CAP Family Life Study

ACF/HHS Award to the Community Action Project of Tulsa, Oklahoma (CAP) to Expand Career*Advance*®
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Executive Summary

Career*Advance*® — administered by the Community Action Project of Tulsa County (CAP Tulsa) — combines Head Start services with education and stackable training in the healthcare sector. The program draws on the best innovations from the adult education literature by offering a sequence of programs in partnership with community colleges so that participants can make concrete progress, exit at various points with certificates, and then return for further advancement. Career*Advance*® also provides a number of key supportive components, including career coaches, financial incentives, and peer group meetings, to prepare parents for high-demand jobs in the healthcare sector. Career*Advance*® is one of the only fully-operating, two-generation, human capital programs in the country.

The CAP Family Life Study is a quasi-experimental, mixed-methods, multi-level study of Career*Advance*®, in which we examine the short-term and longer-term effects of the program on family, parent, and child outcomes. The research team for the CAP Family Life Study includes P. Lindsay Chase-Lansdale, Teresa Eckrich Sommer, and Terri Sabol from Northwestern University, Christopher King from the University of Texas at Austin, Jeanne Brooks-Gunn at Columbia University, and Hirokazu Yoshikawa at New York University. The current study investigates how variation in program participation is linked to different subgroup patterns of educational attainment, employment, and family health and well-being.

The CAP Family Life Study includes a combination of primary quantitative and qualitative data collection and secondary data. For primary data collection, we conduct an array of parent, child, and teacher assessments and surveys. We are implementing a qualitative study that includes intensive individual interviews and focus groups with parents and CAP staff. We also collect and integrate existing data resources to enhance our primary data collection, including data from CAP Tulsa and Oklahoma administrative data. Collectively, the primary and secondary data provide an unprecedented opportunity to address the effects of a dual-generation workforce development program on low-income parents' and children's well-being.

This report presents our progress in Year 3 of the CAP Family Life Study. This year we advanced the development and implementation of our two-generation evaluation design and conducted our first study on program persistence and educational success for Career*Advance*® parents. We expanded our data collection to include Wave 3 data collection for Cohort 4, Wave 2 data collection for Cohorts 5 and 6, and baseline data collection for Cohorts 7 and 8. We also selected the matched comparison group for Cohorts 7 and 8, using the same advanced statistical matching technique used for previous cohorts to select parents who closely match Career*Advance*® participants. We continue to find that the matched comparison and Career*Advance*® groups have similar baseline characteristics, which is central to the success of the study (see Section 2). In addition, a key goal of Year 3 was to better understand how participants progress through Career*Advance*®, and how this program compares to similar workforce training and education programs for low-income students. We made important progress in defining and coding participants' progress in Career*Advance*® to understand educational persistence, advancement, and achievement. We also conducted a literature review on existing workforce development programs and find that persistence in Career*Advance*® after one year is equal to and some cases surpasses that of similar programs.

Section 1: Refining and Integrating Systems and Expanding Data Collection

Career*Advance*®, launched by the Community Action Project of Tulsa County (CAP), is a healthcare workforce development program designed for low-income parents of young children enrolled in CAP's early childhood education programs. Career*Advance*® is one of the only fully operational two-generation programs with the explicit goal of improving outcomes simultaneously for *both* parents and children.
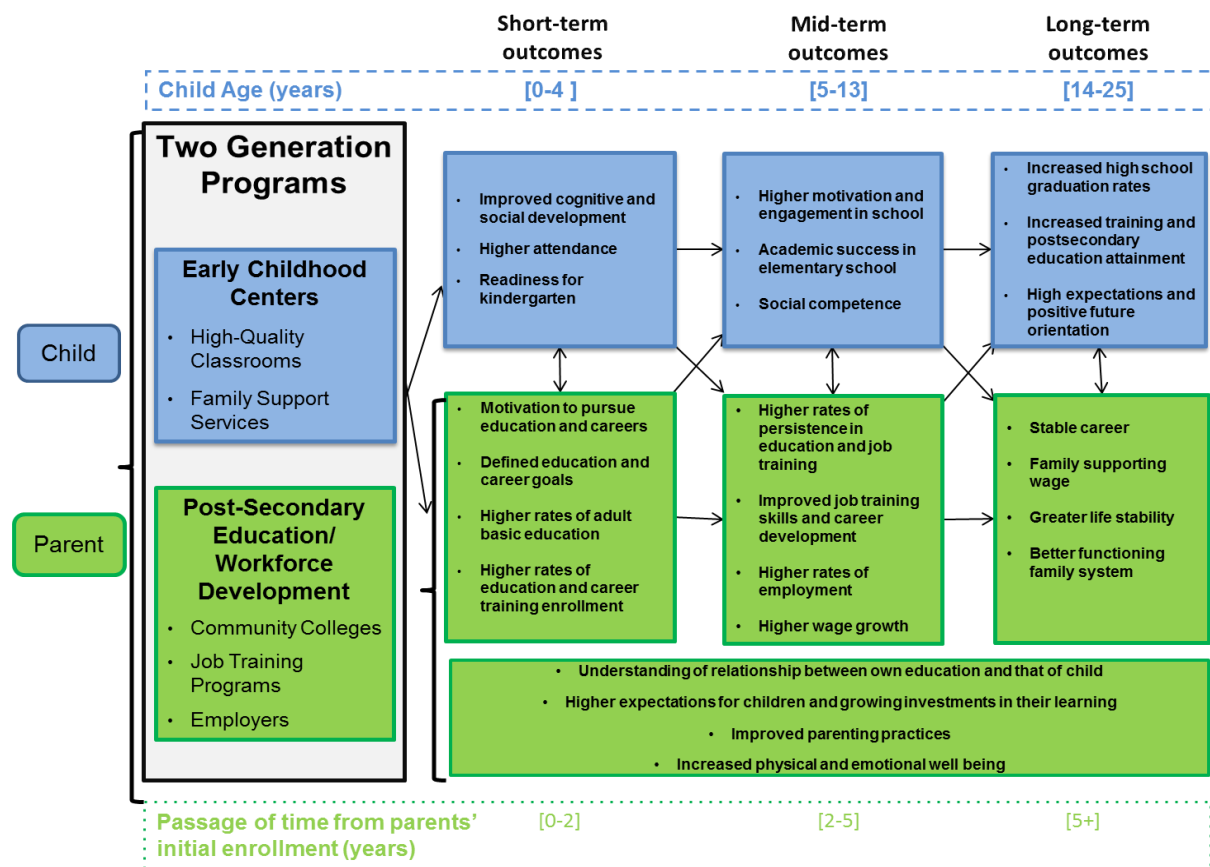
Our theory of change describes the relationship between child and parent education and short- and long-term outcomes (see Figure 1.1). In illustrating the complexity of workforce pathways in Career*Advance*®, this theory also acknowledges that various pathways and associated exit points may produce better outcomes for certain subgroups and not others (Chase-Lansdale & Brooks-Gunn, in press).

Short-term outcomes for parents in Career*Advance*® could include increased credentialing, career development, and self-efficacy (Gardner et al., 2012; Schuller et al., 2002). Parents who observe their children thriving in an early childhood education program may be more motivated to succeed in their own educational program (Sommer et al., 2012). However, given the multiple demands of work, school, and childrearing, Career*Advance*® respondents may experience elevated levels of stress in the short-term.

Long-term parent outcomes could include significant improvements in educational attainment, increased earnings, and improved financial stability. These workforce outcomes and the associated financial and psychological resources could take up to four years to achieve and eventually could lead to decreased undesirable residential mobility, lower levels of stress, and more effective parenting practices.

In terms of child outcomes, increased financial resources in early childhood have been shown to improve children's development across a number of domains, including academic achievement, executive functioning, approaches to learning, and socio-emotional competence (Duncan, Ziol-Guest, & Kalil, 2010; Magnuson et al., 2007; Yoshikawa, Weisner, & Lowe, 2006). Additionally, parents' higher education levels may increase their own optimism and motivation, which may then heighten parental expectations for their children's academic success, and improve child attendance at early childhood education centers and at elementary schools. Parents with more education and training may also be better equipped to navigate children's educational systems and assist their children with academic activities (Kalil & Crosnoe, 2010). Lastly, more highly educated parents may serve as better academic role models, which may promote children's motivation and engagement in school.

Figure 1.1. Career*Advance*® Theory of Change

	Short-term outcomes	Mid-term outcomes	Long-term outcomes
Child Age (years)	[0-4]	[5-13]	[14-25]

Two Generation Programs

Early Childhood Centers
- High-Quality Classrooms
- Family Support Services

Post-Secondary Education/ Workforce Development
- Community Colleges
- Job Training Programs
- Employers

Child

Parent

Child outcomes (blue):
- Improved cognitive and social development
- Higher attendance
- Readiness for kindergarten

→

- Higher motivation and engagement in school
- Academic success in elementary school
- Social competence

→

- Increased high school graduation rates
- Increased training and postsecondary education attainment
- High expectations and positive future orientation

Parent outcomes (green):
- Motivation to pursue education and careers
- Defined education and career goals
- Higher rates of adult basic education
- Higher rates of education and career training enrollment

→

- Higher rates of persistence in education and job training
- Improved job training skills and career development
- Higher rates of employment
- Higher wage growth

→

- Stable career
- Family supporting wage
- Greater life stability
- Better functioning family system

- Understanding of relationship between own education and that of child
- Higher expectations for children and growing investments in their learning
- Improved parenting practices
- Increased physical and emotional well being

Passage of time from parents' initial enrollment (years)	[0-2]	[2-5]	[5+]

Overview of the CAP Family Life Study

The CAP Family Life Study is an ongoing, quasi-experimental study designed to investigate the effects of Career*Advance*® on parents' and children's short- and longer-term outcomes and inform our theory of change. We employ a mixed-methods, longitudinal design to follow participants in Career*Advance*® and a matched-comparison group of families whose children are in CAP Tulsa's early childhood education centers, but their parents did not enroll in Career*Advance*®. The CAP Family Life Study employs a purposeful mix of quantitative and qualitative design approaches in order to address the following research questions:

(1) Does participation in Career*Advance*® relate to *longer-term* outcomes for parents and children among a larger sample?

(2) To what extent do longer-term parent and child outcomes vary as a function of Career*Advance*® dosage?

(3) Are certain pathways through Career*Advance*® better for some subpopulations of low-income families than others, and if so, why?

The CAP Family Life Study will eventually include Cohorts 4-10 with four waves of data collection for Career*Advance*® participants and a matched comparison group (see Table 1.1 below). The quantitative study includes direct assessments of parents, children, and teachers as well as administrative data. We developed a 90-minute structured parent survey that draws on the latest innovations in survey methodology. The survey contains a range of measures to examine parent demographics, education, psychological well-being, parenting, social support, parent engagement, and career identity. Child assessments include measures of basic numeracy and literacy skills, applied math skills, executive functioning, language skills, approaches to learning, and socio-emotional skills. We also examine how children make meaning of their parents' educational advances by using a novel, newly developed measure, the Child-Parent-School Puppet Interview, (adapted from the Berkeley Puppet Interview). Teacher surveys are collected while children are in CAP and then once they transition to the elementary school to provide information on children's performance in the classroom setting and the school context.

Table 1.1. CAP Family Life Study Structure of Data Collection and Estimated Sample

	Year 1		Year 2		Year 3		Year 4		Year 5		
	2011		2012		2013		2014		2015		
Cohort	S*	F	S	F	S	F	S	F	S	F	
4		60		60		60		60			
5			60		60		60		60		
6				60		60		60		60	**Total:**
7					60		60		60		**1320**
8						60		60		60	
9							60		60		
10								60		60	
Total	60		180		300		420		360		

* S=Spring; F=Fall

☐ = Wave 1   ☐ = Wave 2   ☐ = Wave 3   ☐ = Wave 4

Existing administrative data collected by CAP include (1) Demographic data from the ChildPlus system (collected for all new applicants to CAP Tulsa's Head Start programs); (2) child attendance reports; (3) observational measures of classroom quality (CLASS™); and (4) Career*Advance*® progress data. Administrative data collected from the Oklahoma Employment Security Commission (OESC) and Oklahoma Department of Human Services (OKDHS) provide data on parents' employment, income, and public benefits receipt.

