have dual placement, that is, receive service at Head Start and through the Boston Public Schools.

Vacancies

The Community Profiles Center/Head Start survey was used to estimate the vacancies for center-based care. Fifty-seven percent of respondents reported having full-time vacancies. Of those vacancies, 17% were for infants and toddlers, 58% for preschoolers, 10% for kindergarteners, and 14% for school-age children. Twenty percent of respondents indicated having part-time vacancies. Of these part-time vacancies, 26% were for infant-toddlers, 40% were for preschoolers, 2% for kindergarteners, and 31% for school age children. The total vacancy rate for all age groups was 9%, which corresponds to **1,121** full- and part-time vacancies for the total capacity of Center and Head Start programs across Boston. The vacancy rate of 10% for infant-toddlers corresponded to 308 vacancies across the city and the rate of 8% of preschool vacancies corresponded to 725 vacancies.

Waitlists

Fifty-five percent of the Center/Head Start survey respondents reported maintaining a waitlist for full-time slots, with 47% of the waitlist for infant-toddler slots and 37% for preschool slots. The waitlist for infant-toddlers was 4% and for preschoolers was 3% of the total capacity reported by the survey respondents. These proportions corresponded

to 123 infant-toddler and 272 preschool waitlist slots when applied to the total capacity for the city. Less than 1% reported having a waitlist for part-time slots.

Boston Public School Preschool

With the exception of early intervention services, the Boston Public Schools do not provide infant-toddler care and education, but currently have capacity for 1,098 preschoolers across 37 sites in the city of Boston. Dorchester currently possesses the greatest percentage of Boston Public School capacity (33%). Consistent with their mandate, Boston Public Schools preschools provide a substantial amount of care and education to children with disabilities. In fact, approximately 40% of their slots for the 2004-2005 school year were filled with children requiring special education services. As noted above, a number of these special needs children receive additional service through other programs, such as Head Start.

In addition, Boston Public Schools are planning to open 21 new classrooms for a total of 421 additional slots for 4-year-old children in the fall of 2005. This expansion will increase the share of the Boston Public Schools to approximately 11% of the city care for preschoolers, given the existing total capacity. The location of these slots by Boston neighborhood can be found in Appendix D. Because this capacity is projected and not current, these values are not used for capacity and capacity-demand calculations throughout the report.

Other License-Exempt

Thirty-one Other (non-Boston Public School) License-exempt providers were identified, for a total capacity of 1,001 slots. These slots accounted for 5% of the total capacity citywide, for less than 1% of infant-toddler care (31 slots), and for 8% of preschool care (970 slots). The vast majority of this capacity (715 slots) was provided by Catholic schools within the Archdiocese of Boston. As seen in Table 9, the greatest percentage of Other License-exempt capacity (32%) is found in the Dorchester neighborhood.

Subsidies

Subsidized early education and care is found in many forms in Boston. Among the types of subsidies are Early Head Start and Head Start, Vouchers (DTA, IE, Teen parent, Homeless), OCCS contracts (Income eligible, Homeless, and Supported), Community Partnerships, and Public School. Subsidies cover various portions of care, including full-day/full-year, full-day/part-year, part-day/full-year, and part-day/part-year. An example of part-day/part-year subsidized care is that provided by the Boston Public Schools, which generally includes 6 hours per day/180 days per year. To provide full-time care, one child may receive multiple subsidies.

Table 10. Type and estimated number of subsidies in Boston

Subsidy	+Estimated #
CPC – Phase III	992
CPCares	59
DTA Voucher	2816
Early Head Start	175
Head Start	2430
IE Vouchers	3405
++OCCS contracts	1970
Public School	1098
Teen Parent Vouchers	119
Total	13064

+ Includes full-time and part-time slots

++ Estimated as 50% of contracts (Income Eligible, Homeless, and Supported) in Region 6¹³

Source: Boston Public Schools, Child Care Choices of Boston, Community Partnerships for Children, CPCares, Head Start, MA Office of Child Care Services

As seen in Table 10, there are an estimated **13,064** (including part-time and part-year) subsidized child care and education slots. Vouchers are the most common form of subsidies (48%), followed by Head Start (19%).

Conclusion

Throughout Boston, there are approximately **18,876** early care and education slots. The vast majority of this care (71%) is for preschool children. The type of care and education is varied, including Family Child Care, licensed Community-Based and Head Start

¹³ Number of contracts in Region 6 and estimation provided in personal communication from Rod Southwick, MA Office of Child Care Services

Centers, Public Schools, and Other License-exempt programs. The majority of care is provided by Centers and Head Starts, and is located in the neighborhoods of Dorchester and Jamaica Plain/Roxbury. There are **13,064** full- and part-time early care and education subsidies in Boston, covering a variety of portions of the day and year.

The Relationship of Supply and Demand

A discussion of the state of early care and education in Boston would be incomplete without presenting a comparison of capacity to demand, thus informing questions of whether the current supply is adequate to meet the need for early care and education. Comparisons of supply and demand require delineating the size of the population requiring care. The following discussion includes a number of ways to consider this population, such that comparisons include current capacity to the total young-child population in the city, to the number of children residing in low-income families, and to the number of children living with working caregivers.

Capacity and Number of Children Currently Served

Prior to considering the unmet need for early care and education, it is important to determine how many children currently receive these services. Specifically, does licensed and licensed-exempt capacity equal the number of children currently enrolled in services? One hypothesis is that more children may be served than capacity suggests, since two children may use two part-time slots (one full-time slot) or fill a space on alternating days. For the License-exempt providers, including the Boston Public Schools, we assumed that the number of children served equals capacity as there are no licensing restrictions on the number of children served. For Community-Based and Head Start Centers and Family Child Care we referred to the Community Profiles Surveys to estimate the number of children served. From the surveys, a ratio of the total number of children enrolled to total active licensing capacity was calculated. As mentioned previously, the number of “active” providers may be somewhat of an underestimation, as some providers may actively serve children, yet choose to not be listed on CCCB’s list. Contrary to the initial hypothesis, the ratio of total children enrolled to licensed capacity was **89%** (11% vacant) for infant-toddlers and **96%** (4% vacant) for preschoolers in Community-Based and Head Start Centers and **68%**¹⁴ (32% vacant) of young children served in FCC. These ratios were then applied to the total capacity in Boston, specifically broken out for Infant-toddlers and Preschoolers, resulting in the finding that currently enrolled children fill **84%** (16% vacant) of the capacity for infant-toddlers and **94%** (6% vacant) of the capacity for preschool children.

It is unclear why capacity is not filled to 100%. A number of FCC providers in particular do not appear to enroll children to their maximum licensing capacity. This trend may reflect the licensing guidelines, as options for licensing include a license for 6, 8, or 10 children, when perhaps the provider intends to care for less than the minimum of 6. Other possibilities for the fact that capacity does not equal enrollment in both FCC and Centers could be lack of funding to support children who need subsidized child care or lack of qualified staff.

¹⁴ This calculation includes kindergarten and school-age license-capacity and children.

Even though it was determined that enrollment does not equal capacity, further exploration of the supply-demand relationship will incorporate total licensed and license-exempt capacity because this capacity is technically available for use. Separate work should be done to address the possibility of filling this capacity before new capacity is built in an effort to expand early care and education in Boston.

Capacity and Population

The first estimate of the demand for early care and education services is the entire population of children ages birth to 5 years, 4 months. Although modeling the demand with this population may result in an overestimation of the demand for care, as not all families require or desire early care and education, considering a 100% uptake rate for care does provide the outer limits for need. In particular, it is widely accepted that quality preschool experiences contribute to school readiness and success, as well as the long-term economic and social benefits. One conclusion is that all children would benefit from access to early care and education.

The relationship of current capacity to the three population estimates can be found in Table 11. When birth records were used as the base population number, the current child care capacity provides service for only **23%** of the city’s infant-toddler population, **64%** of the preschool population, and **44%** of the total young-child population. In other words, capacity would need to increase by 77% (nearly 17,000 additional slots) to ensure sufficient supply for all infant-toddlers and by 36% (7,000 additional slots) to ensure sufficient supply for all preschoolers.

Table 11. The relationship of active capacity to population of children ages 0-5 years, 4 months

	2000 Census	Birth Records	Birth Records + foreign born
Infant-toddler capacity	28%	23%	22%
Preschool capacity	80%	64%	60%
Total	55%	44%	42%

The relationship of the capacity to population (based on birth records) for the neighborhoods is detailed in Table 12. Only in the South End/Chinatown/ Fenway neighborhood does current capacity meet the potential need for early care and education services of all young children living in the neighborhood.

Table 12. Relationship of capacity (licensed + license-exempt) to total early childhood population¹⁵ by neighborhood

Neighborhood	Infant-Toddler Capacity-Demand Difference	% Infant-Capacity Meets Demand	Preschool Capacity-Demand Difference	% Preschool Capacity Meets Demand
Allston-Brighton	-1326	17	-777	51
Back Bay /Beacon Hill /Downtown	-422	47	-126	83
Charlestown / North End	-790	14	-349	52
Dorchester	-4753	23	-2346	58
East Boston	-1729	10	-1044	40
Jamaica Plain / Roxbury	-2214	35	-137	96
Mattapan	-596	31	-289	67
Roslindale /West Roxbury /Hyde Park	-3233	17	-2051	44
South Boston	-1035	6	-377	60
South End / Chinatown /Fenway	-803	40	245	122

Capacity and Number of Children from Low-Income Families

The benefits of quality early care and education are particularly robust for children living in poverty. Therefore, a second demand estimate includes the met/unmet need of care if only children from low-income families are considered. Tables 5 and 6 supplied the number of children falling below 25 and 50% of the state median income. Tables 13 and 14 provide the relationships of number of children ages 0-5 year, 4 months living with families below these income levels to total capacity.

¹⁵ Population based on birth records.

Table 13. The relationship between capacity and number of children below 25% of state median income by neighborhood.

Neighborhood	Capacity	# Children below 25% SMI	Difference (Capacity - # Children)	% Capacity Filled by Demand
Allston-Brighton	1162	526	636	45
Back Bay/Beacon Hill/ Downtown	984	46	938	5
Charlestown/ North End	519	527	-8	101
Dorchester	4988	3318	1670	66
East Boston	956	1063	-107	111
Jamaica Plain/Roxbury	4301	2078	2223	48
Mattapan	932	418	514	45
Roslindale/West Roxbury/Hyde Park	2398	982	1416	41
South Boston	672	695	-23	103
South End/Fenway	1964	908	1056	46
Boston Total	18876	10705	8171	57

A total of 10,705 children ages 0-5 year, 4 months live below the federal poverty level (below approximately 25% of the state median income). With a total of 18,876 slots, these children represent 57% of the total capacity for the city. As seen in Table 13, certain neighborhoods comprise a significant number of children from low-income families. The neighborhoods of Charlestown/North End, East Boston, and South Boston are specific examples where demand exceeds current capacity.

Table 14. The relationship between capacity and number of children below 50% of state median income, by neighborhood

Neighborhood	Capacity	# Children below 50% SMI	Difference (Capacity - # Children)	% Capacity Filled by Demand
Allston-Brighton	1162	1052	110	90
Back Bay/Beacon Hill/ Downtown	984	92	892	9
Charlestown/ North End	519	1054	-535	203
Dorchester	4988	6636	-1648	133
East Boston	956	2126	-1170	222
Jamaica Plain/Roxbury	4301	4156	145	97
Mattapan	932	836	96	90
Roslindale/West Roxbury/Hyde Park	2398	1964	434	82
South Boston	672	1390	-718	207
South End/Fenway	1964	1816	148	92
Boston Total	18876	21410	-2534	113

Table 14 demonstrates a similar relationship, with the population of interest being children living in families below 50% of the SMI. As mentioned, the number of children living in families below 50% of the SMI was derived by doubling the number of children living in families below 25% of the SMI. It was estimated that 21,410 children live below 50% of the state-median income. If these children were given priority to early care and education services, they would comprise 113% of the total capacity for

the city. In other words, an additional 2,534 slots would be required to serve all children falling in this category.