We are also implementing a qualitative study that includes intensive individual interviews and focus groups with parents and CAP staff. Major topics covered include: (1) well-being and personal characteristics of both parent and child; (2) experiences at CAP Tulsa, including Head Start and anticipated experiences with Career*Advance*®; (3) past and current work experiences;

(4) past and current educational and training experiences; (5) influences of current or recent educational and work experiences on family roles and parenting; (6) hopes and worries for parent and for child; (7) financial and other circumstances and sources of instrumental, financial, and emotional support; and (8) strategies for success and for managing crises. Data from the quantitative and qualitative studies will inform our understanding of the short- and long-term benefits of Career*Advance*® for parents and their children.

The CAP Family Life Study: Years 1-3

We have made considerable progress in meeting the ambitious research aims of the CAP Family Life Study. In the first year of the CAP Family Life Study, the research team focused on building the study infrastructure and developing strong systems for data collection and team communication. We also began data collection for the CAP Family Life with Cohort 4 Career*Advance*® participants and matched comparison parents. In Year 2, we expanded data collection to include follow-up data on Cohort 4, as well as baseline data for Cohorts 5 and 6. In addition, we launched the qualitative portion of the study and conducted baseline in-depth interviews with Cohort 6 parents. With this expanded data collection, we developed more sophisticated processes for storing, managing, and cleaning data, as well as tracking participation and data collection progress. We also focused on building on our study infrastructure to assemble a strong data collection team and facilitate open communication across all institutions.

In these first two years, we also succeeded in establishing a strong research team across multiple institutions, including Northwestern University, the University of Texas, Oklahoma State University, Oklahoma University, Columbia University, and New York University. This cross-university team has collaborated throughout the life of the study to develop and maintain a strong infrastructure that supports our ambitious research agenda.

In Year 3, we have solidified our data collection organization and processes such that we are eventually able to collect our maximum amount of data across the 5 years of the study: 1,320 parent surveys, child assessments, and teacher surveys, in addition to in-depth interviews and focus groups with participants. We also expanded our data sharing agreement across universities and with CAP Tulsa such that we maintain the highest level of data confidentiality and security while maximizing our ability to share all types of data, including both collected and administrative, for the most expansive analyses.

Refining data collection processes and data sharing systems

In Year 3, we have made significant gains in collecting data to meet the ambitious research aims of the CAP Family Life Study, and answer the proposed research questions.

Data collection process. The CAP Family Life Study research team has collaborated throughout the study to develop an efficient data collection system that minimizes program disruption and maximizes data quality. By the end of Year 3, we have collected: (1) survey interviews of Career*Advance*® participants and matched-comparison parents in Cohorts 4-8; (2) child assessments for Cohorts 4-8; (3) teacher surveys for Cohorts 4-8; (4) in-home

observations of the families' home environments; (5) intensive qualitative interviews with Cohort 6 and Cohort 7 Career*Advance*® participants and matched-comparison parents; and (6) focus groups with Cohort 4-8 Career*Advance*® participants, matched-comparison parents, and staff from the Career*Advance*® program.

Research managers and assistants at Oklahoma State University (OSU) and Oklahoma University (OU) manage our Tulsa-based data collection with oversight from Northwestern University. Researchers at OSU conduct all parent surveys and in-home assessments for children are no longer enrolled in CAP. Researchers at OU conduct child assessments for children still enrolled in CAP. Teacher surveys are distributed once each semester to lead teachers who have CAP FLS children in their classrooms. For children who have transitioned out of CAP, we collect teacher surveys electronically from lead teachers in the child's elementary classroom. Researchers from Northwestern and the University of Texas travel to Tulsa to conduct qualitative interviews and focus groups.

Tulsa-based data managers and collectors also are responsible for data quality and participant retention. Research assistants diligently track, contact, and schedule study participants, a significant challenge given high rates of mobility and challenging life circumstances among many study participants. Strategies to improve rates of study participation include flexible scheduling and location of assessments, increasing incentive payments for each successive wave of data collection ($10 more for each wave), and continued research-participant contact throughout the life of the study. These contact strategies include: (1) birthday cards sent to both parents and children at the start of each month; (2) thank you cards to parents within a week of annual study participation; and (3) bi-annual CAP Family Life Study socials for matched comparison parents. Through these strategies, we have achieved our goal of an average retention rate of 80% across all waves and cohorts in the study.

Data sharing. The research team has developed a regular system for data transfer between project sites. Each site, including CAP, NU, OSU, OU, and the University of Texas, uploads data at regular intervals to a secure file sharing site, protected by the Northwestern University firewall. Data confidentiality is strictly maintained in accordance with the Northwestern University Institutional Review Board and the review boards of each partner university as required.

In an effort to maintain participant confidentiality and promote organized data transfer across the multiple sites, the research team and CAP staff have created a data sharing agreement outlining the data collected and stored by the team, the structure of data storage systems, and the process of data access for authorized research personnel. This agreement is updated quarterly with a list of authorized research personnel at each institution. Please see the Appendix for the data sharing agreement.

Data collected by Year 3

Over the course of the CAP Family Life study, we have succeeded in collecting 271 Wave 1 parent surveys, 115 Wave 2 surveys, and 25 Wave 3 surveys. In addition, we have

collected assessments from 202 children and 103 teachers. Below, we detail the data collected for Cohorts 4-8 in Year 3.

Wave 1: Parent, Child, and Teacher Surveys and Assessments. In Years 1 and 2, we completed Wave 1 data collection with Cohorts 4 through 6. In Year 3, we completed Wave 1 data collection with parents, children, and teachers in Cohorts 7 (in Spring 2013) and 8 (in Fall 2013). We succeeded in collecting surveys from 21 Career*Advance*® participants and 21 matched comparison parents in Cohort 7, as well as 28 child assessments and 48 teacher surveys (21 focused on the teacher and 27 focused on children). For Cohort 8, we have collected surveys from 34 Career*Advance*® participants and 32 matched comparison parents. In addition, we have collected 45 child assessments and 42 teacher surveys (19 focused on teachers and 23 focused on children). Please see Table 1.2 below for a summary of all baseline data we have collected. Appendix Table 1 details all Wave 1 data collection.

Table 1.2. Data Collection: Cohorts 4-8, Waves 1-3

Cohort	Year 1 2011 S*	Year 1 2011 F	Year 2 2012 S	Year 2 2012 F	Year 3 2013 S	Year 3 2013 F	
4		60		46		24[a]	
5			48		37		Total: 410
6				55		32[a]	
7					42		
8						66	
Total	60		149		201		

 * S=Spring; F=Fall [a]Data collection is ongoing

Note: We estimated that each Career*Advance*® cohort would include 30 participants for a total baseline sample of 60 for each cohort. Many Career*Advance*® cohorts were smaller than 30, leading to lower than expected baseline samples. Wave 1 in the table above reflects our total baseline sample for each cohort. We were able to conduct baseline interviews will all Career*Advance*® participants and their matched comparison counterparts.

█ = Baseline   █ = Wave 2   █ = Wave 3

Wave 2: Parent, Child, and Teacher Surveys and Assessments. In Year 2, we collected Wave 2 assessments from families in Cohort 4. In Year 3, we completed Wave 2 data collection for Cohort 5 (in Spring 2013) and began Wave 2 data collection for Cohort 6 (starting in Fall 2013). Wave 2 assessments for Cohort 5 were conducted from March to June, 2013. The baseline Cohort 5 sample included 22 Career*Advance*® families and 26 matched-comparison families (See Table 1.2). In Year 3, we collected Wave 2 surveys from 20 Career*Advance*® participants and 17 matched comparison parents, for a retention rate of 77%. Cohort 5 Wave 2 child assessments were collected from 22 children at CAP and 12 in home visits, for a retention rate of about 76%. We also collected and entered 40 teacher surveys (20 focused on teachers and 20 focused on children). For a table detailing child assessment and teacher survey data collection, please see Appendix Table 2.

We began collecting Wave 2 assessments for Cohort 6 in October 2013, and data collection for this cohort is ongoing. So far, we have collected 21 Career*Advance*® surveys and 11 matched comparison surveys (see Table 1.3), for a retention rate of 58%. We have also collected 8 child assessments through CAP and 14 assessments during home visits, for a retention rate of about 47%. Finally, we have collected 18 teacher surveys (9 focused on teachers and 9 focused on children) for Cohort 6 Wave 2 (see Appendix Table 2).

Wave 3. Data collection for Wave 3 began in fall 2013 with the study's first cohort of participants (Cohort 4), and is ongoing. In Year 3, we developed and piloted the Wave 3 survey for parents. The baseline Cohort 4 sample included 29 Career*Advance*® participants and 30 matched comparison parents. In Wave 2, we collected surveys from 26 Career*Advance*® participants and 20 matched comparison, for a retention rate of 78% the initial sample. In Wave 3, we have succeeded in collecting parent surveys from 17 Career*Advance*® participants and 7 matched comparison parents so far. We have also collected 25 child assessments, 5 of which were completed at CAP and 20 of which were completed as part of home visits. Finally, we collected 4 teacher surveys (2 focused on the teacher and 2 focused on the child) for Cohort 4.

Qualitative study. In addition to surveys and direct assessments, we have also selected a subsample of Career*Advance*® participants and matched comparison parents to participate in qualitative in-depth interviews and focus groups. We also conduct focus groups with Career*Advance*® staff to gain their perspective on the program. In Year 3, we began collecting baseline intensive interviews from Cohort 7 Career*Advance*® participants and matched comparison parents, as well as Wave 2 interviews for Cohort 6 Career*Advance*® participants. We also conducted focus groups with Career*Advance*® participants at various levels, matched comparison parents, and Career*Advance*® coaches. Table 1.4 below shows our qualitative data collection efforts in more detail.

Table 1.4. Qualitative Data Collection

Type of Data Collection	Number of Participants
Baseline Intensive interviews	
Cohort 6 Career*Advance*® *participants (in Year 2)*	11
Cohort 6 Matched-Comparison parents(in Year 2)	11
Cohort 7 Career*Advance*® *participants*	11
Cohort 7 Matched-Comparison parents	13
Wave 2 Intensive Interviews	
Cohort 6 Career*Advance*® *participants*	10
Focus Groups	
Career*Advance*® *participants*	10
Matched-Comparison parents	2
Career*Advance*® *Coaches*	4

We have also made considerable progress in coding baseline qualitative interview data in three major domains: (1) personal and life circumstances; (2) human capital; and (3) social capital (See the Appendix for the Qualitative Coding Manual). Personal and life circumstances included all discussions of the participants' and their children's life circumstances and characteristics, including psychological. Information in this section provides broad context about the participant, the focal child, and their family. This included descriptions of the home, relevant nuclear and extended family (biologically related and not), care arrangements, daily routines and financial circumstances. The human capital domain involved discussions of experiences, personal characteristics, achievements, and attitudes that relate to the participant's accrual of human capital and that may translate into their ability to produce economic value. This includes capital achieved (or not) through past and present education or employment and suggested through the participant's motivation, goals, and plans. Finally, the social capital domain captures discussions of social networks and social support. This includes social support from individuals, programs, or institutions for parents and their children. It includes informational and financial resources as well as emotional and other forms of social and instrumental support.

Section 2: Checking Balance between Career*Advance*® Participants and the Matched Comparison Group

In the following section, we check the balance on baseline characteristics from CAP Tulsa's data set (ChildPlus) that were used to generate the matched comparison group. We then check the balance against survey data directly collected from the parents themselves. We selected the matched comparison group for Career*Advance*® participants from a pool of CAP families. CAP families were eligible for the matched comparison group based on the following criteria:

1. Child was enrolled in CAP Tulsa's early childhood education programs

2. Parent was not in Career*Advance*® in previous cohorts

3. Parent filled out an Education Supplemental Survey as part of CAP Tulsa's Family Needs Assessment

4. Parent had key demographic data in ChildPlus (e.g., race, education level, and income)

Table 2.1 presents the demographic and background information on all CAP families who were eligible to be selected for the matched comparison group (n=1,518) and Cohort 4-8 Career*Advance*® participants (n=134). The main reason parents were not eligible for matched comparison selection was due to parents not having an Education Supplemental Survey. The data in ChildPlus were collected when the parent first enrolled his or her child in CAP Tulsa and were only updated when the parent needed to re-qualify for the program, for example when moving from Early Head Start to Head Start. Table 2.1 presents the means, standard deviations, standardized differences, and variances between the two groups. The standardized difference is the mean difference as a percentage of the average standard deviation. A score that is less than 0.3 is considered excellent. The variance is the ratio of the variance between the two groups for each item and should range from 0.5-2.0.

As presented in Table 2.1, paired t-tests and standardized difference scores suggest that there are differences between CAP families and Career*Advance*® families on several characteristics, including parent gender, race/ethnicity, education level, English proficiency and level of motivation. For instance, Career*Advance*® parents appear to have higher levels of education compared to all CAP parents who were eligible to be selected for the matched comparison group, based on the criteria presented above. The percentage of Hispanic parents is significantly higher within all CAP families compared to the Career*Advance*® group. There are also fewer females in all of CAP compared to the Career*Advance*® group. Perhaps most importantly, eligible CAP parents as a whole have significantly lower motivation to improve their education and training and join the health care field. Identifying a comparison group that does not account for the differences between Career*Advance*® participants and eligible families in CAP would likely result in upwardly biased estimates of the effects of Career*Advance*®.

Table 2.1. Comparisons of Baseline Characteristics between All Eligible CAP Families (n=1518) and Cohort 4-8 Career*Advance*® Families (n=134)

	All eligible CAP Families	Career*Advance*®	Standard. difference	Variance
N	1518	134		
Parent				
Female (%)	80***	96	-0.28	0.52
Age	29.57(7.54)	29.72(6.89)	0.06	0.91
Motivation and interest in education and training (range 1-5)	2.98(1.32)***	4.97(0.44)	1.16	0.33
Race/Ethnicity (%)				
White	28	30	0.02	1.02
African American	35	42	0.10	1.04
Hispanic	23***	10	-0.21	0.73
Other	14	18	0.69	1.12
Education (%)				
Less than high school	26**	13	-0.20	0.78
12th grade/High school/GED	49	50	-0.15	0.91
Advanced training	8	13	0.09	1.23
Advanced degree	14*	21	0.11	1.16
Relationship~ (%)				
Natural/Step	96	98	0.04	0.77
Foster/Legal guardian	1	1	-0.01	87.52
Grandparent	2	2	-0.96	0.91
Custody~ (%)				
No custody	0	0	-0.01	0.00
Shared	2	0	-0.08	0.00
Yes	98	1	0.08	0.00
English Primary (%)	78***	94	0.28	0.58
English Proficiency~ (%)				
None	10***	1	-0.22	0.28
Little	5**	0	-0.15	0.00
Some	5	1	-0.07	0.59
Proficient	80***	98	0.34	0.37
Employed~ (%)				
Full-time and training	0	1	0.04	0.00
Full-time	33	31	-0.03	0.99
Training or school	13	15	0.04	1.07
Part-time	10	11	0.09	1.03
Not working	44	42	-0.02	1.00
Family~				
Income	15659.76	16216.43	4.83	1.07

	(12882.80)	(13723.25)		
No. in household	4.01(1.50)	4.00(1.51)	-0.01	1.00
No. immediate family	3.83(1.43)	3.86(1.31)	0.02	0.92
No. children	2.22(1.22)	2.21(1.26)	-0.01	1.04
Child~				
Boy (%)	51	52	0.01	1.00
Age	7.33(5.37)	8.07(5.45)	0.32	1.01
CAP ECP Neighborhood~ (%)				
Disney, Eastgate, ECDC Reed, Reed, Skelly, Educare 1 - Kendall Whittie, Jefferson, Rosa Parks	46	43	-0.05	0.99
Frost, Eugene Field, McClure, Hamiliton, Educare 2 – Hawthorne, Educare 3 – MacArthur	39	42	0.03	1.01
Sand Springs	11	13	0.05	1.11
Home-Based	4	2	0.03	0.79

Data Source= Child Plus

~ Variable had missing data in matched comparison group

*p<.05 **p<.01 ***P<.001

In order to account for the potentially non-random selection of participants in Career*Advance*®, we employed propensity score matching to identify pairs of families who are statistically indistinguishable on all characteristics and behaviors except for the fact that one parent is enrolled in Career*Advance*® and one is not. We used data from ChildPlus to conduct the matching. We selected the matched comparison group based on a number of steps. Figure 2.1 presents the process for selecting the matched comparison (MC) group, which is described in the analytic detail below.

Figure 2.1. Process for selecting the matched comparison group for Career*Advance*® participants in the CAP Family Life Study

First, we created subgroups that have exact matches of race, gender, neighborhood,

and adult-type (i.e., parent or grandparent). We used a complete matching technique because these four variables may play important roles in determining participation and outcomes. The complete matching technique has been employed in previous studies (e.g., Bryson, Dorsett, & Purdon, 2002; Gormley, Phillips, Newmark, Perper, Adelstein, 2011; Heckman, Ichimura, Smith, & Todd, 1998) and is an effective method when effects are likely to be heterogeneous between certain groups (Caliendo & Kopeinig, 2005).

Second, we estimated the propensity scores for each of the subgroups (e.g., African American mothers who live in Neighborhood 1). The propensity score was generated by first estimating a logit model in which the response variable was a binary variable indicating whether the parent participated in Career*Advance*®. Participation was predicted based on a set of family, parent, and child characteristics (listed above). The estimated logit equation was used to predict parents' propensity score, which indicates the probability of participating in Career*Advance*®.

We employed a one-to-one nearest-neighbor matching technique in order to select matched-comparison families. In nearest-neighbor matching, an individual from the comparison group is chosen as a matching partner for a treated individual that has the closest propensity score. This technique is most effective for settings where the goal is to select individuals for a comparison group (Stuart, 2010); however, the results are potentially biased if the matched comparison adults have a propensity score that is far from that of the Career*Advance*® adults.

Lastly, we have added additional families to the matched comparison groups in all cohorts to account for potential program attrition (i.e., a ~10% increase in matched-comparison sample size). We included these participants based on the concern that restricting the size of the comparison groups to the same size as the program groups may be problematic because matched-comparison families may not be as invested in the study, and thus may be harder to track over time. The loss of participants would lead to a reduction of power to detect effects. Additionally, the loss of participants may lead to biased estimates if attrition is non-random. We randomly selected the additional matched comparison families from a list of the second closest nearest neighbor for each Career*Advance*® participant (in the event that the participant has another nearest neighbor). When we have been unable to recruit a matched comparison parent for a baseline parent survey, we select a replacement parent who is the second best match for that Career*Advance*® participant.

In Table 2.2, we check the balance between the Career*Advance*® participants in Cohorts 4-8 (n=134) and the matched comparison group (n=137). Overall, the Career*Advance*® and matched comparison groups appear to be very well-balanced in terms of their observable characteristics in the ChildPlus dataset. For many matching characteristics, the standardized difference for each of the covariates is smaller after matching compared to before matching. For example, the standardized difference for income substantially dropped from 4.83 before matching (which indicates a large difference between the two groups) to -0.17 after matching. One noteworthy exception is respondent age, which has a slightly larger standardized difference after matching (0.49) compared to before matching (0.06). Importantly, t-tests comparisons indicate no significant difference in age between the Career*Advance*® and matched comparison groups

None of the mean-level differences between Career*Advance*® and matched comparison families are significant. Importantly, the variable that captures motivation to participate in an education and training program is similar among Career*Advance*® participants and the matched comparison group, and the standardized difference is within the acceptable range (0.04) and is not statistically significant. The motivation score represents an innovation in the CAP Family Life Study, as most quasi-experimental studies do not observe this characteristic, and therefore cannot control for it in the matched comparison group. By making motivation an observable characteristic, we are able to select matched comparison group that resembles the participant group even more closely, thus increasing the quality of our evaluation.

Table 2.2. Comparisons of Baseline Characteristics between Matched-Comparison Families (n=137) and Cohort 4-8 Career*Advance*® Families (n=134)

	Matched Comparison	Career*Advance*®	Standard difference	Variance
N	137	134		
Parent				
Female (%)	97	96	0.04	1.23
Age	28.50(5.72)	29.72(6.89)	0.49	1.20
Motivation and interest in education and training (range 1-5)	4.04(0.82)	4.97(0.44)	0.04	0.53
Race/Ethnicity (%)				
White	34	30	-0.07	0.96
African American	42	42	0.01	1.00
Hispanic	10	10	0.00	1.01
Other	13	18	0.08	1.14
Education (%)				
Less than high school	16	13	-0.04	0.93
12th grade/High school/GED	59	50	-0.14	1.02
Adv. training	9	13	0.07	1.18
Adv. degree	15	21	0.09	1.13
Relationship~ (%)				
Natural/Step	98	98	0.00	1.01
Foster/Legal guardian	1	1	0.04	0.00
Grandparent	1	2	0.00	1.01
Custody~ (%)				
No custody	0	0	0.00	0.00
Shared	2	0	-0.08	0.00
Yes	98	100	0.08	0.00

English Primary (%)	94	94	0.00	1.01
English Proficiency %)				
None	2	1	-0.04	0.59
Little	1	0	-0.04	0.00
Some	1	1	0.00	1.01
Proficient	96	98	0.05	0.72
Employed~ (%)				
Full-time and training	0	1	0.04	0.00
Full-time	24	31	0.10	1.08
Training or school	14	15	0.02	1.04
Part-time	14	11	-0.05	0.89
Not working	48	42	0.08	0.99
Family~				
	16235.31	16216.43		
Income	(11937.22)	(13723.25)	-0.17	1.15
No. in household	3.96(1.50)	4.00(1.51)	0.03	1.01
No. immediate family	3.84(1.37)	3.86(1.31)	0.02	0.96
No. children	2.26(1.17)	2.21(1.26)	-0.05	1.08
Child~				
Boy (%)	54	52	-0.03	1.00
Age	7.20(4.73)	8.07(5.45)	0.38	1.15
CAP ECP Neighborhood~ (%)				
Disney, Eastgate, ECDC Reed, Reed, Skelly, Educare 1 - Kendall Whittie, Jefferson, Rosa Parks	42	43	0.01	1.00
Frost, Eugene Field, McClure, Hamiliton, Educare 2 – Hawthorne, Educare 3 – MacArthur	43	42	-0.02	1.00
Sand Springs	14	13	-0.01	0.99
Home-Based	1	2	0.02	1.23

Data Source= Child Plus

~ Variable had missing data in matched comparison group

*p<.05 **p<.01 ***P<.001

We then checked the balance between the matched-comparison and Career*Advance*[®] families using data from the Wave 1 CAP Family Life Study parent survey for Cohorts 4-8. This is important because it allows us to cross-check the balance with an independently collected data source. Table 2.3 presents similar baseline characteristics that were used to conduct the matching with ChildPlus data. The variables are constructed in a similar way as they were in

ChildPlus.[1]

Table 2.3. Baseline demographic characteristics, financial circumstances and psychological functioning: Cohorts 4-8 Career*Advance*® (n=134) versus Matched Comparison (n=137)

	Career*Advance*® Cohorts 4-8		Matched Comparison Cohort 4-8	
	n	M(SD) / %(n)	n	M(SD) / %(n)
Demographic				
Adult Age	134	29.74 (6.75)	137	28.64 (5.77)
Child Age (months)	134	45.43 (13.68)	137	45.72 (12.69)
Race (%)				
White	134	27% (n=36)	137	29% (n=40)
Black	134	41% (n=55)	137	42% (n=57)
Hispanic	134	8% (n=11)	137	10% (n=14)
Indian	134	7% (n=10)	137	6% (n=8)
Other	134	16% (n=21)	137	13% (n=18)
Male (%)	134	2% (n=3)	137	2% (n=3)
Education Level (%)				
Less than HS	134	3% (n=4)**	137	13% (n=18)
High School or GED	134	43% (n=58)	137	39% (n=54)
Tech certificate/AA	134	51% (n=68)	137	42% (n=58)
BA or above	134	3% (n=4)	137	5% (n=7)
Not born in USA (%)	134	8% (n=11)	137	14% (n=19)
Number of children in household	134	2.42 (1.22)	137	2.42 (1.14)
Number of Grandparents	134	.014 (0.41)	137	0.13 (0.40)
Grandparent (Y/N) (%)	134	12% (n=16)	137	11% (n=15)
Relationship Status (Y/N) (%)	134	72% (n=96)*	137	70% (n=96)
Financial Circumstance				
Material hardship	134	1.50 (1.35)	137	1.57 (1.49)

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[1] The only exception is household income and education. The CAP Family Life Study survey did not collect household income in exact dollar amounts. Instead, categories of income, including earnings, public assistance, and child support, were collected and used to create income-to-needs ratios, which are presented in Table 2.3. For education, we collected information on Technical Certificates, which was not collected in ChildPlus.