A number of neighborhoods do not have sufficient capacity to care for all of the young children coming from families with income less than 50% of the state-median income. These neighborhoods include Charlestown/North End, Dorchester, East Boston, and South Boston.

Capacity and Children in Working Families

Yet another demand estimate for early care and education in Boston is to determine the number of children living in families with working caregivers.

Table 15. The relationship between capacity and the number of children living with working caregivers

Neighborhood	Capacity	# Children in Working Families & Requiring Early Care & Education	Difference (Capacity - # Children in Working Families)	% Capacity Filled by Demand
Allston-Brighton	1162	1417	-255	122
Charlestown /North End	519	632	-113	122
Dorchester	4988	6986	-1998	140
Downtown /Back Bay / Beacon Hill	984	382	602	39
East Boston	956	1713	-757	179
Jamaica Plain /Roxbury	4301	3706	595	86
Mattapan	932	1139	-207	122
Roslindale /West Roxbury /Hyde Park	2398	4236	-1838	177
South Boston	672	946	-274	141
South End / Chinatown /Fenway	1964	925	1039	47
Boston Total	18876	22569	-3693	120

The number of young children living in families with working/non-working parents was presented in Table 7. A more precise analysis of the need for early care and education created by working families was previously developed by Boston EQUIP and

presented in the “Unmet Need for Early Care and Education in Boston” report¹⁶. This methodology is further described in the Methods section of this report.

These estimates of demand based on working families are provided in Table 15. Assuming that only these children were served in the current capacity, there is a shortage of early care and education. Based on the demand formula, **22,569** young children in Boston require early care and education. Using this formula, the demand for early care and education exceeds the capacity by **3,693** slots. Greater capacity than demand is seen in Downtown/Back Bay/Beacon Hill, South End/Chinatown/Fenway, and Jamaica Plain/Roxbury. For all other Boston neighborhoods, the potential demand of working families exceeds the capacity. These findings are consistent with those in the “Unmet Need for Early Care and Education in Boston” report. In addition, when considering the needs of working families, the neighborhoods where the parent works may be a determining factor in where the family seeks care and should be included in future analysis.

Universal Demand Estimates

Estimations of universal demand for early care and education are essential to planning for growth of both the need for early care and education and for the industry. This philosophy is particularly pertinent when looking toward the future at the advent of universal preschool in Massachusetts. A universal demand estimate provided by the Massachusetts Department of Education suggests uptake rates are 50% of the population of infants and toddlers and 77% of the population of preschoolers.

Table 16 presents the difference between capacity and the estimated uptake for infant-toddlers across the Boston neighborhoods. The total estimated capacity for infant-toddlers is **5,152**. Fifty percent of the infant-toddler population (based on birth records) is **11,148**, yielding a shortage of approximately **5,996** infant-toddler slots across Boston. Neighborhoods with a substantial deficit include Dorchester and Roslindale/West Roxbury/Hyde Park. Only in the neighborhood of Back Bay/Beacon Hill/Downtown does the capacity for infant-toddlers approximate the universal demand based on this formula.

Table 17 provides a comparison of the total current preschool capacity to the estimated universal demand for preschool across the Boston neighborhoods. The total estimated capacity of preschool slots for Boston is **12,904**, whereas 77% of the preschool population, based on birth records, is **15,519**, yielding a deficit of **2,615** preschool slots across the city. Similar to the dearth of infant-toddler slots, the neighborhoods of

¹⁶ Cowden, M.M. & Stinchcombe, K. (2003). “Unmet Need for Early Care and Education in Boston.” Boston EQUIP, Associated Early Care & Education. They based their working families formula on a report by The Illinois Facilities Fund called “Planning for Chicago’s Children: Early Childhood Care and Education Fact Book”.

Dorchester and Roslindale/West Roxbury/Hyde Park show the most substantial shortage of preschool slots. Unlike infant-toddler universal demand estimates, three neighborhoods demonstrate an over-supply of preschool slots. These neighborhoods are Back Bay/Beacon Hill/Downtown, Jamaica Plain/Roxbury, and South End/Chinatown/Fenway. These findings are consistent with the results in the “Working Families” section above, and the “Unmet Need for Early Care and Education in Boston” report.

Table 16. Capacity of infant-toddler care, 50% of infant-toddlers, and additional need for infant-toddler care across Boston neighborhoods

Neighborhood	Infant-Toddler Capacity	50% of Infant-Toddlers	Difference (Capacity – 50% of Infant-Toddlers)	% Demand Met by Capacity
Allston-Brighton	321	824	-503	40
Back Bay /Beacon Hill /Downtown	379	400	-21	95
Charlestown /North End	125	458	-333	27
Dorchester	1447	3100	-1653	47
East Boston	184	956	-772	19
Jamaica Plain /Roxbury	1174	1694	-520	69
Mattapan	268	433	-165	62
Roslindale /West Roxbury /Hyde Park	649	1941	-1292	33
South Boston	62	548	-486	11
South End / Chinatown /Fenway	543	673	-130	81
Boston Total	5152	11148	-5996	46

Table 17. Capacity of preschool care, 77% of preschoolers, and additional need for preschool care across Boston neighborhoods

Neighborhood	Preschool Capacity	77% of Preschool Population	Difference (Capacity – 77% Preschool Population)	% Demand Met by Capacity
Allston-Brighton	802	1216	-414	66
Back Bay /Beacon Hill /Downtown	604	562	42	107
Charlestown /North End	384	564	-180	68
Dorchester	3303	4350	-1047	76
East Boston	708	1349	-641	52
Jamaica Plain /Roxbury	2970	2392	578	124
Mattapan	586	674	-88	87
Roslindale /West Roxbury /Hyde Park	1623	2829	-1206	57
South Boston	570	729	-159	78
South End /Chinatown / Fenway	1354	854	500	158
Boston Total	12904	15519	-2615	83

Conclusion

The specific need for further expansion of early care and education slots in Boston is dependent upon demand criteria. However, using population estimates of 100% of the early childhood population, 50% of the population of infant-toddlers, and 77% of the population of preschoolers all reveal a substantial city-wide shortage of slots. This shortage is also noted when demand is based on the number of low-income children and the number of children from families in which the parents work. Continued thought and discussion about the complicated interaction between supply and demand of early care and education in Boston is essential, as expansion of service is necessary in light of unmet need, particularly in the context of the universal preschool movement.

Methods

1. Children Living in Low-income Families

The number of children living below the federal poverty level was determined for each neighborhood by the 2000 Census Summary File 3, (Table P87 "Poverty status in 1999") by summing 1/3 of 5 year olds and all of the children under 5 years who lived in families below the federal poverty level. The proportion of children living under the poverty level for each neighborhood was calculated by dividing this sum by the number of children 0-5 years, 4 months living below, at, or above the poverty level. This proportion was then applied to the number of children residing in each neighborhood based on the Boston Public Health Commission birth records.

2. License-exempt Programs

Other License-exempt programs were identified by reviewing the Association of Independent Schools of New England website, the *Yellow Book of Greater Boston 2005-2006*, "Schools – Academic Preschool and Kindergarten" section, the Massachusetts Department of Education website for private and charter schools, and searching for religious, Montessori, International, and/or private schools providing early education. The Archdiocese of Boston provided information about the Catholic Schools. Once other programs were identified, capacity information was obtained either through their website or by contacting the head office of program through e-mail and/or telephone. Boston Public School information was provided by Carleton Jones, Strategic Planner, Boston Public Schools.

3. Family Child Care Capacity – Infant-toddler versus Preschool

Because of licensing requirements, determining the FCC capacity for care of infants and toddlers versus preschool age children presents a unique challenge. FCC providers are licensed to care for as many as three children aged 2-years or younger if one of the children is at least 15-months old and walking. However, merely subtracting 3 infant-toddlers for each provider is not reasonable to estimate capacity for infant-toddlers versus preschool-age children, as this method does not account for toddlers from 2 years to 2 years, 8 months of age. Instead, an estimate of the amount of infant-toddler versus preschool care by FCC providers was determined by referring to the Community Profiles FCC Survey. Ratios of the number of infant-toddlers and preschoolers served to the total number of children served were calculated and applied to the total licensed capacity of FCC (data provided by CCCB) to derive an estimate of the capacity to serve these two age groups. As the estimation included school-age children, this method may underestimate infant-toddler and preschool capacity, though it reflects current practice.

4. Formula to determine Working Families

The formula to determine early child care and education demand based on family work status was based on the formula of employed in the “Unmet Need for Early Care and Education in Boston” report¹⁷. The authors modified the formula found in a report from the Illinois Facilities Fund titled “Planning for Chicago’s Children: Early Childhood Care and Education Fact Book”.

The data on working families were acquired through the 2000 Census, Summary File 3. (Table P46. “Age of Own Children Under 18 Years in Families and Subfamilies by Living Arrangements.”) The demand for care within each Boston neighborhood was calculated based on the following formula:

- 0% of two-parent families with one parent working
- 100% of two-parent families with both parents working
- 100% of one-parent families with parent working
- 45% of one-parent families with parent not working
- 0% of two-parent families with both parents not working

Once the demand was calculated for a neighborhood, a proportion was determined based on the number of children under 6 years of age who live in families and subfamilies. This proportion was then applied to the birth record population data for that neighborhood to derive the need for the current population of young children in Boston. It is important to note that the proportion applied to the current data (children ages 0-5 years, 4 months) was based on children under the age of 6. In addition, the proportion applied to birth record data was derived only from children living in families and subfamilies, although we applied it to all children living in Boston. This method may have introduced some error into the estimate, as it is unclear what the employment status is of the caretakers to children not living in families and subfamilies.

¹⁷ Cowden, M.M. & Stinchcombe, K. (2003). “Unmet Need for Early Care and Education in Boston.” Boston EQUIP, Associated Early Care & Education.

Appendix A: Estimates of Boston Population of Infant-Toddlers and Preschool-age Children, by Neighborhood

Neighborhood	Infant-toddler	Infant-toddler	Preschool	Preschool
	Birth record*	Range+	Birth record*	Range+
Allston-Brighton	1647	1301-1794	1579	984-1733
Back Bay/Beacon Hill/Downtown	801	501-841	730	248-771
Charlestown/North End	915	676-940	733	517-759
Dorchester	6200	5179-6459	5649	5095-5919
East Boston	1913	1596-2020	1752	1307-1864
Jamaica Plain/Roxbury	3388	2699-3506	3107	2521-3230
Mattapan	865	805-910	875	846-922
Roslindale/West Roxbury/Hyde Park	3882	3606-4025	3674	3118-3824
South Boston	1097	860-1122	947	743-973
South End/Chinatown/Fenway	1346	888-1449	1109	706-1217
Boston Total[^]	22297	18111-23307	20525	16085-21581

* Source for 1997 -2002 birth records was Boston Public Health Commission

+Population ranges were 2000 Census Bureau to Birth records + foreign born

[^] Boston Total is greater than sum of neighborhoods for Birth records and Birth records + foreign born. Birth record data provided by BPHC included children with birth records with missing census tract information or non-Boston census tract, though indicating Boston resident.