Financial worry	134	2.42 (0.97)**	137	2.78 (1.13)
Income	129	26829.46 (15402.35)	132	22295.45 (12821.43)
Income-to-Needs	129	1.21 (0.72)	132	0.97 (0.52)
Number of adults in household	134	0.84 (0.74)	137	0.85 (0.83)
Other adult in household (Y/N) (%)	134	67% (n=90)	137	65% (n=89)
Number of other adults working/employed in household	134	0.69 (0.66)	137	0.65 (0.48)
Other working/employed adult (Y/N) (%)	134	59% (n=79)	137	53% (n=73)
Psychological Well-Being				
Optimism	132	8.92 (1.88)	137	8.66 (2.34)
Conscientiousness	134	41.13 (5.34)	136	41.14 (5.74)
Self-Efficacy	133	3.28 (0.42)***	136	3.02 (0.48)
Self-Esteem	131	22.88 (3.56)	135	22.55 (4.01)
Psychological Distress	133	6.25 (3.35)	136	6.72 (4.05)
Perceived Stress	134	15.38 (6.31)	134	16.56 (7.41)
Work-role salience	134	2.48 (0.39)	136	2.54 (0.44)
Support				
Social support provision scale	133	20.89 (5.59)	135	21.11 (5.76)
Quality of Relationship Total Score	97	3.47 (0.45)	96	3.43 (0.42)

* p<.05; ** p<.01; *** p<.001

Results suggest that the Career*Advance*® and matched-comparison families are relatively well-balanced in terms of their observable characteristics in the Wave 1 parent survey. Comparisons between Table 2.2 and Table 2.3 suggest a few discrepancies between results from ChildPlus and the Wave 1 parent survey.

Table 2.3 does suggest differences in terms of baseline level of education between the matched comparison group and Career*Advance*®, with Career*Advance*® having fewer parents with less than a high school education at baseline compared to the matched comparison group. The difference in the actual number of participants categorized at this level is relatively small (n=4 versus n=18), but we will continue to monitor this issue as we select the remaining cohorts (Cohorts 9 and 10). In terms of financial circumstances and psychological well-being, Career*Advance*® had slightly lower financial worry and higher self-efficacy at baseline compared to the matched comparison group. All other psychosocial and economic measures were evenly matched.

Overall, results from the ChildPlus and survey data indicate that the matched comparison group is relatively well matched to Cohort 4-8 Career*Advance*® participants. This is noteworthy and central to the success of the CAP Family Life Study.

Section 3: Understanding Participation in Career*Advance*®: Basic Descriptive Characteristics and Comparison to Other Programs

A major goal of the CAP Family Life Study is to understand how parents proceed through the Career*Advance*® program and the factors that may predict their success. Defining educational success in Career*Advance*® presents an exciting challenge given that parents could take many paths to improve their employment and financial stability. Furthermore, the Career*Advance*® program includes multiple activities, such as attending courses at community colleges, partner meetings, career coaches, and financial incentives for support, all of which have implications for characterizing parent participation.

Adding to the complexity, Career*Advance*® offers parents three separate tracks in the healthcare sector: Nursing, Health Information Technology, and Medical Assisting. Within each track, the course offering and progression has changed over time from cohort to cohort. The goal was to create a set of indicators that could be used to summarize educational advancement and persistence across all cohorts and tracks. In Year 3, we have made significant progress toward conceptualizing and coding parents' participation in Career*Advance*® for Cohorts 4-7, which is described in detail in this section.

Overview of Career*Advance*®

The first goal in understanding persistence patterns in Career*Advance*® participants is to understand the possible pathways that participants can take toward attaining a credential. Career*Advance*® provides education and training classes in Nursing, Health Information Technology (HIT), and Medical Assisting along a career track that allows students to progress from one level of credentialing to the next (i.e. stackable training). For all tracks, participants may exit Career*Advance*® at several different points along the career ladder and still advance their career and improve their economic well-being.

For the nursing track, the amount of time needed for each credential ranges from 5 weeks to 3 years, with participants earning between $9 and $30 an hour. Participants begin with the 5-week Certified Nursing Assistant (CNA Level I) program and upon completion can earn a CNA certificate. Participants then move to CNA Level II for 9-13 weeks (CNA Level II is not offered after Cohort 7 and participants move directly to the next level of training after CNA Level I). This part of the program does not end in a certificate, but prepares participants for the next level of training. After completing CNA Level II, participants then continue to Patient Care Technician training; and/or Licensed Practical Nurse (LPN) training for 15-17 months. Next, participants may move to the Registered Nurse (RN) bridge program, which provides further skills in preparation for the RN program, or begin their general education requirements, which can take two or more years in order to apply for a five-semester full-time RN program (see Figure 3.1).

Figure 3.1. Career*Advance*® Nursing Career Ladder
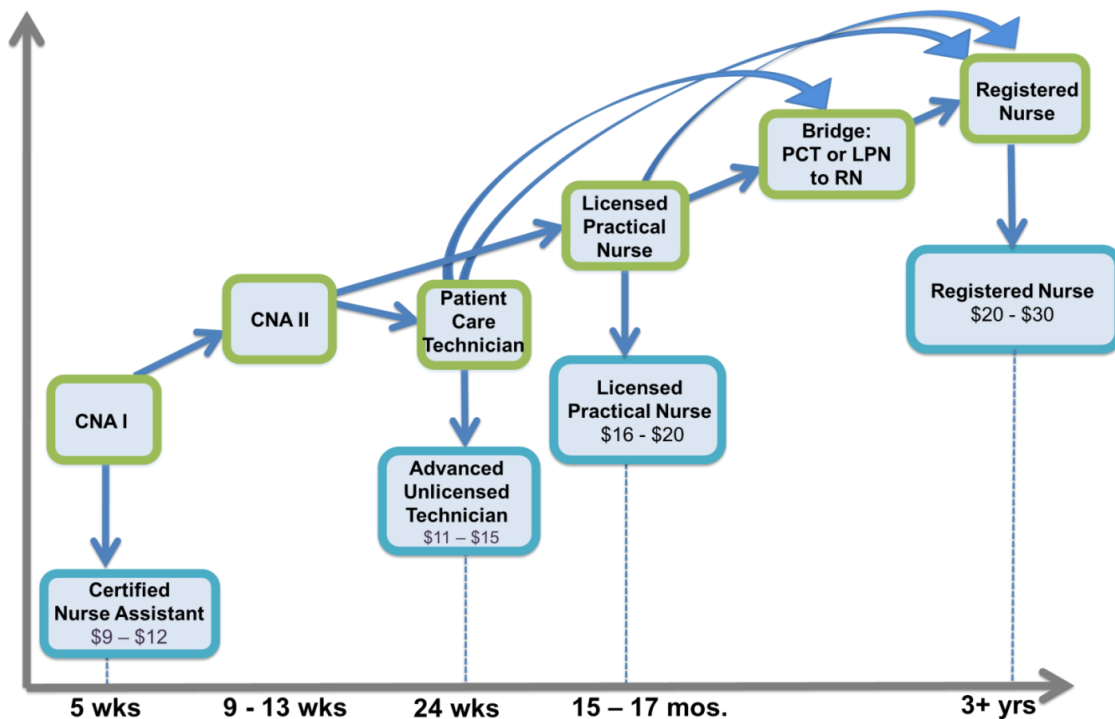
The Health Information Technology (HIT) track was developed to attract parents, particularly fathers, to other fields in the healthcare sector besides nursing. HIT jobs also feature more standard work hours and better working conditions, increasing their appeal. This track allows participants to start the 7 month Medical Coding program to become a Medical Coder and then move to the HIT Program to become Health Information Technicians. The complete HIT track can take three years (see Figure 3.2).

Figure 3.2. Career*Advance*® Health Information Technology Career Ladder
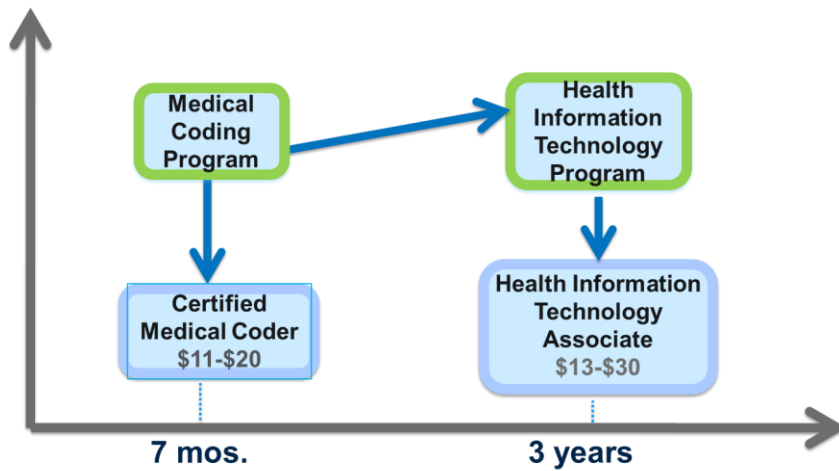
Finally, students in the Medical Assisting track can become a certified medical assistant after 9 months in the program, as shown in Figure 3.3. While the course offerings for this track only extend for 9 months, these participants are considered part of the program for a full year, as they receive career coaching for the months following their certificate completion.

Figure 3.3. Medical Assisting Pathway
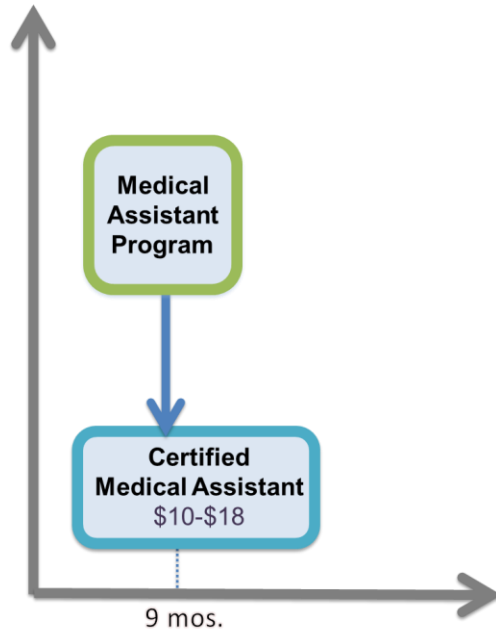
Defining and Coding Participation in Career*Advance*®

      CAP Tulsa and Career*Advance*® staff members, including research specialist Valerie Osgood-Sutton and program career coaches, closely monitor participants' progress across time.

This progress data contains information regarding individual participants' partner meeting attendance (led by career coaches at CAP), certificate exam attempt dates, certification completion, test scores, exit dates/re-entry dates, employment, and the amount each participant receives in incentives each month. Career coaches also work closely with community college teachers to accurately monitor the participants' attendance and progression in their courses.

Using this rich data, we can closely examine parents' participation during their first year of the program in a number of ways. We focused on five key areas: (1) persistence in the program (whether they are enrolled or not); (2) transitions; (3) educational advancement; (4) class attendance; and (5) participation in program meetings. We also examine the relation among persistence and educational advancement, the reason that parents exit Career*Advance*®, and visually map out parents' participation in Career*Advance*® across tracks using "persistence trees."

Persistence. We began by examining persistence in Career*Advance*® after one year for participants in Cohorts 4-7 (n=99). We define persistence as being enrolled in the program at the one year point and the number of days enrolled in Career*Advance*®. CAP Tulsa staff tracks the dates of exit and, if applicable, re-entry for all participants who leave the program. In coding this data, we created a variable documenting each participant's enrollment status one year after they joined the program. If a participant exited the program within one year and did not return, they were coded as exited. If a participant exited and re-entered within a year, the participant was coded as enrolled. We also created a variable calculating how many days a participant was enrolled in Career*Advance*® during the first year, taking into account if a participant exits or re-enters during the year.

Overall, two-thirds of the sample (n=65) were enrolled at the end of one year. Persistence rates varied within each healthcare track. At the end of one year, 63% of nursing participants, 72% of HIT participants, and 100% of medical assisting participants were still enrolled. The full sample of participants was enrolled on average for 305 days during the first year of the program. Separating by tracks, nursing participants were enrolled on average 293 days, HIT participants on average 316 days, and medical assisting 365 days (Table 3.1).

Transitions. In order to examine the nature of each participant's path through the program, we calculated the number of transitions a participant undergoes during their first year in Career*Advance*®. We define a transition as a change in the participant's enrollment status. Therefore, when a participant exits the program, they undergo one transition, and if they re-enter, they are coded as undergoing two transitions. Only 3 participants (3% of the full sample) had two transitions (exit-enter) and none had more than two transitions. By track, 2 (4%) of the nursing participants, 1 (3%) of the HIT track participants, and none of the medical assisting participants had two transitions (Table 3.1). We expect that transitions will become more common as the study progresses and we track participants across a longer period of time.

Educational Advancement. We utilized a number of approaches to examine educational advancement. First, and perhaps most simplistically, we examined whether a participant attained a certificate within the first year of Career*Advance*®. Participants were coded

"attained a certificate" if the date of their exam was within their first year of Career*Advance*® and they passed. If a participant took an exam after one year, and/or did not pass, the participant did not attain any certificates. We created a dummy code of whether or not the participant attained a certificate, as well as a continuous variable indicating the number of certificates each participant attained. Individuals who previously attained either a CNA or RMA and did not complete any other certificate during their year in Career*Advance*® were coded as not having attained a certificate, even though they ended the first year of participation with this credential. If those who entered the program with a CNA or an RMA attained another certificate in the first year of Career*Advance*® (for instance, a Geriatric Tech certificate), they were coded as having attained one certificate.

In order to make the number of certificates comparable across tracks, we created an indicator of the proportion of certificates each participant completed out of the total number possible. Participants had the potential to attain a different number of certificates depending on their track, cohort, and previous certification. For example, in the Nursing track, all cohorts had the opportunity to attain a Certified Nursing Assistant (CNA) certificate. Cohort 4 had the opportunity to complete a CNA or a Geriatric Tech Certificate. In the HIT and Medical Assistant track, all cohorts only had the opportunity to attain one certificate in the year, an RMA. Those in Cohort 6 also had the opportunity to attain a Medical Coding certificate through the HIT track.

The proportion of certificates indicator takes this variability into account by dividing the number of certificates each participant attained by the total number possible. The number of possible certificates for each track and cohort was generated using the progress data and discussions with the career coaches and CAP staff. This number was adjusted for those who had a prior credential to indicate that fewer certificates were possible within the first year. Therefore, there are some participants who could not attain any certificates within the first year due to their prior credential.

Overall, the full sample attained 0.84 (SD =0.7) certificates on average, the Nursing track attained 1.09 (SD= 0.69) certificates, the HIT track attained 0.46 (SD= 0.55) certificates, and the medical assisting track attained 1 (SD= 0) certificate. Parents completed 66% (SD=45%) of possible certificates in the first year. By track, on average, nursing participants completed 78% of possible certificates (SD =36%), HIT participants completed 45% (SD =50%), and medical assisting participants completed 100% of the certificates possible to achieve in one year. We also used this indicator examine how many participants attained 100% of what was possible for them. Fifty-seven participants (61% of the whole sample) attained 100% of what was possible in one year. By track, 36 (69%) of nursing participants, 17 (45%) of HIT participants, and 4 (100%) of medical assisting participants completed 100% of what was possible to attain in one year (Table 3.1).

Class Attendance. Using program attendance data, we examined the extent to which participants attended classes in the first year of the program. On average, the full sample attended 90 classes. By track, the nursing participants attended 74 classes, HIT participants attended 109 classes, and medical assisting participants attended 132 classes. In order to

compare the number of classes attended across track and cohort, we generated another variable indicating the proportion of classes attended. The total possible number of classes was indicated by the maximum number of classes attended by a participant in each track and cohort. Each participant's attendance proportion was generated by dividing the number of classes they attended by the maximum number of classes. The full sample, on average, attended 64% of classes during the first year. By track, on average, nursing participants attended 64%, HIT participants attended 61%, and medical assisting participants attended 92% of classes during the first year (Table 3.1).

Partner Meeting Attendance. Partner meetings are led by career coaches and held regularly throughout the year. These meetings provide a unique opportunity for each cohort and track to meet as a group and discuss skills and strategies that are not necessarily covered in their classes, such as building a resume or interviewing for a job. On average, the full sample and each of the tracks attended about 20 partner meetings in the first year. These data inform our understanding of how participants progress through Career*Advance*®, and allow us to further investigate patterns of program involvement beyond basic persistence.

Table 3.1. Parent participation in Career*Advance*® in one year (Cohort 4-7; n=99)

	Cohort 4-7 (n=99)	Nursing (n=56)	HIT (n=39)	Medical Assisting (n=4)
	M(SD)/n(%)	M(SD)/ n(%)	M(SD)/n(%)	M(SD)/n(%)
Program Persistence				
Enrolled at end of year (%)	67.68	62.5	71.79	100
Number of days enrolled	305.16 (96.71)	293.09 (106.22)	316.36 (84.07)	365 (0)
Transitions				
Exit-Enter (%)	3 (3%)	2 (4%)	1 (3%)	0
Exit-Enter-Exit (%)	0	0	0	0
Educational Advancement/Dosage				
Number of Certificates Attained in One Year	0.84 (0.7)	1.09 (0.69)	0.46 (0.55)	1
Proportion of Certificates Achieved in One Year*	0.66 (0.45)	0.78 (0.36)	0.45 (0.50)	1 (0)
Attained At least One Certificate (y/n) (%)	66 (67%)	45 (80%)	17 (44%)	4 (100%)
Attained 100% of the Certificates that were possible (%)*	57 (61%)	36 (69%)	17 (45%)	4 (100%)
Number of Classes Attended	90.47 (45.23)	74.38 (32.36)	109.38 (53.13)	131.5 (12.73)
Proportion of Classes Attended	0.64 (0.27)	0.64 (0.25)	0.61 (0.29)	0.92 (0.09)
Program Participation				

| Number of Total Partner Meetings Attended | 19.56 (6.01) | 19.8 (6.21) | 19.22 (6.08) | 19 (0.82) |

Relation between enrollment and certification. We also sought to understand the relationship between enrollment status at the end of year one and whether or not participants gained a certificate. As shown in Table 3.2, 32 participants from the full sample of 99 exited in one year; however, from those 32 participants, 15 (47%) of them had attained one certificate. At the end of year one, 51 (76%) of the 67 enrolled participants attained a certificate. By track, 13 (62%) of the 21 nursing participants who exited attained a certificate, and 32 (91%) of the 35 who remained enrolled attained a certificate at the end of year one. Two (18%) of the 11 HIT participants who exited attained a certificate, and 15 (54%) of the 28 who remained enrolled attained a certificate at the end of year one. All of the participants enrolled in medical assisting at the end of year one attained a certificate. These findings show that a relatively high percentage of those exiting Career*Advance*® leave with higher qualifications, suggesting that even short term involvement in the program is beneficial for parents.

Table 3.2. Cross-tabulation between enrollment and certification within one year by track

		Exited		Enrolled
Certificate attainment by track	n	n (%)	n	n (%)
Full Sample Cohort 4-7 (n=99)	32	15 (47%)	67	51 (76%)
Nursing (n=56)	21	13 (62%)	35	32 (91%)
HIT (n=39)	11	2 (18%)	28	15 (54%)
Medical Assisting (n=4)	0		4	4 (100%)

Reasons for Exiting. After participants exit Career*Advance*®, they are asked to complete an interview with career coaches, in which they describe their reasons for leaving the program. In order to more fully understand why participants exit Career*Advance*®, we coded the open-ended portions of these exit interviews. In coding these free responses, we generated six categories of reasons for exiting: (1) employment; (2) work, family, or school issues; (3) terminated by program; (4) health/medical issues; (5) academic issues; and (6) other issues. *Employment* is defined by those who leave Career*Advance*® for a job or to look for a job; *work, family, or school issues* include scheduling and time management problems between family and school; *terminated* is defined by CAP or school termination mainly due to drug test failures; *health/medical issues* include instances when a participant has health related issues that prevent them from continuing with the program; *academic issues* include failing classes or being referred to another Career*Advance*® track outside of healthcare; and *other issues* include reasons such as the participant moving out of the area.

In the full sample of exited participants (Table 3.3), 7 (22%) of parents leave Career*Advance*® for employment, 3 (9%) have work, family, or school issues, 5 (16%) are terminated, 6 (19%) have health/medical issues, 5 (16%) leave for academic reasons, and 6 (19%) have other reasons. Of those who attained a certificate before exiting, 6 (40%) leave for employment, 1 (7%) left because of work, family, or school issues, 1 (7%) was terminated, 3 (20%) leave for health/medical issues, 3 (20%) leave for academic issues, and 1 (7%) left for other reasons.

The most common reason that participants exit Career*Advance*® is for employment or seeking employment, especially among those who attain a certificate. This finding suggests that involvement in the program is beneficial and leads to gainful employment, even if the participant exits within one year. This has promising implications for the utility of the program among parents who may not be able to devote extensive time to education and training, but want to attain a credential that will lead to a better job. Looking at the sample of exiters who did not attain a certificate, 1 (6%) of the participants left Career*Advance*® for employment, 2 (12%) for work, family, or school issues, 4 (24%) are terminated, 6 (35%) have health/medical issues, 2 (12%) leave for academic reasons, and 5 (29%) leave for other reasons.

Table 3.3. Reasons for exiting Career*Advance*® within one year

	Full sample (Cohort 4-7 CA Exited) (n=32)	Attained certificate (n=15)	Did not attain certificate (n=17)
	n (%)	n (%)	n (%)
Employment	7 (22%)	6 (40%)	1 (6%)
Work Family School Issues	3 (9%)	1 (7%)	2 (12%)
Terminated	5 (16%)	1 (7%)	4 (24%)
Health/Medical Issues	6 (19%)	3 (20%)	6 (35%)
Academic	5 (16%)	3 (20%)	2 (12%)
Other	6 (19%)	1 (7%)	5 (29%)

Persistence Trees. In the course of coding the program data, we also mapped the possible paths that each participant can follow in their first year of the program, depending on their initial level of certification. For instance, those who entered the program with a GED or high school diploma could obtain a CNA, RMA, or CPC. Those who obtain a CNA can then go on to earn a Geriatric Tech certificate or an AUA. Figure 3.1, below, presents these pathways, as well the number of participants who have reached each milestone.