**Appendix B: Number of Early Care and Education Programs in Boston
Neighborhoods, by Type of Program**

Neighborhood	Family Child Care	Center & Head Start	Boston Public Schools	Other License- exempt	Total
Allston-Brighton	11	17	5	3	36
Back Bay /Beacon Hill /Downtown	1	18	0	1	20
Charlestown /North End	7	8	1	1	17
Dorchester	258	49	11	12	330
East Boston	24	14	3	2	43
Jamaica Plain /Roxbury	138	55	6	4	203
Mattapan	57	6	3	1	67
Roslindale /West Roxbury /Hyde Park	162	23	3	4	192
South Boston	4	11	3	2	20
South End / Chinatown /Fenway	14	27	2	1	44
Total	676	228	37	31	972

Appendix C: Capacity for Infant-Toddlers Versus Preschoolers in Boston Neighborhoods

Neighborhood	Infant-Toddler Capacity	Preschool Capacity
Allston-Brighton	321	802
Back Bay/Beacon Hill/Downtown	379	604
Charlestown/North End	125	384
Dorchester	1447	3303
East Boston	184	708
Jamaica Plain/Roxbury	1174	2970
Mattapan	268	586
Roslindale/West Roxbury/Hyde Park	649	1623
South Boston	62	570
South End/ Chinatown/ Fenway	543	1354
Boston Total*	5152	12904

*Boston Total sum is less than total capacity for the city. This difference likely reflects the estimate of infant-toddler versus preschool capacity. Sources of error include Family Child Care capacities and “mixed-group” licensing in Community-Based and Head Start Centers.

Appendix D: Projected Capacity of Boston Public School Preschool for School-Year 2005-2006 by Neighborhood.

Neighborhood	SY04-05 Capacity	Estimated Additional Capacity SY 05-06	Total
Allston-Brighton	132	66	198
Back Bay /Beacon Hill / Downtown	0	0	0
Charlestown /North End	9	22	31
Dorchester	364	132	496
East Boston	114	0	114
Jamaica Plain / Roxbury	150	66	216
Mattapan	121	0	121
Roslindale /West Roxbury /Hyde Park	78	88	166
South Boston	79	44	123
South End / Chinatown /Fenway	51	44	95
Total	1098	462	1560

Quality of Early Care and Education in Boston

Research consistently finds that access to early care and education is important for children's positive outcomes. Once the child has access though, it's the quality of the early care and education that is one of the strongest predictors of positive children's outcomes¹⁸. Following this guideline, both Boston Community Partnerships for Children Councils have used their direct services allocations to primarily fund access to early care and education, and their indirect service allocations to primarily fund quality enhancement initiatives. Both Councils have used their quality dollars to offer initiatives which address the evidence-based indicators related to quality of early care and education, such as teacher education and training and NAEYC or NAFCC accreditation. This section of the report provides a current snapshot of the quality of Boston's early care and education programs according to a comprehensive measure of quality such as accreditation, and by individual indicators of quality such as staff to child ratios and teacher education levels. Analysis has been done for the city of Boston as a whole, and where possible at the Boston CPC neighborhood level.

Accreditation

In the spring of 2005, of Boston's 972 Community-Based and Head Start Centers, Family Child Care providers, Boston Public School preschools and Other License Exempt preschools, 143 were NAEYC or NAFCC (or CDA for family child care providers) accredited¹⁹. This number represents 15% of the total number of program and providers, and 32% of the total early care and education capacity across the city. The accreditation data, gathered in conjunction with the Quality Director for the Boston Community Partnerships for Children, are current as of May 2005. The accreditation data was gathered from the National Association for Education of Young Children for current accredited Community-Based Centers, Head Starts Centers, Public School Preschools, and Other License-Exempt preschool programs, from the National Association for Family Child Care for accredited Family Child Care providers, and from the Council on Professional Recognition (CPR) for current CDA's.

Table 18 provides a description of accreditation of care across the city and within Boston neighborhoods. Dorchester and Jamaica Plain / Roxbury have the largest numbers of the city's accredited programs and providers with 42 and 31 programs and providers, respectively. South Boston and Back Bay/Beacon Hill/Downtown have the

¹⁸ NICHD Early Child Care Research Network. (1999). Child Outcomes When Child Care Center classes meet recommended standards for quality. *American Journal of Public Health*, 89, 1072-1077; Clarke-Stewart, K. A., Vandell, D. L., Burchinal, M., O'Brien, M., & McCartney, K. (2002). Do regulable features of child-care homes affect children's development? *Early Childhood Research Quarterly*, 17, 52-86.

¹⁹ Unless otherwise noted, accreditation in this report refers to National Association for the Education of Young Children (NAEYC), National Association for Family Child Care (NAFCC), and family child care providers who possess a current Child Development Associate credential.

largest percentages of programs and providers within their neighborhoods accredited (or with a CDA) each at 35%, as well as the largest percentages of capacity within their neighborhoods accredited at 55% and 53% respectively.

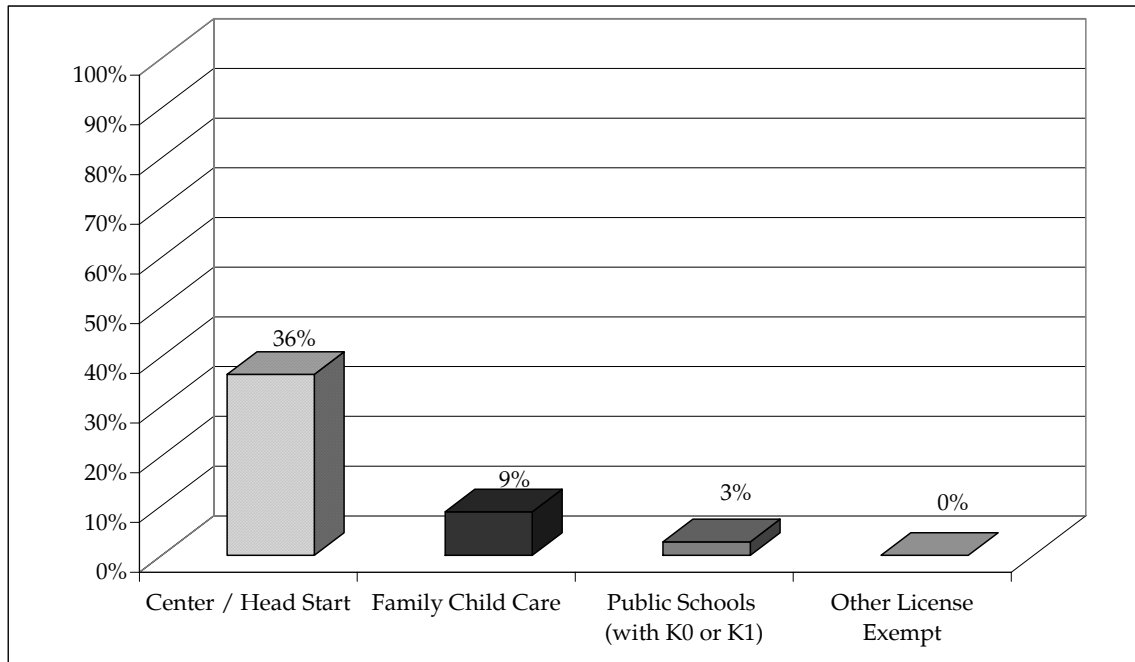
Table 18: Accreditation for All Programs and Providers in Boston by CPC neighborhood

CPC Neighborhood	Within the city % of programs and providers accredited or with CDA	Within the neighborhood % of programs and providers accredited or with CDA	Within the neighborhood % of total capacity accredited	Within the neighborhood % of preschool capacity accredited	
Allston- Brighton	8	6	8	42	46
Back Bay/ Beacon Hill / Downtown	7	5	35	52	48
Charlestown	2	1	12	41	53
Dorchester	42	29	13	24	31
East Boston	9	6	21	37	43
Jamaica Plain / Roxbury	31	22	15	35	41
Mattapan	7	5	10	12	9
Roslindale / W. Roxbury / Hyde Park	19	13	10	16	19
South Boston	7	5	35	55	54
South End / Chinatown / Fenway	11	8	26	46	52
BOSTON TOTAL	143	15%	-	32%	25%

Data source: NAEYC, NAFCC, CPR; Data analysis: Boston EQUIP

Examining the city’s overall rates of accreditation masks the wide variation of accreditation rates by type of program. Figure 3 presents the accreditation of the various program types. Currently 36% of Centers and Head Starts programs are accredited while only 9% of Family Child Care providers and 3% of Public School Preschool programs are accredited (or possess a CDA) citywide.

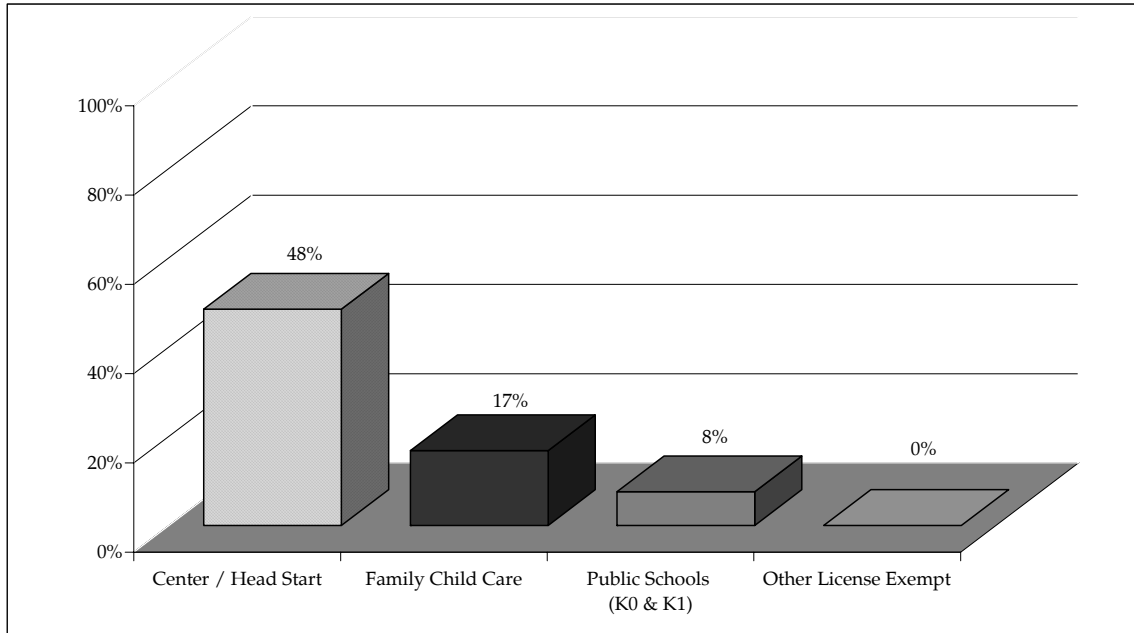
Figure 3: Boston Early Care and Education Programs Accredited by Type of Program



Data source: NAEYC, NAFCC, CPR; Data analysis: Boston EQUIP

Figure 4 demonstrates accreditation of program types by capacity. The 36% of Centers and Head Start programs accredited translates to nearly half (48%) of the Center and Head Start capacity. Similarly, for the other types of programs, a larger percentage of their capacity is accredited than reflected by the number of accredited programs. For family child care 17% of the capacity is accredited, and for public school preschool accredited capacity equals 8% of total capacity.

Figure 4: Boston Early Care and Education Capacity Accredited by Type of Program (2005)



Data source: NAEYC, NAFCC, CPR; Data analysis: Boston EQUIP

When neighborhood and type of program are considered, as in Table 19 and 20, South Boston has the highest percentage (64%) of Community-Based Centers and Head Start Centers accredited. In South Boston, Back Bay/Beacon Hill/Downtown, South End/Chinatown/Fenway, and Allston-Brighton more than 50% of the neighborhoods' Center and Head Start capacity is accredited.

Table 19: Accreditation Rates for Community-Based Centers and Head Start Centers by CPC Neighborhood

CPC Neighborhood	Number of programs accredited	Within the neighborhood % of programs and providers accredited or with CDA	Within the neighborhood % of total capacity accredited	Within the neighborhood % of preschool capacity accredited
Allston- Brighton	8	43%	57%	68%
Back Bay/ Beacon Hill/ Downtown	7	39%	53%	49%
Charlestown	2	25%	47%	59%
Dorchester	17	35%	40%	48%
East Boston	5	36%	39%	44%
Jamaica Plain, Roxbury	21	38%	46%	51%
Mattapan	1	17%	14%	11%
Roslindale / W. Roxbury / Hyde Park	4	17%	27%	28%
South Boston	7	64%	77%	79%
South End / Chinatown / Fenway	11	41%	53%	59%
BOSTON TOTAL	83	36%	48%	39%

Data source: NAEYC; Data Analysis: Boston EQUIP

Looking at family child care by neighborhood, it becomes apparent that several neighborhoods have no providers who are accredited or possess a CDA. Although the largest percentage of the city’s accredited providers are in Dorchester, only 10% of Dorchester’s total Family Child Care capacity accredited. East Boston has the highest percentage (13%) of Family Child Care providers within their neighborhood accredited.