Figure 3.4. Pathways of Persistence in Career*Advance*®

31
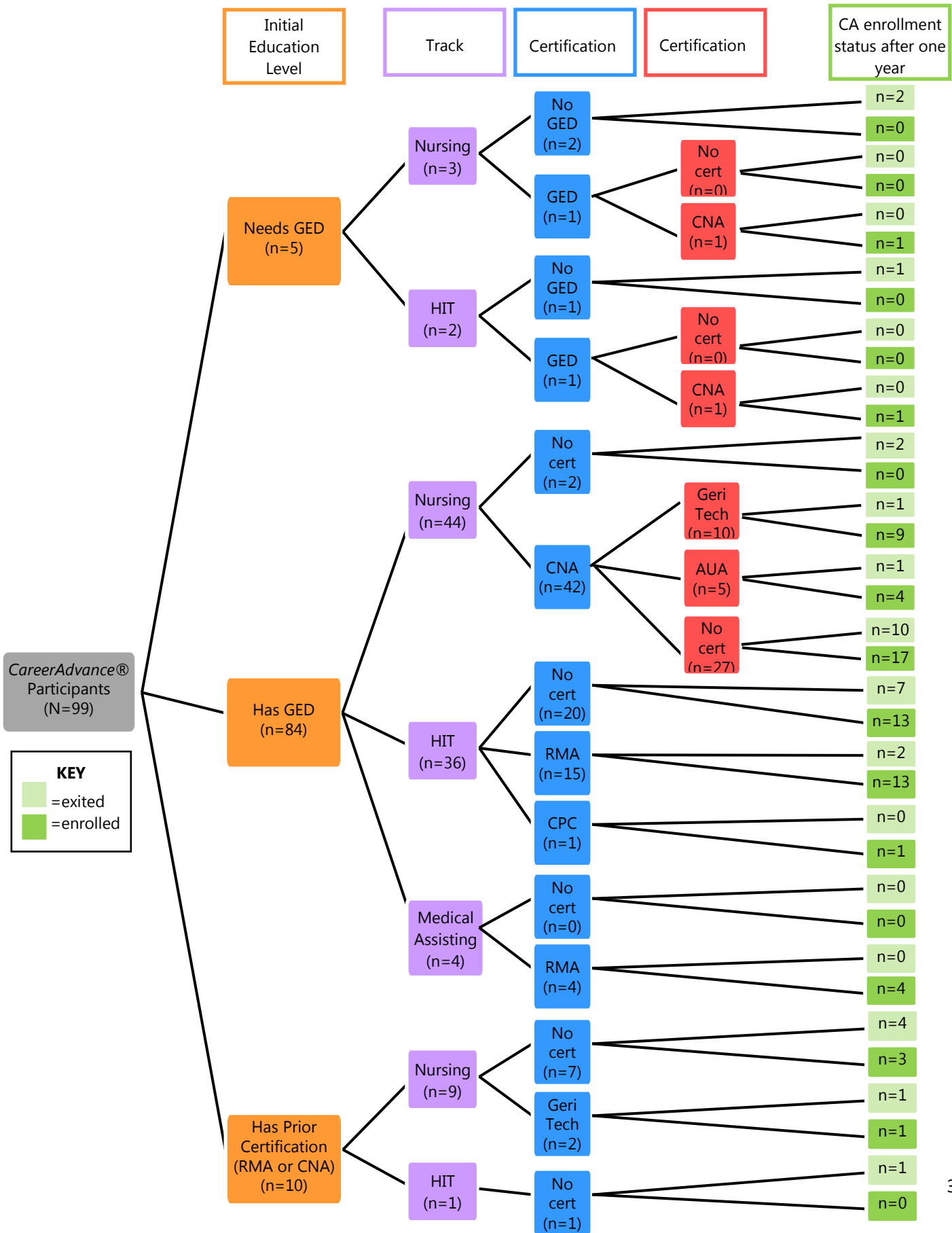
Comparison to other workforce training and education programs

Career*Advance*® provides a number of supportive services to help parents persist in the program and attain credentials, including financial incentives, career coaching, and peer support. Table 3.4 below summarizes the best comparative studies to date of enrollment, degree attainment, and persistence among low-income students in credit-bearing educational programs. As shown below, anywhere from 33%-47% of low-income students attain a degree after enrolling in community college. In Career*Advance*® (Cohort 4-7), about 67% of participants attain a certificate within one year.

Table 3.4. Persistence and Attainment for Low-Income Community College Students

Study	Sample	Definition of Persistence/Attainment	Results
Trends in Attainment Among Student Populations at Increased Risk of Noncompletion: Selected Years, 1989–90 to 2008–09 This report uses data from the Beginning Postsecondary Students Longitudinal Study (BPS). This study follows a cohort of first-time beginning students in post-secondary education. The results presented here focus on low-income students, but the report also presents data on students who are working full-time, students who have dependents, students with low parental education, and Black and Hispanic students. (Ho& Wei, 2011)	1990-1994 cohort: 7,300 students (22.6% low-income) 1996-2001 cohort: 12,000 students (26.9% low-income) 2004-2009 cohort: 15,200 students (25.4% low-income)	Percentage of students who are no longer enrolled and did not obtain a degree after 5 years	About 39% of low-income students across cohorts are no longer enrolled and did not attain a degree.
		Percentage of students who are still enrolled, but have not attained a degree after 5 years	About 18.3% of low-income students across cohorts were still enrolled in school, but had not attained a degree after 5 years
		Percentage of students who attained either a certificate, Associate's degree, or Bachelor's degree after 5 years	About 42.8% of low-income students across cohorts attained a degree after 5 years - 10.2% attained a certificate - 12.3% attained an Associate's degree 20.3% attained a Bachelor's degree
What We Know About Community College Low-	A cohort of students entering community	Degree attainment after 6 years	When broken down by income, 47% of

Income and Minority Student Outcomes Community College Research Center Report, January 2005 (Bailey, Jenkins, & Leinbach, 2005b)	college in 1992-1993 from the Beginning Postsecondary Students Longitudinal Study		those in the lowest income quartile obtained a degree o 15% earned a certificate o 19% earned an associate's degree o 8% transferred to a 4-year college o 5% earned a bachelor's degree
Community College Low-Income and Minority Student Completion Study: Descriptive Statistics From the 1992 High School Cohort Community College Research Center Report, January 2005 (Bailey, Jenkins, & Leinbach, 2005a)	A cohort of students who graduated high school in 1992 from the National Education Longitudinal Study	Degree attainment after 8 years	About 33% of students in the lowest income quartile obtained something o 8% obtained a certificate o 14% obtained an associate's degree o 5% transferred to a 4-year institution o 6% obtained a bachelor's degree

Table 3.5 presents some programs that are similar to Career*Advance*® in that they offer targeted supports. These include programs that are aimed at low-income students, rather than parents. Only three studied programs, which were implemented in the early 1990s, served parents (New Chance, Teen Parent Demonstration, and LEAP). The goal of these programs was to help parents attain a GED, with very little emphasis on postsecondary training. Little evidence exists about the benefits of human capital investments in early learning settings for parents. The workforce development programs listed below had a range of success, from 32% to 76% of students staying in the program in one year. The proportion of students persisting in Career*Advance*® after one year (Cohort 4-7) is 67%.

Table 3.5. Persistence and Attainment for Low-Income Students in Educational and Workforce Training Programs

Program /Study	Sample	Definition of Persistence/Attainment	Results
Paying for Persistence: Early Results of a Louisiana Scholarship Program for Low-Income Parents Attending Community College (2003-2004) This is a randomized control trial of a payment program for low-income students enrolled in community college in Louisiana. This program provided $1,000 to students each semester of enrollment for a year (for a possible total of $2,000) if they maintained at least half-time enrollment and a 2.0 (C) grade point average. (Brock, & Richburg-Hayes, 2006)	537 low-income students enrolled in two community colleges in Louisiana The majority (94.5%) of participants were female, and most were unmarried with one or two children	Whether or not participants remained enrolled (either full-time or part-time) after completing the first semester.	Program participants were more likely to enroll full-time (60.6% of participants) and more likely to continue enrollment in their second (46.1%) and third (31.8%) semesters.
		Whether or not participants withdrew from courses in their first semester	Participants were less likely to withdraw in their first semester (20.3%).
		Number of credits participants registered for	Participants also registered for more credits compared to the control group. They registered for an average of 5.8 credits across the 3 semesters.
		Number of credits participants earned	Participants ultimately earned more credits compared to the control group. They earned an average of 3.7 credits across 3 semester

New Chance Demonstration (1989-1992) This intervention was aimed at improving the economic prospects and overall well-being of low-income young mothers and their children through a comprehensive and intensive set of integrated services, including instruction in basic academic skills, career exposure and employability development classes, occupational skills training, work experience, job placement assistance, health and family planning classes and services, parenting workshops, and "life skills" classes on communication and decision-making skills. (Granger,& Cytron, 1999)	Low-income, young (ages 16-22) mothers who dropped out of school, did not have a GED, and were on welfare. 1,401 program participants and 678 controls	GED or high school diploma attainment after 42 months	51.9% of participants (and 43.8% of controls) gained a GED or high school diploma after 42 months
		Whether or not participants gained employment in the year following program completion	53.3% of program participants (and 50.5% of controls) gained employment in the year after follow-up
Learning, Earning, and Parenting Program (LEAP) (1987-1997) LEAP is an ongoing statewide initiative that uses financial incentives and penalties to promote school attendance among pregnant and parenting teenagers on welfare. The program requires teenage parents and pregnant teens	267 participants enrolled in school, 179 participants not enrolled in school at the start of the program. 260 enrolled controls and 207 non-enrolled	GED or high school diploma attainment after 36 months	45.6% of enrolled participants 18.6% of non-enrolled participants gained a high school diploma or GED in 36 months. 38.6% of enrolled controls and 22.1% of non-enrolled controls gained this credential

who do not have high school diplomas or GEDs and who are on welfare to stay in school or, if they have dropped out, to return to school or enter a program to prepare for the GED test. They offer financial incentives for high attendance and impose financial punishments when attendance is low. (Granger,& Cytron, 1999)	controls	Whether or not participants gained employment in the year following program completion	65.1% of enrolled participants and 60.5% of enrolled controls, as well as 56.3% of non-enrolled participants and 58.8% of non-enrolled controls gained employment in the year-long follow-up.
Teenage Parent Demonstration (TPD) (1987-1991) This program was aimed at all teenage mothers with one child who were first-time welfare recipients. The young mothers clustered almost equally into groups of those who were in school at program enrollment, those who were dropouts, and those who already had graduated (or held GEDs). The teens were required to participate in job search, training, or education programs. In addition, teens received case management, childcare and transportation assistance, and workshops on parenting and other topics. There were three implementation sites: Camden, Newark, and Chicago. (Granger,& Cytron, 1999)	550 participants and 481 controls in Camden; 492 participants and 480 controls in Newark; 697 participants and 725 controls in Chicago.	GED or high school diploma attainment	47.6% of participants and 45.6% of controls in Camden; 51.8% of participants 53.8% of controls in Newark; 69.1% of participants and 65.9% of controls in Chicago attained a high school diploma or GED.
		Whether or not participants gained employment in the year following program completion	50.1% of participants and 52.1% of controls in the total TPD sample gained employment a year after program completion.

Opening Doors Learning Communities (2003-2004) This semester-long program took place with a cohort of community college freshmen in New York. Students were divided into groups of about 25 and took 3 first semester courses together. Instructors worked together to integrate these courses and provide increased guidance and address any barriers to students' regular attendance and success in class. The report examines from the students' first and second semesters. The first semester included the program and the second semester did not. (Bloom & Sommo, 2005)	387 students (192 program participants and 195), ages 17-34 years old	Percentage of attempted courses passed	The Opening Doors group passed a higher percentage of classes (79.3%) compared to the control group (in the first semester, but not the second semester)
		Percentage of students who registered for any courses in the semester after the Opening Doors program	Opening Doors students were no more likely to register courses in the second semester (76% of the treatment group, 72.3% of control group)
		Number of credits students earned	Students in the treatment group earned more credits than the control group in the first semester (11.6 and 10.1, respectively), but not in the second semester (8.4 in the treatment group and 8.0 in the control group).
Beacon Mentoring Program (2008-2009) The Beacon Mentoring program was a "light touch" intervention, designed to serve large numbers of students at minimal cost. Mentors were college employees who were recruited and trained to make several short classroom presentations about services available on campus and to work with the faculty to identify struggling students and offer	2,165 students (1,067 in the treatment group and 1,098 in the control group) enrolled in 83 sections of either a developmental (remedial) math course or a college-level algebra course.	Math course pass rate	There was a program effect of the math course pass rate, but only for part-time students (57.6% treatment, 51.1% control)
		Final exam score for those in the developmental math classes	There was an effect of the program on final exam scores, but only for part time students (54.2 treatment, 50.9 for control)

them help early on (Visher, Butcher, & Cerna, 2011)		Percentage of students who registered for 2 subsequent semesters after the program	58.31% of program participants and 59.01% of the control group enrolled in two subsequent semesters after the program.
		Percentage of students who withdrew from the math course in the first semester	Fewer participants in the treatment group withdrew from the math course (15.38% treatment, 18.2% control)
Enhanced Student Services Program (2003-2006) This program provided increased student services and a stipend to low-income students. Those in the program were assigned a counselor that was able to provide more frequent, intensive contact compared to the regular college counselors. Participating students were also eligible for a $150 stipend over two semesters, for a total possible $300. (Scrivener, & Weiss, 2009)	1,813 students (910 treatment, 903 control), ages 18-34	Percentage of students who registered for classes during the program and in the in the semesters following program participation	Program group students registered for at least one course during the second semester of the program at a higher rate than did control group students (65.3% treatment, 58.3% control) There were no program effects for registration in the semesters following program completion

		The number of credits students earned during the program and in the semesters following program participation (3-year follow-up)	Participants earned an average of half a credit more than controls during the program (4.0 vs. 3.5) The program did not significantly increase the average number of credits that students earned over the study's three-year follow-up period.
Year-Up (2007-2008) Year Up provides a year of training to prepare low-income young adults for positions with good wages and career advancement opportunities in the information technology and investment operations fields. (Roder & Elliott, 2011)	164 young adults, ages 18-24, from low-income urban communities (120 treatment, 44 controls)	Percentage of Year-Up participants who completed the program	64% of participants completed the year-long program
		Average earnings two years after random assignment (or one year after program completion)	Year-up participants had higher earnings than the control group in the second year after random assignment ($15,082 versus $11,621, respectively)
		Employment type after program participation	Year-Up participants were more likely to gain jobs in information technology (22% of participants vs. 2% of controls) and investment operations (15% of participants and 0% of controls). Control group participants were more likely to gain employment as cashiers/sales representatives (9% treatment and 17% control).