Table 20: Accreditation and CDA Rates for Family Child Care Providers by CPC Neighborhood

CPC Neighborhood	# Programs accredited or CDA	Within the city % of providers accredited or CDA	Within the neighborhood % of providers accredited or CDA	Within the neighborhood % of total capacity accredited or CDA
Allston-Brighton	0	0%	0%	0%
Back Bay/ Beacon Hill / Downtown	0	0%	0%	0%
Charlestown	0	0%	0%	0%
Dorchester	25	42%	10%	10%
East Boston	3	5%	13%	12%
Jamaica Plain / Roxbury	10	17%	7%	8%
Mattapan	6	10%	11%	14%
Roslindale/ W. Roxbury/ Hyde Park	15	25%	9%	11%
South Boston	0	0%	0%	0%
South End / Chinatown / Fenway	0	0%	0%	0%
BOSTON TOTAL	59	9%	-	17%

Data source: NAFCC, CPR; Data analysis: Boston EQUIP

Of the 37 Boston Public School Preschools, only 1 site is accredited located in East Boston. This is 8% of the total Public School Preschool capacity. None of the Other License-Exempt programs are accredited.

To further understand the accreditation process from the program's perspective, questions were posed on the Community Profiles survey, with direct follow-up this spring, about cost of accreditation, barriers to accreditation, and length of time to earn accreditation.

Length of Time, Costs, and Barriers to Accreditation

Length of time to get accredited: Of the Community-Based Centers and Head Start Centers reporting on the Community Profiles 2003-2004 Center/Head Start survey that they were in the self-study process for accreditation, 50% reported that they had been in that stage of the process for less than 6 months, and 93% of programs reported that they had been in the self-study process for 24 months or less. All Public School Preschools programs in the self-study process reported that they had been in that process for 24 months or less. These estimates may vary based on how programs chose to define "self-study".

For Family Child Care, accreditation support specialists, system staff, and Family Child Care providers reported that the average length of time in self-study was 1 to 2 years. The average length of time in the validation stage until recently was 2-3 months. Currently there is a reported delay in the federal ID check (finger printing) step of the process, which is extending this stage of the process up to six months.

Costs with accreditation: The cost of accreditation varies dramatically by program. While one program may need to buy new manipulative toys, another may need to completely renovate a section of their building to build a staff room. While one program may only require a few hours of accreditation support to be ready to apply for accreditation, another program may need years of accreditation support to advance to the level of accreditation quality. Education and training needed by staff also vary based on the staff at each particular program, or of each particular provider. Standard across all programs are the required fees to pursue accreditation. For NAEYC accreditation, the fee is based on the size of the program enrollment and there are five fees tied to steps in the accreditation process. For example, for a program at Level 2 (a program enrollment of 61 to 120) the fees would be: Self study materials \$525; Notification of Intent \$275; On-Site Visit \$775; Annual Reports \$350; and Verification Visit \$775. For NAFCC accreditation the membership fee is \$25 and the Accreditation fee is \$495.

Barriers to accreditation: On the Community Profiles 2003-2004 Center/Head Start and Public School surveys lists of barriers to accreditation were offered. Respondents were

asked to pick the top 3 biggest barriers. The list included choices such as time involvement, cost, staff turnover, philosophical differences, and indoor physical environment. The response “none” was chosen the most frequently by Community-Based Centers and Head Start Centers. The next three biggest barriers for Community-Based Centers and Head Start Centers were time involvement, time waiting for validation visit, and staff turnover. Public School Preschool survey respondents reported that the biggest barriers to accreditation were “time involvement”, “other” which included training staff, staff-to-child ratio compliance and coordination, and “none”.

For Family Child Care, accreditation support specialists and Family Child Care providers reported that the main obstacles to accreditation were, meeting the education and training requirements; finding GED programs to earn a GED prior to pursuing accreditation; creating an indoor physical environment for mixed age groups; time; and cost for materials. On the Community Profiles survey, 70% of providers reported that if they did not currently have NAFCC accreditation they needed financial assistance / mentoring to pursue it.

Massachusetts Early Childhood Program Standards and Guidelines for Preschool Learning Experiences

In addition to the national accreditation standards, Community-Based Centers, Head Start Centers, and Public School Preschool programs, if they receive Community Partnerships for Children funding, are expected to follow the *Massachusetts Early Childhood Program Standards for Three and Four Year Olds* and the *Guidelines for Preschool Learning Experiences*. Currently these standards and guidelines are only applicable to preschool classrooms in these settings. Standards and Guidelines for Family Child Care providers are under development, with standards and guidelines for Infant and Toddler programs and school-age programs to potentially follow. As the MA Department of Education has just completed a two-year training period for these standards and guidelines, objective data is not yet available to determine whether programs are meeting these standards or using the guidelines. However, to begin probing our community’s awareness of the standards and guidelines, questions were posed on the recent version of the Community Profiles survey about programs’ familiarity and intent to implement the standards and guidelines. The authors would caution that this survey data was collected prior to several large trainings in Boston on the standards; therefore programs’ responses may have changed since the survey.

For the *Early Childhood Program Standards for Three and Four year olds*, 36% of Community-Based Centers and Head Start Centers reported currently using them and 17% of Centers and Head Starts reported that they were not familiar with them. Thirty-seven percent of Public Schools with Preschools and Kindergarten programs responded that they currently using them, and 54% reported that they were unfamiliar with them.

For the *Guidelines for Preschool Learning Experiences*, 32% of Community-Based Centers and Head Start Centers said that they were aware of and currently using them, whereas 20% said that they were not familiar with them. Forty-four percent of Public Schools with Preschools and Kindergartens said that they were familiar and 56% said that they were not familiar with them.

At a recent training in Boston on the DOE Early Childhood Program Standards, the question, “What are the obstacles to putting the standards and guidelines in to practice in your program?” was posed on the evaluation form. The majority of respondents marked none or left the question blank. 5% answered getting staff to follow-through, 4% said not enough planning time or not enough time in the day for all the activities, and 3% said getting staff to understand that they are already implementing them.

Individual Indicators of Quality: Staff:Child Ratios, Group Size, Teacher Education – Salary - Benefits

Tools like the NAEYC accreditation or the MA Early Childhood Program Standards offer ways to assess quality program-wide, yet it is also useful to look at the individual indicators of quality that sum up to this whole.

Staff:Child Ratios and Group Size

Staff:Child ratios and Group size are structural indicators of quality in early care and education programs. Whereas the basic requirements are determined by the state licensing regulations, higher standards are detailed in quality measurement tools such as accreditation.

Comparing staff:child ratios and group sizes across Community-Based Centers and Head Start Centers, Public School Preschools, and Family Child Care may be considered similar to comparing apples, oranges, and peaches. The lengths of their day differ, as do the ages of children served in a single setting. Nevertheless, an attempt to compare average staff:child ratios and group sizes across preschool settings suggests that the largest average group sizes (18) are found in Public School School-Day Preschool, and the smallest (5.6) in family child care. Yet the smallest ratios of staff:children are also found in both Family Child Care (1:5.6) and Public School School-Day Preschool (1:6). The average staff:child ratios and group sizes for all each of these programs types are found in Table 21.

Table 21: Average Boston Staff:Child Ratio and Group Size by Program Type

	Average Staff:Child Ratio	Average Group Size
Centers / Head Starts Preschool	1:9	15
Public Schools School Day Preschool	1:6	18
Public Schools Extended Day Preschool	1:10	17
Family Child Care*	1:5.6	5.6

Table 22 provides a comparison of the Boston average staff:child ratios and group sizes to the state (OCCS) licensing regulations, and accreditation (NAEYC) requirements for Community-Based Centers and Head Start Centers. Table 23 provides a similar comparison for Public School Preschools, and Table 24 provides a comparison of the average, regulated and recommended for Family Child Care.

Community-Based Centers / Head Start Centers

For Community-Based Centers and Head Start Centers, OCCS regulates a staff:infant ratio of 1:3, and 1:4 for toddlers, though NAEYC recommends a staff:infant ratio of 1:3, and staff:toddler ratio of 1:4 or 1:6, depending on the dominant age in the group. The average Center / [Early] Head Start staff:infant and staff:toddler ratios citywide are 1:4. This may be larger than regulation because of the prevalence of mixed infant / toddler classrooms. The group size mandated by OCCS regulations for infants is 7, and for toddlers is 9. The average group sizes across Boston for infants and toddlers matches these regulations at 7 and 9 respectively.

For preschoolers in Community-Based Centers and Head Start Centers, OCCS stipulates a staff:child ratio of no more than 1:10. NAEYC recommends a staff:preschooler ratio of 1:9 or 1:10, depending on whether the composition of the group is primarily three year olds or four and five year olds. Head Start standards similarly depend on whether the group is primarily three or four and five year olds. For Head Start Center classrooms with predominantly three year olds, the staff:preschooler ratio is no more than 1:8, for four and five year old dominant groups its 1:10. For Boston Community-Based Centers and Head Start Centers, the average staff:child ratio is 1:9. For group size, Community-Based Center and Head Start Center preschool classrooms licensing regulations are for a maximum group size of 20. NAEYC recommends a group size of no larger than 18 or 20, depending whether the make up of the group is predominantly three year olds or four and five year olds. Head Start standards for group size are group size no larger than 17 for three year old dominant groups, and 20 for four and five year old dominant groups. The Boston average group size for Community-Based Center / Head Start Center preschools is 15.

Table 22: Regulated, Recommended, and Current Staff: Child Ratios and Group Sizes for Boston's Community-Based Centers and Head Start Centers²⁰

Regulation / High Quality Standard	Staff: Child Ratios	Group Size
OCCS		
Infant	1:3	7
Toddlers	1:4	9
Preschool	1:10	20
MA Early Childhood Program Standards for 3 and 4 year olds		
Preschool	1:10	20
NAEYC Accreditation		
Infant	1:4	8
Toddlers		
12-28 months	1:4	12
21-36 months	1:6	12
Preschool		
2.5 - 3 year olds	1:9	18
4 and 5 year olds	1:10	20
Head Start Standards		
Infant / Toddler	1:4	8
Preschool		
3 year olds	1:8	17
4 and 5 year olds	1:10	20
Boston Centers and Head Starts (Average)		
Infant	1:4	7
Toddlers	1:4	9
Preschool	1:9	15

Boston Public Schools

Boston Public School Preschools are exempt from OCCS licensing standards, though the Early Childhood Program Standards for Three and Four Year Olds (if they receive Community Partnerships for Children funding) and NAEYC standards are applicable. The regulated, recommended, and current staff to child ratios and group sizes are summarized in Table 23. The Early Childhood Program Standards recommend a preschool staff to child ratio of 1:10 and a group size of no larger than 20. The Boston Public School Preschool averages, which include K0 and K1, are 1:6 for half-day

²⁰ www.qualitychildcare.org/pdf/group_school_regs.pdf 7.22;
www.naeyc.org/accreditation/performance_criteria/teacher_child_ratios.html; MA DOE Early Childhood Program Standards for Three & Four year olds;
www.acf.hhs.gov/programs/hsb/performance/1306.htm; Boston EQUIP, Community Profiles 2003-2004 Center / Head Start Survey

preschool, 1:10 for school-day preschool, and 1:12 for extended day preschool. The average group sizes for half-day preschool are 15, for school-day preschool are 18, and for extended day preschool are 17. The K1 classrooms scheduled to open in the fall of 2005 potentially can have a classroom enrollment of up to 22.

Table 23: Regulated, Recommended, and Current Staff: Child Ratios and Group Sizes for Boston's Public School Preschools²¹

	Staff: Child Ratios	Group Size
MA Early Childhood Program Standards for 3 and 4 year olds		
Preschool	1:10	20
NAEYC		
Preschool		
2.5 - 3 year olds	1:9	18
4 and 5 year olds	1:10	20
Boston Public School Preschools (Average)		
Half-Day Preschool	1:6	15
School-Day Preschool	1:10	18
Extended Day Preschool	1:12	17

Family Child Care: In Massachusetts, Family Child Care providers can receive licenses to serve 6, 8, or 10 children. From the Community Profiles Surveys, providers with a license for 6 have a group size of 5 on average, with a staff to child ratio of 1:5.

Table 24: Regulated, Recommended, and Current Staff: Child Ratios and Group Sizes for Boston's Family Child Care Providers²²

	Staff: Child Ratios	Group Size
OCCS Licensing Regulations		
FCC	1:6	6
FCC Plus	1:8	8
Large FCC	2:10	10
NAFCC		
FCC	-	-
Boston Average		
FCC	1:5.6	5.6

²¹ Early Childhood Program Standards for 3&4 year olds MA DOE; http://www.naeyc.org/accreditation/performance_criteria/teacher_child_ratios.html; Boston EQUIP, Community Profiles Center Head Start surveys, 2005

²² http://www.qualitychildcare.org/pdf/family_child_care_regs.pdf, Community Profiles Family Child Care Survey, 2005

Providers with a license for 8, have an average group size of 6, with a staff to child ratio of 1:6. Providers with a license for 10, have an average group size of 8, with a staff to child ratio of 2:10. Table 24 presents these comparisons. In contrast to NAEYC accreditation, NAFCC accreditation defaults to licensing standards for staff:child ratios and group size. Although a provider must have at least 3 children in care to seek accreditation.

Teacher Quality

There is a movement nationwide to build on the recent research findings and improve early care and education quality by requiring higher educational credentials of early care and education teachers, focusing first on Lead Teachers and Directors. Currently in Boston, 100% of Public School Preschool teachers have a Bachelor’s degree or higher, 36% of Community-Based Center and Head Start Center Lead Teachers²³, and 14% of Family Child Care providers²⁴ have a Bachelors degree or higher. Table 25 summarizes the highest level of education attained by percentages of the Pre-K Public School Teachers, FCC providers, and Community-Based Center/Head Start Center Lead Teachers.

Table 25: Teachers, Providers, and Lead Teachers Highest Level of Education by Type of Program

	Pre-K Public Schools Teachers	FCC Providers	Center/Head Start Lead Teachers
Less than HS or GED	-	8%	0%
GED or HS	-	31%	23%
CDA	0%	10%	14%
AA	0%	5.40%	27%
Some college/certificate program	NA	32%	NA
BA in ed or related	16%	4%	23%
BA in unrelated	3%	7%	2%
MA ed or related	81%	1%	12%
MA unrelated	0	1%	0%
Advanced/prof	0%	1%	0%

Data source: Community Profiles 2003-2004 Public School Survey, Community Profiles 2003-2004 Family Child Care Survey; Community Profiles 2003-2004 Center/Head Start Survey

Looking by program type, starting with Public School Preschool, 100% of Public School Preschool Teachers have a Bachelor’s degree or higher, and 81% have a Masters in

²³ Note that the Center and Head Start figure includes infant/toddler and preschool lead teachers. The manner by which the data was collected did not lend itself to disaggregating the Center / Head Start Lead Teachers by their responsibility for an infant, toddler, or preschool classroom.

²⁴ It is probable that the family child care numbers are higher than the actual population, as it is feasible that more educated family child care providers were more likely to respond to the Community Profiles Family Child Care survey.

education or a related field. Boston Public School Preschool Teachers currently are required to have Bachelor’s degree and a Massachusetts teaching license to be employed. Table 26 presents Boston Public School staff highest levels of education attained.

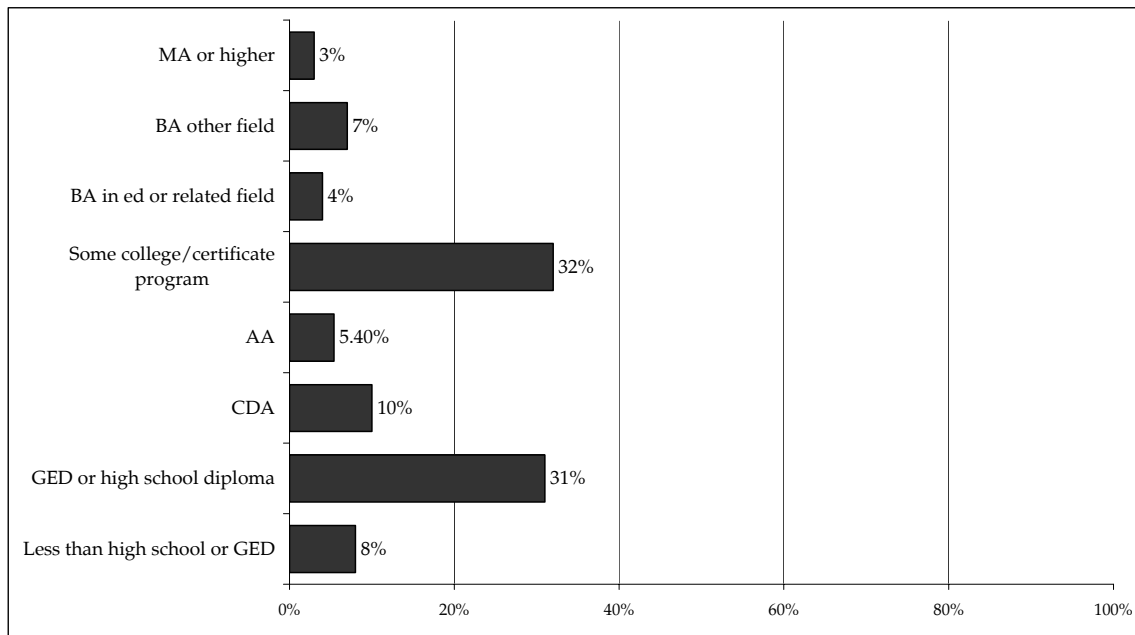
Table 26: Boston Public School Preschool Staff Highest Educational Level

	Para-professionals Pre-K (%)	Teachers Pre-K (%)	Early Childhood Coordinator (%)	Principal (%)
Less than HS or GED	2	-	-	-
GED or HS	77	-	-	-
CDA	0	0	-	-
AA	5	0	-	-
BA in ed or related	14	16	0	0
BA in unrelated	2	3	0	-
MA ed or related	0	81	67	50
MA unrelated	0	0	33	5
Advanced/prof	-	0	0	45

Data Source: Community Profiles 2003-2004 Public School Preschool survey

As seen in Figure 5, 14% of Family Child Care providers have a Bachelors degree or higher and 32% have some college or a certificate. An AA is the highest educational level for 5.4% of the providers, and a GED or high school diploma is the highest level of education for 31%.

Figure 5: Boston Family Child Care Providers Highest Education Level



Data source: Community Profiles 2003-2004 Family Child Care survey

In Community-Based Centers and Head Start Centers, 69% of Directors have a Bachelor’s degree or higher, and 17% of Directors have an AA as their highest level of education. Thirty-six percent of Lead Teachers have a Bachelor’s degree or higher, 27% have an AA and 23% have a GED or high school diploma as their respective highest levels of education. Of Community-Based Center and Head Start Center Teachers, 46% have a GED or high school diploma as their highest education credential. Of Assistant teachers, 72% have a GED or high school diploma as their highest credential. Table 27 summarizes the Boston Community-Based Center and Head Start Center staff highest educational levels.

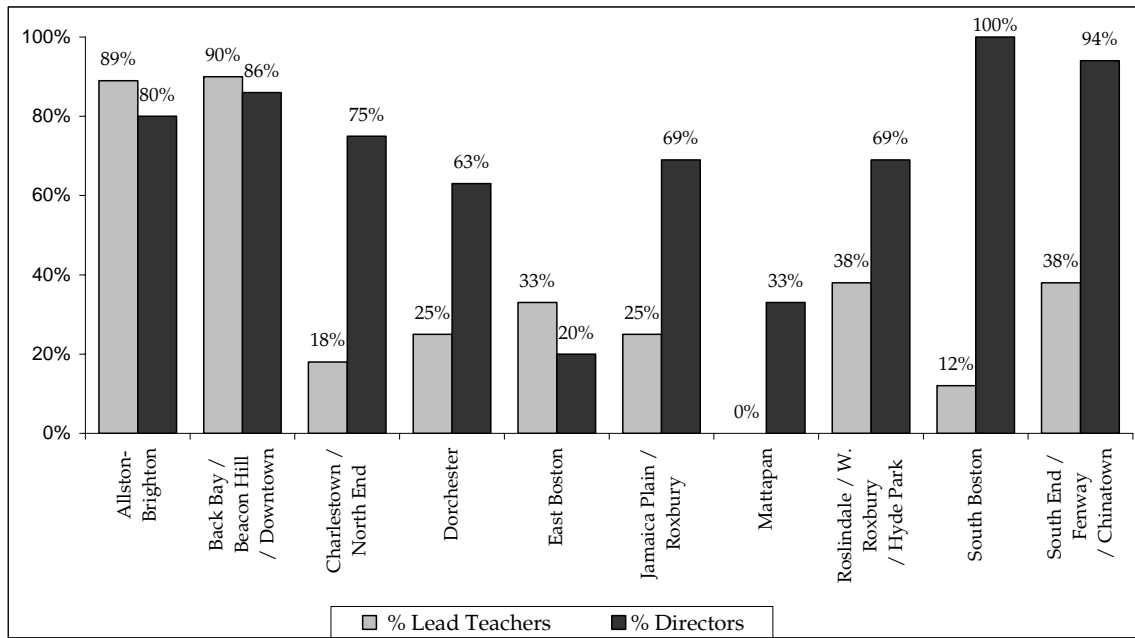
Table 27: Boston Community-Based Center and Head Start Center Staff Highest Education Level

	Assistant Teachers (%)	Teachers (%)	Lead Teachers (%)	Directors (%)
Less than HS or GED	9	2	0	0
GED or HS	72	46	23	10
CDA	2	13	14	2
AA	5	18	27	17
BA in ed or related	3	15	23	27
BA in unrelated	7	3	2	9
MA ed or related	1	3	12	28
MA unrelated	0	0	0	2
Advanced/prof	0	0	0	3

Data source: Community Profiles 2003-2004 Center / Head Start survey

Analyzing the Community-Based Center / Head Start Center data for trends within neighborhoods finds that in Back Bay/Beacon Hill/Downtown and Allston-Brighton more than 85% of the Lead Teachers have a Bachelor’s degree or higher. See Figure 6 for a graphic presentation of this data. In contrast, less than 15% of the Lead Teachers have a Bachelor’s degree or higher in the neighborhoods of Charlestown / North End, South Boston, and Mattapan. Yet in South Boston, 100% of Directors have a Bachelor’s degree or higher. Also, 75% or more of Directors in each of the neighborhoods of Allston-Brighton, Charlestown/ North End, Back Bay/Beacon Hill/ Downtown, South Boston, and South End/Chinatown/Fenway have a Bachelor’s degree or higher. In Appendix E, further tables are provided with the Community-Based Center and Head Start Center staff education levels analyzed by neighborhood.