Project QUEST, Inc. (1998-1999) Project QUEST (Quality Employment through Skills Training) is an employment training and job placement program in San Antonio, Texas focusing on unemployed and working poor residents. The program provides tuition and support services to participants enrolled in certain degree programs local community colleges. The program supports degrees that are in high demand in the San Antonio labor market and offer family-supporting wages. This data is from a case study of the program conducted by the Aspen Institute. (Rademacher, Bear, & Conway, 2001)	1,059 program participants over 3 years	Graduation rate	The average graduation rate across 3 years of the program was 71.8%
		Number of graduates and non-graduates placed in jobs	An average of 85.2% of graduates and 33.7% of non-graduates were placed in jobs
		Average hourly rate at placement for graduates and non-graduates	The average hourly rate was $10.17 for graduates and $8.41 for non-graduates
		90-day retention in jobs	86% of graduates and 83.1% of non-graduates remained in their placement after 90 days.
Job Training Partnership Act Title II-A Programs (1987-1989) This data is from a randomized controlled study of 16 JTPA sites, where participants were enrolled in various training programs for an average of 20 weeks.	354-1793 participants at each site, as well as a control group, for a total of 20,601 participants.	Total earnings 30 months after the program	The effect of the program on total earnings was strongest in adult women ($13,417 in the treatment group, $12,241 in the control group)

These programs offered a range of services including classroom training and job search assistance. (Bloom, Orr, Bell, Cave, Doolittle, Lin, & Bos, 1997)		Percentage of participants who received a high school diploma or GED within 30 months after the program	In adult women, 32% of program participants who needed a GED or diploma received one (compared to 20.4% of controls). There were no significant impacts for other groups.
		Percentage of participants receiving welfare after program completion	There were no significant impacts of the program on welfare receipt.

Section 4: Focus Groups: Learning more from Career*Advance*® Participants' and Staff Experiences

Focus groups were held November 19 & 20, 2013 with Career*Advance*® Healthcare career coaches, CAP Family Life Study matched comparison parents, and current Career*Advance*® Healthcare participants. Four separate focus group sessions included:

- 4 Career*Advance*® Healthcare coaches
- 2 matched comparison parents
- 5 current LPN student parents
- 6 current Pre-req & Nursing student parents

All parent participants were mothers. Separate focus group guides were used for coaches, matched comparison parents, and current Career*Advance*® Healthcare participants. Teresa Eckrich Sommer, Institute for Policy Research, Northwestern University, led the four focus groups. Other participating research staff included Mumbe Kithakye, career coach focus group; Rayane Alamuddin, current Career*Advance*® Healthcare participant focus groups; and Tara Smith, matched comparison focus group. All four focus groups were conducted with facilitators and participants only; no CAP staff members were present. Interviews were recorded digitally and transcribed (Sommer, 2014). Below, we present emergent themes from the these focus groups. Please see the Appendix for a detailed summary of the themes present in each individual focus group.

Six additional focus group sessions, led by University of Texas-Austin, were held with two groups of current CNA participants and one each with HIT students in the first year, HIT students in the second year, Pharmacy Technician students, and Allied Health students (Smith, 2014).

Emerging Themes across Focus Groups

Value of CareerAdvance® **for Participants**

These focus groups included the most advanced Career*Advance*® participants in the nursing track. The students had been enrolled in Career*Advance*® for between two and four years at the time of meeting and are well experienced with its features. These focus groups represent parents who have persisted in the program beyond the first level (CNA). For these parents who persist, the financial support they receive and the coaching and peer supports are essential elements to their success. Even when parents are no longer in classes with their Career*Advance*® cohort, relationships with parents from their original peer group remain, as do connections with participants outside their cohort who share the same experiences and educational goals. As evidenced by how they relate to one another within the focus groups as well as how they describe and explain their ties, the sense of connectedness seems to transcend boundaries of cohort and frequency of exposure. They seem to create lasting bonds as both program participants and mothers of young children sharing the struggles of managing a family while advancing their skills and education. Parents support one another (1)

academically, through help with classes, navigating the community college environment, and studying together; (2) socially and emotionally, through problem solving around personal issues with children, partners, family and friends, and in parenting; (3) through the experiences of poverty, sharing the struggle and strategies of how to make ends meet financially; and (4) instrumentally, by exchanging babysitting, rides, class notes or materials, and occasionally cash.

All parents agree that the support of the career coach at the onset of the program was essential to their launch back to school and to completing the first level of certification. These parents, however, seem to hold varying views on how much support they need from their career coach at more advanced stages of the program. It appears that those with the less support in their lives and greater financial strain may have the higher expectations for the coaches than those with a partner and more financial stability. Overall though, coaches perceive their role in supporting parents in a way that closely mirrors what parents expect from the coaches. Coaches - much like parents - provide essential information about options, help these mothers make choices in their short- and long-term best interest, and provide emotional and instrumental support during times of stress or strain while also encouraging and applauding their successes.

The financial support parents receive is essential to their persistence. Parents at this stage of the program see their incentives as the "bonus" for their hard work and are grateful for the ways in which these funds ease their financial burden. They do not expect incentives to change their financial circumstances in a significant way. For the majority of parents, past educational loan debt makes Career*Advance*® their last resort option for educational advancement. A number have growing debt that has been deferred while they are enrolled in school and for which they likely do not have a strategy for when and how they will pay them off. These circumstances make parents' goals for high wage careers all the more salient and pressured.

Major Worries

> *Anxiety mounts about impending employment after* Career*Advance*® *and school. The students have the tools such as a resume and how to look for a job. The coaches help with employment guidance but cannot make the tough decisions such as work shifts and how much money to ask for. Some of our students haven't received any healthcare experience as a CNA, PCT, or LPN and are competing with experienced healthcare workers.* [Career Coach, November 19, 2013]

For parents who are within reach of entering a college-level nursing program or have done so already, their worries about employment options and wages seem to have grown significantly. Moreover, they are unsure where and how they will find jobs. While coaches are supportive and helpful to the extent possible, both the coaches and the parents recognize that the coaches have limited knowledge and access to employment options. One parent taking pre-nursing courses was highly distressed to learn that some registered nurses begin at $19 per hour as she expected higher wages. Wage expectations vary and some career coaches feel that $19 an hour represents significant progress for many of these parents who may have previously earned

$10 an hour. Participants do feel that their exposure to employers during clinical internships is likely to help them in securing potential employment but are not sure how much.

Many of these parents also are increasingly concerned about the time away from their children over a growing number of years, and whether the sacrifice will lead to career opportunities and income that will make the reward worth the sacrifice. Some note behavioral and sleep problems among their children and others feel "mom guilt" that causes daily stress. While parents seem to grow in self-confidence and skills as they advance in Career*Advance*®, the pressure to make the time spent away from their families and children worth the effort seems to increase in tandem. Yet the children themselves are what motivate these parents on many levels – increased educational exposure for themselves and their children, role modeling to encourage their children's school success, and higher income and the resulting opportunities for their children, including potential savings for their children's future education. These parents who have persisted seem even more aware of the connection between their own education and their children's education, further fueling their desire to continue their classes and become RNs. At the same time, they know that the time away from their children in order to work and attend school may take a toll on family life. This conundrum of both mutual motivation and stress suggest that helping parents manage their worry and improve their parenting and organizational skills may have significant pay offs for both children and parents. Although some Career*Advance*® coaches focus primarily on program participants as adults, not as parents, the experiences of these parents suggest that increased integration of programming for both generations, helping parents make these valuable connections, would have enormous benefits for the entire family.

Views of Success

Coaches and participants both want parents to succeed in the program and do well in school. When parents begin the Career*Advance*® program, they have a high sense of urgency to make it through the stages quickly and achieve their final certification, usually an RN. These more advanced parents, while still focused on achieving their goal, seem more accepting of the longer time frame it may take to achieve their goal of becoming a nurse, and understand why a coach may recommend a reduced course load given parents' previous struggles or circumstances. Parents seem to learn more flexibility and ability to adapt over time. Financial stability is also a goal shared among both participants and staff, although how they define stability varies. Some parents want to be able to pay their bills while others feel they will have succeeded if they are able to go beyond bill paying and own their own home and can afford to take yearly vacations. Almost all of these mothers frame their success in terms of their children: money is important but a balanced life with happy children is even more important to most of them.

Recommendations for Career*Advance*® Program Improvements

The following are considerations for possible Career*Advance*® program improvements based on these focus groups:

(1) **Employment and careers**: Add career exploration (possibly on-line) prior to selection of training or employments opportunities. Increase parents' exposure to potentials wages, shift hours, and educational requirements in a range of sectors and associated with each pathway. Include opportunities to speak with individuals working in these fields and explore the work environments of specific sectors. Increase knowledge and connections with local industry employers who can hire parents as they complete each level of certification. Consider requiring/strongly encouraging parents to become employed after each certification in the job for which they have been trained.

(2) **Finances and loan debt**: Provide additional on-going financial coaching to all parents enrolled in Career*Advance*®, including discussion of potential wages for a range of employment options and careers, budget and financial management skills, and strategies for managing debt, especially educational loan debt. Include workshops on these topics in partner meeting curricula at all levels of Career*Advance*®.

(3) **Two-Generation Integration**: Increase opportunities for parents to discuss and reflect upon work-family-school balance concerns and directly integrate these issues in parent meeting curricula at all levels. Build in regular time for parents to share, discuss, and reflect on school and work choices and the impact on families. Help parents better understand the connections between their education and careers and their children's school success, and help them integrate and connect their learning with their child's in specific and concrete ways (e.g., structured study time and planned shared play time).

(4) **Coaching and peers supports**: Further analyze which specific functions and teachings are best provided in classes or peer support meetings facilitated by a coach or other staff, and which are best provided individually to parents. Increase the number of opportunities for more advanced students to mentor less advanced students.

Section 5: Career*Advance*® Implementation Findings through December 2013

The implementation study of the Career*Advance*® program seeks to document the evolution of the program as it has moved from a pilot project into regular operations. The study examines modifications in program design in order to understand how, when, and why changes were made. The implementation study is an essential source of information for interpreting the outcomes and impacts of Career*Advance*® participation. Five published reports document implementation study findings from the design phase in 2009-2010 through December2013.[2]

CAP-Tulsa has approached the design of the Career*Advance*® program as a continuous improvement process. Modifications since the start of the CAP Family Life Study in 2011 include expansions of the career training options; refinements to the recruitment, screening, and selection process; and changes to the program's Shared Expectations agreement and performance incentives. In the last year, key changes include staff turnover and modifications to the Certified Nurse Aide training components. This section will summarize modifications in the program that directly relate to the experience and progress of participants in Cohorts 4 to 8 through December 2013, the end of the first quarter of Career*Advance*®'s Year 4 Health Profession Opportunity Grant Program (HPOG) funding.