Figure 6: Community-Based Center and Head Start Center Lead Teachers and Directors with a Bachelors degree or higher by Boston neighborhoods



Data source: Community Profiles 2003-2004 Center / Head Start survey; Data analysis: Boston EQUIP

Teacher Retention and Turnover Rates

Relevant to teacher quality are teacher retention and turnover rates. The turnover rate reported here is for teachers (or for Public Schools, staff) who have left the program in the last twelve months. As shown in Table 28, the average turnover rate community-wide for Community-Based Center and Head Start Center teachers (Lead Teachers, Teachers, and Assistant Teachers) was 25% at the time of the survey. Public School Preschools reported community-wide an 18% staff, including Teachers (full and part time) and Paraprofessionals (full and part time), turnover rate. The top three reasons cited for leaving Community-Based Center and Head Start Center positions was “accepted position in related field”, “disciplinary reasons”, and “moved”. In Public School Preschools, the top three reasons reported were “layoffs”, “accepted position in related field”, and “maternity leave”.

Table 28: Average Teacher/Staff Turnover rates in Boston Community-Based Centers and Head Start Centers, and Public School Preschools

	Turnover Rate	Top 3 Reasons for Leaving
Community-Based Centers and Head Start Centers (Teachers: Lead Teachers, Teachers, and Assistant Teachers)	25%	Accepted position in related field (33%) Disciplinary reasons (28%) Moved (23%)
Public School Preschools (Staff: Full and Part time teachers, Full and Part time paraprofessionals)	18%	Layoffs (56%) Accepted position in related field (22%) Maternity Leave (22%)

Data source: Community Profiles 2003-2004 Center/Head Start Survey, Community Profiles 2003-2004 Public School Survey

It is more difficult to track the turnover rate of Family Child Care providers. A method to pursue in the future is to compare trends in licensing and active CCCB status by neighborhood and through time. On average, Family Child Care Providers who responded to the Community Profiles survey had been licensed for 8.3 years.

Salary and Benefits

Very relevant to teachers' education levels and teachers' retention are teachers' salaries and benefits. Tables 29 and 30 provide salary data for Public School Preschool Teachers, and Center/Head Start teachers respectively. Public School Preschool Teachers average annual salary is \$43,364.16. The average public school teacher is contracted to work 185 days for 6 hours a day. This computes to an average hourly rate of \$39.07. (In contrast to this data collected via the Community Profiles survey, the Boston Public Schools reported²⁵ for FY05 that the average regular education Teacher salary was \$64,304 with a range of \$40,707 to \$78,009. This would put the hourly rate at \$36.67 – \$70.27.) The average hourly rate for Center/Head Start Lead Teachers is \$14.00. While it was not possible to compute an average hourly rate for family child care providers from the Community Profiles surveys²⁶, the Massachusetts Cost and Quality study on Family Child Care²⁷ found that Boston Family Child Care providers had an average hourly revenue of \$4.22. See Appendix F for tables aggregating the Community-Based Centers and Head Start Centers salary data by neighborhood.

²⁵ <http://boston.k12.ma.us/bps/bpsglance.asp>

²⁶ On the Community Profiles 2003-2004 Family Child Care survey, questions were posed about the amount of parent fees collected and the number of hours of direct care provided. However, to compare simply these two numbers neglects the revenue providers receive from family child care systems or from subsidies, absent also is an estimate for expenses, which is needed to produce a true revenue per hour estimate for family child care providers.

²⁷ Marshall et al (2003). Massachusetts Family Child Care Today: A Report of the Findings from the Massachusetts Cost and Quality Study. www.wcwoonline.org/earlycare/FamilyChildCare2004.pdf

Two important caveats to this salary data are, first, that the method by which this data was collected unfortunately does not allow education levels or years experience to be linked with salary. Further, programs may have different definitions of Lead Teacher, therefore in the future attempts should be made to clarify differences in definitions and responsibilities of the “Lead Teacher”.

Table 29: Average number of staff employed and their average annual salary in Boston Public School Preschools

	Average # of staff	Average Highest Annual Salary	Average Lowest Annual Salary	Average Annual Salary
Principal	1	\$81,606.35	-	-
Full Time Teacher*	2	\$50,502.03	\$36,715.89	\$43,364.16
Part time Teacher	1	\$33,286.75	\$27,028.8	\$24,198.90
Full time Paraprofessional*	4	\$20,454.55	\$14,356.09	\$16,963.00
Part time Paraprofessional	0	\$19,085.53	\$8,864.85	\$14,059.86

Data source: Boston EQUIP, Community Profiles 2003-2004 Public School Survey

Table 30: Average number of staff employed and their average hourly salary in Boston’s Community-Based Centers and Head Start Centers

	Average # of staff	Average Highest Hourly Pay	Average Lowest Hourly Pay	Average Hourly Pay
Director	1	\$24.00	\$18.00	\$22.00
Education Coordinator	1	\$19.00	\$15.00	\$18.00
Full Time Lead Teacher*	3	\$15.00	\$12.00	\$14.00
Part time Lead Teacher	2	\$15.00	\$12.00	\$14.00
Full time Teacher*	5	\$13.00	\$11.00	\$12.00
Part time Teacher	2	\$12.00	\$10.00	\$11.00
Full Time Ass't Teacher*	3	\$11.00	\$9.00	\$10.00
Part time Ass't Teacher	3	\$10.00	\$9.00	\$9.00

*Full time denotes staff who work 30 or more hours per week

Data source: Community Profiles 2003-2004 Center/Head Start Survey

Benefits are part of most employees’ salary packages. A comparison of benefits provided by different programs types can be found in Table 30. A Health Plan is reportedly available to 78% of Full Time Community-Based Center/Head Start Center staff, 100% of Full time Public School Preschool Teachers, 100% of Full Time Public School Preschool Paraprofessionals, and 5% of Family Child Care Providers (through their business or system). A retirement package is available to 64% of Full Time Community-Based Center/Head Start Center staff, 100% of Full time Public School Preschool Teachers, 100% of Full Time Public School Preschool Paraprofessionals, and 1% of Family Child Care Providers (through their business or system). Other benefits available to some staff and teachers are personal or professional days, T passes, and free or reduced child care.

Table 30: Benefits available to Full Time Teachers, Full Time Paraprofessionals and Family Child Care providers in Boston

	Center / Head Start	Public School Preschool		Family Child Care
	Full Time Staff (%)	Full Time Teachers (%)	Full Time Paraprofes sionals (%)	Available through FCC business or system (%)
Paid Vacation [^]	97	94	87	30
Sick Time	96	100	100	14
Paid Holidays	97	100	100	84
Disability	55	69	60	3
Paid maternity and /or Paternity Leave	24	6	33	3
Life Insurance	69	94	87	7
Retirement Package	64	100	100	1
Tuition assistance	73	0	7	15
Health Plan	78	100	100	5
Dental	69	88	87	2
Liability Insurance	-	-	-	33
Other*	11	19	13	-

[^] On the Family Child Care Survey this read "Vacation Time". Depending on the interpretation, Public School teachers do not have paid vacation although they may receive a paycheck during school vacations, they are paid for the number of actual school days

* Other may include personal or professional days, free memberships, T passes, free or reduced child care and training.

Data source: Community Profiles 2003-2004 Center/Head Start Survey, Community Profiles 2003-2004 Public School Survey, Community Profiles 2003-2004 Family Child Care Survey

Conclusion

Nearly half of the Center and Head Start licensed capacity is accredited and all children in the Boston Public Schools are being taught by a teacher with a Bachelor's degree or higher. Other structural indicators of quality such as staff to child ratios and group sizes are approaching the high quality thresholds set by national accreditation standards. Looking forward, several topics emerge as potential future priorities for the community, including,

- Continuing to enhance program quality by supporting programs to earn national accreditation;
- Facilitate the implementation of the Massachusetts Early Childhood Program Standards and the Guidelines for Preschool Learning Experiences,

- Support teachers to earn higher education credentials, which fosters the improvement of teacher quality,
- Foster salary initiatives to recruit and retain qualified teachers in community-based settings, and
- Assist programs and providers to develop the capacity to systematically use child outcomes to support children’s learning.

The next section of this report will address some of these topics, in the context of planning for high quality universal preschool and higher teacher education credentials.

Appendix E: Education Levels for Center and Head Start Teachers and Directors aggregated by Boston Community Partnerships for Children neighborhoods

For all tables in this appendix the data source is the Community Profiles 2003-2004 Center / Head Start survey, and the data analysis was done by Boston EQUIP.

Allston-Brighton:

15% of Assistant Teachers, 61% of Teachers, 89% of Lead Teachers, and 80% of Directors in the Allston-Brighton neighborhood have earned their Bachelors degree or higher.

Center / Head Start	Assistant Teacher (%)	Teacher (%)	Lead Teacher (%)	Director (%)
Less than HS or GED	0	1	0	0
GED or HS	64	17	0	10
CDA	6	15	0	0
AA	15	5	11	10
BA in ed or related	3	41	44	20
BA in unrelated	9	8	0	10
MA ed or related	3	11	44	40
MA unrelated	0	1	0	10
Advanced/prof	0	0	0	0

Charlestown/North End:

8 % of Assistant Teachers, 19% of Teachers, 18% of Lead Teachers, and 75% of Directors in the Charlestown / North End neighborhood have earned a Bachelors degree or higher

Center / Head Start	Assistant Teacher (%)	Teacher (%)	Lead Teacher (%)	Director (%)
Less than HS or GED	8	0	0	0
GED or HS	85	37	0	0
CDA	0	13	71	0
AA	0	31	12	25
BA in ed or related	0	12	12	25
BA in unrelated	8	6	0	25
MA ed or related	0	0	6	25
MA unrelated	0	0	0	0
Advanced/prof	0	0	0	0

Dorchester:

2% of Assistant Teachers, 6% of Teachers, 25% of Lead Teachers, and 63% of Directors in the Dorchester neighborhood have earned a Bachelors degree of higher.

Center / Head Start	Assistant Teacher (%)	Teacher (%)	Lead Teacher (%)	Director (%)
Less than HS or GED	15	6	0	0
GED or HS	81	44	14	8
CDA	0	17	14	8
AA	2	27	48	21
BA in ed or related	2	4	20	37
BA in unrelated	0	0	5	8
MA ed or related	0	1	0	17
MA unrelated	0	1	0	0
Advanced/prof	0	0	0	0

Downtown/Back Bay/Beacon Hill:

31% of Assistant Teachers, 29% of Teachers, 90% of Lead Teachers, and 86% of Directors in the Downtown/Back Bay/Beacon Hill neighborhood have earned a Bachelors degree or higher.

Center / Head Start	Assistant Teacher (%)	Teacher (%)	Lead Teacher (%)	Director (%)
Less than HS or GED	12	0	0	0
GED or HS	56	24	0	0
CDA	0	23	3	14
AA	0	45	7	0
BA in ed or related	12	11	28	14
BA in unrelated	19	16	3	0
MA ed or related	0	3	59	71
MA unrelated	0	0	0	0
Advanced/prof	0	0	0	0

East Boston:

33 % of Lead Teachers and 20% of Directors in East Boston have earned a Bachelors degree or higher.

Center / Head Start	Assistant Teacher (%)	Teacher (%)	Lead Teacher (%)	Director (%)
Less than HS or GED	36	4	0	0
GED or HS	64	88	33	40
CDA	0	8	27	0
AA	0	0	8	40
BA in ed or related	0	0	27	20
BA in unrelated	0	0	0	0
MA ed or related	0	0	8	0
MA unrelated	0	0	0	0
Advanced/prof	0	0	0	0

Jamaica Plain/Roxbury:

7% of Assistant Teachers, 18% of Teachers, 25% of Lead Teachers, and 69% of Directors in the Jamaica Plain / Roxbury neighborhood have earned a Bachelors degree or higher.

Center / Head Start	Assistant Teacher (%)	Teacher (%)	Lead Teacher (%)	Director (%)
Less than HS or GED	14	2	0	0
GED or HS	76	54	30	8
CDA	2	9	10	0
AA	2	17	36	23
BA in ed or related	2	12	21	19
BA in unrelated	3	4	2	11
MA ed or related	2	3	1	27
MA unrelated	0	0	0	0
Advanced/prof	0	0	0	12

Mattapan:

0% of Assistant Teachers, Teachers, and Lead Teachers have earned a Bachelor's degree or higher in the Mattapan neighborhood. 33% of Directors have earned a Bachelors degree or higher in the Mattapan neighborhood.

Center / Head Start	Assistant Teacher (%)	Teacher (%)	Lead Teacher (%)	Director (%)
Less than HS or GED	13	0	0	0
GED or HS	80	50	55	67
CDA	7	27	18	0
AA	0	23	27	0
BA in ed or related	0	0	0	17
BA in unrelated	0	0	0	17
MA ed or related	0	0	0	0
MA unrelated	0	0	0	0
Advanced/prof	0	0	0	0

Roslindale/West Roxbury/Hyde Park:

10% of Teachers, 38% of Lead Teachers, and 69% of Directors in the Roslindale/West Roxbury/Hyde Park neighborhood have earned a Bachelors degree or higher.

Center / Head Start	Assistant Teacher (%)	Teacher (%)	Lead Teacher (%)	Director (%)
Less than HS or GED	10	0	0	0
GED or HS	87	53	31	0
CDA	3	27	10	0
AA	0	10	21	31
BA in ed or related	0	10	31	39
BA in unrelated	0	0	0	15
MA ed or related	0	0	7	15
MA unrelated	0	0	0	0
Advanced/prof	0	0	0	0

South Boston:

8% of Assistant Teachers, 25% of Teachers, 12% of Lead Teachers, 100% of Directors in the South Boston neighborhood have earned a Bachelors degree or higher.

Center / Head Start	Assistant Teacher (%)	Teacher (%)	Lead Teacher (%)	Director (%)
Less than HS or GED	8	0	0	0
GED or HS	75	31	6	0
CDA	0	25	35	0
AA	8	19	47	0
BA in ed or related	0	22	12	22
BA in unrelated	8	3	0	0
MA ed or related	0	0	0	78
MA unrelated	0	0	0	0
Advanced/prof	0	0	0	0

South End/Chinatown /Fenway:

36% of Assistant Teachers, 28% of Teachers, 38% of Lead Teachers and 94% of Directors in the South End / Chinatown/ Fenway neighborhood have earned a Bachelors degree or higher.

Center / Head Start	Assistant Teacher (%)	Teacher (%)	Lead Teacher (%)	Director (%)
Less than HS or GED	3	1	2	0
GED or HS	53	53	38	0
CDA	0	3	3	0
AA	8	14	19	6
BA in ed or related	14	23	24	41
BA in unrelated	22	1	0	56
MA ed or related	0	4	14	29
MA unrelated	0	0	0	12
Advanced/prof	0	0	0	6

Appendix F: Average salaries of Center and Head Start staff by CPC neighborhood

For all tables in this appendix the data source is the Community Profiles 2003-2004 Center / Head Start survey, and the data analysis was done by Boston EQUIP

Boston:

Center / Head Start	<u>Average</u> Hourly Pay (\$)	Average Highest Hourly Pay (\$)	Average Lowest Hourly Pay (\$)
Director	22.00	24.00	18.00
Education Coordinator	18.00	19.00	15.00
Full-time Lead Teacher	14.00	15.00	12.00
Part-time Lead Teacher	14.00	15.00	12.00
Full-Time Teacher	12.00	13.00	11.00
Part-time Teacher	11.00	12.00	10.00
Full-Time Asst. Teacher	10.00	11.00	9.00
Part-time Asst. Teacher	9.00	10.00	9.00

Allston-Brighton:

Center / Head Start	<u>Average</u> Hourly Pay (\$)	Average Highest Hourly Pay (\$)	Average Lowest Hourly Pay (\$)
Director	19.00	21.00	18.00
Education Coordinator	16.00	17.00	15.00
Full-time Lead Teacher	15.00	15.00	14.00
Part-time Lead Teacher	13.00	14.00	11.00
Full-Time Teacher	13.00	15.00	18.00
Part-time Teacher	11.00	11.00	10.00
Full-Time Asst. Teacher	10.00	10.00	10.00
Part-time Asst. Teacher	9.00	10.00	9.00

Back Bay/Beacon Hill/Downtown:

Center / Head Start	<u>Average</u> Hourly Pay (\$)	Average Highest Hourly Pay (\$)	Average Lowest Hourly Pay (\$)
Director	25.00	26.00	17.00
Education Coordinator	15.00	15.00	-
Full-time Lead Teacher	15.00	17.00	12.00
Part-time Lead Teacher	-	-	-
Full-Time Teacher	13.00	13.00	12.00
Part-time Teacher	-	-	-
Full-Time Asst. Teacher	11.00-	12.00	10.00
Part-time Asst. Teacher	9.00	9.00	8.00

Charlestown/North End:

Center / Head Start	<u>Average</u> Hourly Pay (\$)	Average Highest Hourly Pay (\$)	Average Lowest Hourly Pay (\$)
Director	24.00	26.00	21.00
Education Coordinator	16.00	16.00	-
Full-time Lead Teacher	14.00	15.00	13.00
Part-time Lead Teacher	14.00	15.00	13.00
Full-Time Teacher	12.00	13.00	11.00
Part-time Teacher	12.00	12.00	12.00
Full-Time Asst. Teacher	10.00	10.00	9.00
Part-time Asst. Teacher	9.00	-	9.00

Dorchester:

Center / Head Start	<u>Average</u> Hourly Pay (\$)	Average Highest Hourly Pay (\$)	Average Lowest Hourly Pay (\$)
Director	21.09	22.82	19.90
Education Coordinator	17.44	19.02	15.57
Full-time Lead Teacher	13.32	14.54	12.24
Part-time Lead Teacher	-	-	-
Full-Time Teacher	11.61	12.87	10.85
Part-time Teacher	10.93	11.92	9.57
Full-Time Asst. Teacher	10.20	11.30	9.26
Part-time Asst. Teacher	10.00	10.94	8.89

East Boston:

Center / Head Start	<u>Average</u> Hourly Pay (\$)	Average Highest Hourly Pay (\$)	Average Lowest Hourly Pay (\$)
Director	19.00	24.00	15.00
Education Coordinator	15.00	16.00	14.00
Full-time Lead Teacher	13.00	14.00	12.00
Part-time Lead Teacher	-	-	-
Full-Time Teacher	11.00	12.00	10.00
Part-time Teacher	-	-	-
Full-Time Asst. Teacher	9.00	10.00	8.00
Part-time Asst. Teacher	11.00	-	11.00

Jamaica Plain/Roxbury:

Center / Head Start	<u>Average</u> Hourly Pay (\$)	Average Highest Hourly Pay (\$)	Average Lowest Hourly Pay (\$)
Director	22.34	24.97	19.28
Education Coordinator	17.65	19.07	16.50
Full-time Lead Teacher	13.89	15.13	12.73
Part-time Lead Teacher	15.00	15.00	-
Full-Time Teacher	11.79	13.25	10.59
Part-time Teacher	11.03	11.43	10.79
Full-Time Asst. Teacher	10.22	10.66	9.63
Part-time Asst. Teacher	9.63	10.68	9.58

Mattapan:

Center / Head Start	<u>Average</u> Hourly Pay (\$)	Average Highest Hourly Pay (\$)	Average Lowest Hourly Pay (\$)
Director	21.44	25.71	17.17
Education Coordinator	20.15	21.15	18.00
Full-time Lead Teacher	13.71	15.18	12.23
Part-time Lead Teacher	-	-	-
Full-Time Teacher	13.73	15.08	12.39
Part-time Teacher	-	-	-
Full-Time Asst. Teacher	10.48	11.57	9.39
Part-time Asst. Teacher	-	-	-

South End/ Chinatown / Fenway:

Center / Head Start	<u>Average</u> Hourly Pay (\$)	Average Highest Hourly Pay (\$)	Average Lowest Hourly Pay (\$)
Director	22.00	24.00	17.00
Education Coordinator	20.00	20.00	-
Full-time Lead Teacher	14.00	15.00	12.00
Part-time Lead Teacher	-	-	-
Full-Time Teacher	12.00	12.00	11.00
Part-time Teacher	11.00	11.00	10.00
Full-Time Asst. Teacher	10.00	10.00	10.00
Part-time Asst. Teacher	9.00	11.00	8.00

Roslindale/West Roxbury/Hyde Park:

Center / Head Start	<u>Average</u> Hourly Pay (\$)	Average Highest Hourly Pay (\$)	Average Lowest Hourly Pay (\$)
Director	20.78	21.57	18.20
Education Coordinator	20.31	21.32	18.00
Full-time Lead Teacher	13.97	15.88	11.58
Part-time Lead Teacher	14.55	16.59	12.50
Full-Time Teacher	11.09	12.32	9.92
Part-time Teacher	10.05	11.67	8.43
Full-Time Asst. Teacher	9.86	10.37	7.96
Part-time Asst. Teacher	8.17	8.71	7.61

South Boston:

Center / Head Start	<u>Average</u> Hourly Pay (\$)	Average Highest Hourly Pay (\$)	Average Lowest Hourly Pay (\$)
Director	22.00	23.00	20.00
Education Coordinator	27.00	27.00	-
Full-time Lead Teacher	15.00	16.00	13.00
Part-time Lead Teacher	-	-	-
Full-Time Teacher	13.00	14.00	11.00
Part-time Teacher	12.00	13.00	11.00
Full-Time Asst. Teacher	11.00	12.00	11.00
Part-time Asst. Teacher	11.00	12.00	10.00

Looking Ahead

Bob Dylan's words, "the times they are a-changin' " have perhaps never felt more apt. The day that this report is published, June 30, 2005, the Office of Child Care Services and the Department of Education's Early Learning Services will close and the next day the doors will open on the new Massachusetts Department of Early Education and Care. This opening marks a major milestone on the path to high-quality universal preschool in Massachusetts, and simultaneously heralds the first of many more changes to come as we move closer to the goal of universal preschool in Massachusetts. The focus on access and quality in Massachusetts is happening in parallel with increased national attention on universal preschool and higher early education teacher quality standards. As a community, as unique agencies, and as individual advocates, we will need strategies to survive – and thrive – in the midst of these opportunities. This section of the report will describe where Boston currently is on the fronts of teacher quality and planning for universal preschool, concluding with topics and questions that will need to be addressed moving forward.

Teacher Quality - Higher Teacher Education Requirements

Based on the research linking teacher education levels with quality of early care and education, there is a movement nationwide to improve teacher quality in early care and education. This is heard in the Head Start reauthorization debate, can be read in the recently revised National Association for the Education of Young Children accreditation standards, and seen in the Massachusetts Early Childhood Program Standards where there is a timeline by which every (preschool) classroom will have a Lead Teacher with a Bachelor's degree in early education or a related field. In Massachusetts, Directors will also be required to have Bachelor's degrees via a similar timeline as teachers. These initiatives begin with the questions, what percentage of Boston's early education teachers already meet this requirement and what assistance will Boston's early education teachers and directors need to successfully meet these higher degree requirements?

Currently, 100% of Boston's Public School Preschool Teachers, 36% of Community-Based Center and Head Start Center Lead Teachers²⁸, and 14% of Boston Family Child Care Providers have a Bachelor's degree or higher²⁹. Twenty-seven percent of Community-Based Center and Head Start Center Lead Teachers and 17% of Directors have an Associates degree as their highest level of education.

²⁸ Note that Lead Teachers includes Infant, Toddler, and Preschool Lead Teachers.

²⁹ While most of the mandates for higher education levels currently do not extend to family child care providers, the research finds that teacher quality matters just as much in family child care as center-based care. Therefore, we will keep family child care providers in the conversation as we discuss how to support the workforce in meeting higher educational requirements.

Unfortunately, the previous paragraph summarizes the breadth of our objective understanding on the status of teacher higher education. Although we may possess anecdotal understanding, as a community we do not have further data to inform future planning. Currently, even the basic number of teachers is unclear. Let alone, further details about the current workforce including: How many early education teachers are Caucasian or Hispanic or African-American? How many of Boston's teachers are sharing a second language each day with the children in their classrooms? How many teachers would like to have a tutor accessible in their neighborhood to review what they're learning in their college courses? How many teachers have been offered Child Growth and Development more than five times but never the Math class they need to actually matriculate into a degree-granting program? How many teachers have defaulted on their school loans from the first time around, so that no one will give them a loan to try college again? Unfortunately, we do not have objective data to answer these questions. And not knowing means that plans put forth are based on best guesses and wishes. To ensure that Boston's early education workforce is available and meeting the highest quality standards, strategies which efficiently address the barriers to the current teachers and creatively recruit new teachers into this field will be needed.

Issues or barriers to the higher education system for teachers/providers in Boston

While objective data about the barriers for teachers and providers in Boston around accessing higher education are not available, anecdotes and stories around the community do seem to echo similar concepts. Following are some of the qualitative themes heard in these stories.

The current members of the Boston early education workforce who will need to return to school are "non-traditional students". The community-based teachers affected the most by the education requirement are, by definition, "non-traditional" students. Overall, although not exclusively, these teachers are older than the traditional college student by 5 to 30 years. These teachers are a wide diversity of ethnicities and speak a variety of languages as their first language. Many have children and families who require their attention and support. Most are currently working full-time in the field, and can't afford to leave their jobs to return to school full-time. Many have stacks of certificates that somehow just don't quite equate to any college course. A number have taken the free college courses when they've been offered in the community, but yet are still lacking many of the core classes required to matriculate. In some cases, teachers have never even been on a college campus and some don't even believe that they are college material.

English. Many of the community-based teachers and providers speak a first language other than English. This fact presents itself as a barrier, because some teachers may need access to English as a Second Language courses to build up their grammar and vocabulary to a college discourse level. Members of the community also report that

some of their teachers shy away from taking English Composition or English Writing courses (usually a required undergraduate course) because of concern related to not having English as a first language.

Cost. College is expensive. As has been previously discussed in this report, community-based teachers and providers do not generally earn substantial incomes. Tuition assistance via financial aid, scholarships, or loan forgiveness programs could be viable strategies for helping the current workforce pay for their education. There are also costs to programs when teachers require release time during work hours to attend college classes.

Reams of certificates and oodles of courses. Many teachers have stacks of certificates accumulated from required and optional training hours over the years, yet these are mostly non-redeemable for college credit. Or, teachers have numerous of college course credits accumulated from college courses offered sporadically in the community, but these courses don't sum up to something that will allow them to matriculate into a degree-granting program. Alternatively, others have all the courses they need to move from an AA program to a BA program except for an Art or Math or Lab science course, yet these have not previously been offered through the higher education initiatives for early educators. And, for those who have completed a 60 credit Associates degree, the lack of "articulation" between two and four year degrees means that not all the coursework taken in completing the Associates will be acceptable in pursuit of the Bachelors degree. Though inadvertent the effect on low income (mostly) women pursuing higher education the hard way, course by course, is to make the challenge longer and more expensive than a straight through four-year degree.

Time. Community based teachers and family child care providers often work 8:00 a.m. to 6:00 p.m year-round. Compared to Public School teachers who may get out of school by 3:00 p.m and out of school for three months in the summer, finding time for community-based teachers and providers to take college courses is going to be a challenge. This issue refers to the original topic of non-traditional students. These students can't take courses at the traditional times that they are offered, as well they will probably not take courses at as fast a pace as traditional students.

Motivation / Salary. There is a reason, or perhaps a constellation of reasons, why these teachers don't already have Bachelors degrees. A commonly cited one is salaries. This can be heard under the guise of, public schools can attract and keep teachers with a Bachelor's degree or higher because they can pay them what that degree is worth. Community-based programs are genuinely concerned about how they will be able to compensate their teachers when they earn these higher degrees. It would be interesting to know from the teachers' perspective what would be worth it to them to pursue the higher degree?

These are all demand side concerns. What about the supply side? What is the capacity of the higher education institutions in Boston?

Compared to other communities in the state, Boston is fortunate to have several higher education institutions in close proximity. The higher education institutions listed in Table 31 offer an early childhood education or related degree:³⁰.

Table 31: Higher Education Institutions in Greater Boston offering an Early Childhood Education or related degree

School Name	Type of School	Location	Degrees Offered	Website
Boston College	Private, 4 year	Chestnut Hill	BA; MA – Early Childhood Teacher / Early Childhood Specialist	www.bc.edu
Boston University	Private, 4 year	Boston	Ed.M. ECE	www.bu.edu
Brandeis	Private, 4 year	Waltham	BA (can minor in ECE)	www.brandeis.edu
Bunker Hill Community College	Public, 2 year	Boston	Certificate in EC Dev.; A.S. Early Childhood Development	www.bhcc.mass.edu
Fisher College	Private, 2 year	Boston	Certificate in ECE; AA in ECE	www.fisher.edu
Lasall College	Private, 4 year	Newton	B.A. Education; B.A. Daycare Admin; B.A. in ECE (preK-3)	www.lasell.edu
Lesley University	Private, 4 year	Cambridge	BA with Human Development major and ECE minor; Ed.M. Curriculum and Instruction with specialization in Literacy (licensure in Early Childhood). Ed.M C&I with specialization in Teacher of Students with Disabilities (PreK-2)	www.lesley.edu
Mt. Ida College	Private, 4 year	Newton	A.S. Child Study	www.mountida.edu

³⁰ Data sources: Child Care Careers Institute, National Center for Education Statistics – Integrated Postsecondary Data System, and internet web search.

Newbury College	Private, 4 year	Brookline	Certificate ECE; Day Care Admin; AA in ECE	www.newbury.edu
Northeastern University	Private, 4 year	Boston	BA/BS-MAT in Education add Early Childhood licensure	www.northeastern.edu
Roxbury Community College	Public, 2 year	Boston	A.S. in ECE	www.rcc.mass.edu
Simmons College	Private, 4 year	Boston	Certificate in Early Childhood; B.A. in EC Dev.	www.simmons.edu
Tufts University	Private, 4 year	Medford	B.A. in Child Development; M.A. Applied Child Dev.	www.tufts.edu
Urban College of Boston	Private, 2 year	Boston	Certificate ECE; Certificate ECE in Spanish, CDA; AA in ECE	www.urbancollege.edu
Wheelock College	Private, 4 year	Boston	Care & Education in Early Childhood settings	www.wheelock.edu

* ECE = Early Childhood Education; EC Dev = Early Childhood Development; CDA = Child Development Associate

Additionally, the University of Massachusetts – Boston is developing an early childhood education Bachelors program. Previously, the lack of a four-year public institution offering a degree in early childhood education has been cited as a barrier for teachers in the community to advance.

Seeing the scope of college and universities in close proximity to Boston highlights the immense potential there is here to create partnerships. A few examples of current initiatives in the community to support teachers to earn higher educational degrees are the Early Childhood Careers Center at Child Care Choices of Boston, the Professional Enrichment in Early Childhood Education (PEECE) program at ABCD, and the courses purchased directly by the Community Partnerships for Children Councils.

Where do we go from here? The planning for how to support the current workforce and cultivate the future workforce will require creative thinking, a workforce needs assessment, and should benefit from working in tandem with the planning for high quality universal preschool.

High Quality Voluntary Universal Preschool for Massachusetts 3-5 year olds

Looking ahead to the next five years there are many decisions that will be made by the Board and Department of Early Education and Care and the Legislature to give shape to the vision for universal preschool. Yet, there are also many decisions that will be left to local communities to decide as implementation begins. In Boston this process has been jumpstarted by the Boston Public Schools expansion plan to provide school-day / school-year early education for 4000 four year olds. How Boston moves from the current picture of 64% of the current population of children in programs, to a sustainable system of high quality voluntary universal preschool will involve tackling the following issues:

Capacity for Universal Preschool. How much does capacity need to be expanded to provide universal preschool? Who will expand? By when must they expand? This report has documented the current number of kids in the city and current capacity, yet as has been noted there is not yet a consensus about how much capacity Boston envisions providing when it has reached the point of universal. When an end point has been recognized, a initial step will be to address the reasons why some current capacity is underused. If current capacity is being underutilized because there is not enough funding for children or staff, the remedy should involve direct funding for children and staff to maximize the current capacity before new facility expansion begins. A similar scenario of first filling underutilized capacity before expanding to new facilities occurred in Los Angeles County as they began to expand their universal preschool program. Another question is who approves the development of new capacity in the community? What data must be considered in the decisions to expand? What are the standards and requirements applicable to new capacity? Who ensures that the new capacity is meeting the actual needs of children and families? What ensures that new capacity is not developed at the expense of destroying previously existing capacity? Should expansion be directed by available space or neighborhood need?

A Qualified Workforce. As capacity expands more teachers will be needed. As quality standards are raised, more teachers will be needed who specifically meet the education degree requirement. Many of the challenges associated with increasing the education levels of the current workforce were covered in the last section. Compensation and working conditions will be the linchpin to both increasing the size and education of the workforce. Having and using real time data to make informed decisions about how to build a streamlined workforce development strategy is critical.

Care and Education. As the preschool train leaves the station, it will be critical to remember that the passengers are three and four year olds. At this age, social-emotional development is paramount. Entering school ready to learn involves knowing ABCs and how to play well together. The system that is designed must integrate the two very different philosophies of child care and preschool. As well, it must be kept prominent

that infant and toddler care is a vital and integrated component of much of the current community early care and education.

Boston and its process. Ultimately, the system that is developed will need to encompass the unique players and dynamics that are Boston. Every community has its own quirks and politics; Boston's are just many magnitudes of scope larger than other communities in Massachusetts. The process for how universal preschool is planned and implemented will be critical. It will need to involve a range of interested parties, identify resources for the work, and begin with already evident strengths and barriers.

Who should be involved?

- Advocacy organizations
- Boston Public Schools
- Business
- Clergy
- Community Partnerships for Children (members of)
- Community-Based agencies
- Dept. of Early Education and Care regional staff
- DMH – Child Services
- Dept. of Public Health
- Early Intervention Service agencies
- Family Child Care
- Head Start agencies
- Higher Education institutions (public and private)
- Legislators
- Mayor and City Councilors
- Medical / Social services
- License-exempt schools
- Parents
- Philanthropic organizations
- Policy-makers

Some of these players are already familiar with working together through the Community Partnerships for Children model. Others are not. An essential dynamic of this process will be finding ways that the players with long histories and those who are just starting can work together to establish common plans. Perhaps other counties and states designing mixed delivery system universal preschools can offer recommendations about this aspect of the process.

A community strategic planning process will require resources. Resources such as dedicated staff to do this work, financial resources to support the development and implementation of plans, data to drive decisions, and institutional commitment to the process. Without dedicated people available to drive this process, it will flounder in the piles of papers on everyone's desks. Without, data to inform the decisions, major decisions will be made on whims and best guesses. Without, institutional commitments it is all just talk. As well, barriers that are already evident must be surmounted.

Already identifiable barriers to this process,

- Egos and power
- Lack of trust
- Competition
- Institutional barriers
- Missing collaboration between public schools and community programs
- Lack of consensus on about a vision
- Lack of resources for the process
- Lack of data on supply & demand about early care and education; and workforce

Conclusion

We all have everything to gain and everything to lose. As is demonstrated in this report there is an immense array of early care and education in Boston that currently provides care and education for more than 18,000 children every day. Unlike most American cities, our collective resources are more mature, primarily mission driven, and higher quality. We have already established a capacity to create, grow, and strengthen early childhood resources.

Each of our livelihoods is at stake, as well as the opportunity for every child born in the next ten years to be guaranteed the best start possible in life. Done with forethought, a transparent process of total community engagement will allow Boston to build a successful mixed delivery system of early care and education, which maximizes the provision of quality experiences for young children and strengthens both public and community institutions.