Key Research Questions for the Implementation Study
1. How has Career*Advance*® changed over time and why?

2. What progress have Career*Advance*® participants made over time?

3. What program and institutional factors contribute to or impede participant progress through Career*Advance*®?

Research Data Sources

The implementation study draws on multiple sources of data to answer the key research questions. These include:
- Monthly calls with Career*Advance*® staff
- Interviews with CAP-Tulsa and Career*Advance*® staff as well as key partners, including employers, training providers, and other stakeholders
- CAP-Tulsa program and family records through the Child-Plus data system
- Career*Advance*® participant progress data and administrative records
- Reviews of Career*Advance*® program documents
- Participant and Career Coach Focus Groups
- Unemployment insurance wage and benefit records from the Oklahoma Economic Security Commission
- Participation and benefit records from the Oklahoma Department of Human Services

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[2] All reports available at: http://www.utexas.edu/research/cshr/rmc1/index.php/projects/current-projects/380-tulsa.html

Key Program Changes

Career Training Options

  With HPOG funding, the Career*Advance*® program's training options have broadened over time from the initial nursing pathway which began in mid-2009. The introduction of the Medical Assisting/Health Information Technology (HIT) pathway in Cohort 4 was the first expansion beyond nursing. The refinement of that pathway over Cohorts 5-7, including the separation of Medical Assisting training into its own option for Cohort 6, were important modifications to the overall program design. Career*Advance*® then added a Pharmacy Technician training option in Cohort 7. An Allied Health pathway, with connections to the Pharmacy Technician program, was offered for the first time in Cohort 8, replacing the HIT option. The Allied Health program offers support to individuals pursuing one of several career options, including Radiography, Sonography, Occupational Therapy Assistant, Physical Therapy Assistant, or Respiratory Care. Figure 1 below illustrates the training options that were available to at least one Career*Advance*® cohort, for participants entering in Cohorts 4 through 8.

Figure 6.1. Career*Advance*® Training Options Available To At Least 1 Cohort, Cohorts 4-8
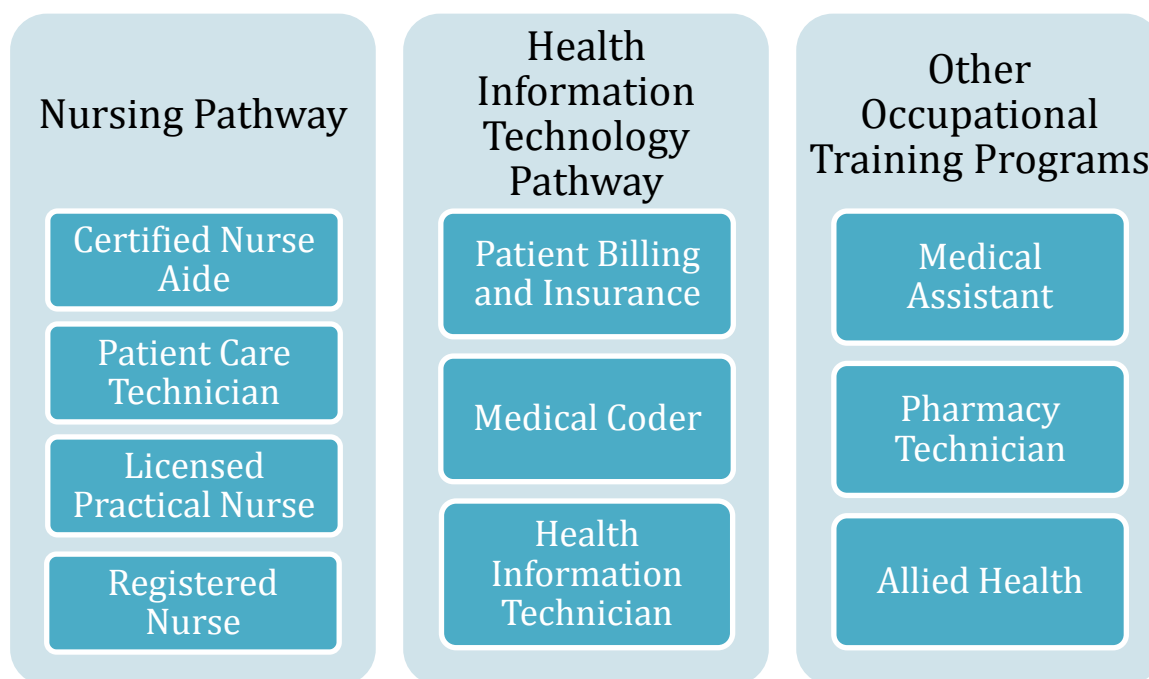
Changes in recruitment and enrollment

  Recruitment and enrollment procedures for Career*Advance*® have been refined over time based on changing program standards or grant requirements. In recent rounds, CAP-Tulsa has added a required drug test and a career interest survey to better identify individuals most likely to enroll in and succeed in training. For Cohort 8, those interested in joining the Allied Health pathway were required to test at the *College-Ready* level on entrance exams. Table 1 below documents changes to the recruitment process from Cohort 4 to Cohort 8. Note

that each cohort builds on the established requirements of the prior cohort, unless a change is indicated.

Table 6.1. Changes in Career*Advance*® Eligibility Standards, Application Requirements, and Selection Criteria

Cohort	Eligibility Standards	Application Requirements	Selection Criteria
Cohort 4	• Adult at least 18 years old • Citizen or legal resident for at least 5 years • Speak English well enough to participate • Eligibility tied to workforce standards of healthcare employers	• Interview with Career Coach • COMPASS scores required with initial application • TABE scores required prior to interview	•Pass a criminal background check • Tuberculosis test • Interview rating system with 11 criteria: attitude, desire to work, desire for healthcare employment, work history, healthcare work experience, flexible work schedule, high motivation, low debt ratio, participant dress/language, financial stability, and access to transportation
Cohort 5			• Participants are expected to be able to shoulder some of the financial burden of participation (such as purchasing their own school supplies)
Cohorts 6 and 7	• Speak English well enough to participate and succeed	• Complete a career interest inventory • Submit a personal statement of 1-3 paragraphs	• Selected participants must pass a drug test within one week of acceptance into the program • Academic skills at 4th grade or above

Cohort 8				• Allied Health program required participants to be *College-Ready* based TCC-established COMPASS test scores: • 66+ in Algebra; • 80+ in Reading; and • 75+ in English.

Source: Career*Advance*® staff and program documents.

Table 2 below presents application, selection, and enrollment characteristics for Career*Advance*® Cohorts 4-8. Interest in the nursing pathway remains high, while interest in the other training options has been mixed. Lower shares of nursing applicants are selected for enrollment into the program than are applicants in other pathways.

Table 6.2. Application, Selection, and Enrollment Characteristics, by Program and Cohort

	Nursing					Health Information Technology				
	C 4	C 5	C 6	C 7	C 8	C 4	C 5	C 6	C 7	C 8
Began application process	27	34	33	41	39	28	16	12	11	N/A
Interviewed	25	24	33	24	22	22	14	10	7	
Completed all application steps	25	30	30	23	21	22	13	9	7	
Selected for enrollment	16	15	18	18	18	16	13	7	7	
Enrolled in Career*Advance*®	15	12	18	15	18	15	12	6	5	

|	Medical Assisting			Pharmacy Technician		Allied Health
	C 6	C 7	C 8	C 7	C 8	C 8
Began application process	6	N/A	14	3	13	8
Interviewed	5		12	1	9	6
Completed all application steps	5		12	1	9	6
Selected for enrollment	6		12	1	9	6
Enrolled in Career*Advance*®	6		7	1	8	4

Note: N/A indicates that the option was not available for participants entering in that cohort.
Source: Career*Advance*® administrative records

While Career*Advance*® participants are recruited from across CAP-Tulsa and Educare child development centers, a handful of sites have a higher concentration of participants over Cohorts 4 through 8. Figure 2 below shows the number of Career*Advance*® enrollees per

center. Frost is by far the most actively enrolled site with 24 parents. McClure and Sand Spring are tied for second at 16 parents each. Two CAP-Tulsa sites, Hamilton and Jefferson, have the lowest engagement with each serving only one parent in Career*Advance*®.

Figure 6.2. Number of Career*Advance*® Enrollees Per Child Development Center, Cohorts 4-8
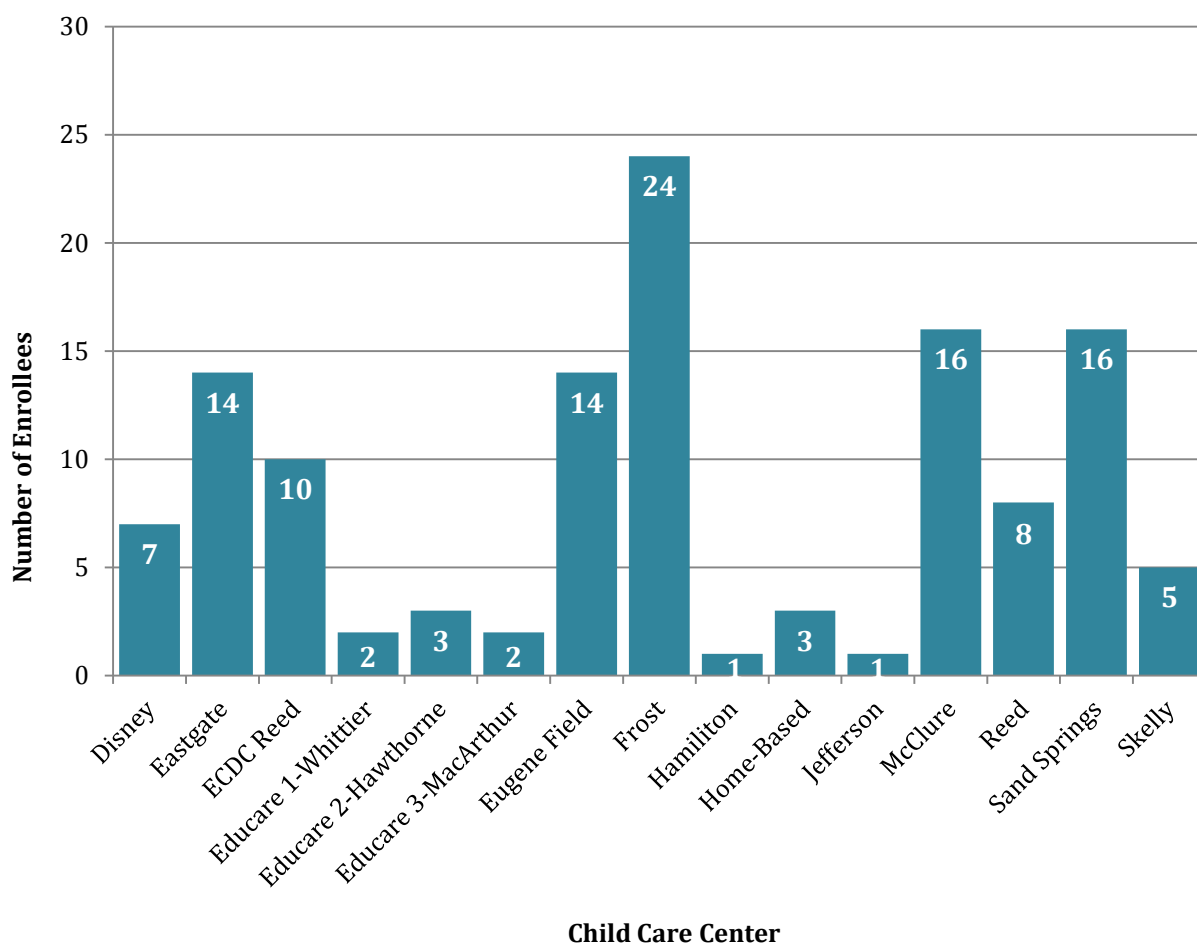
Changes in basic skills preparation

Adult Basic Education and GED preparation are core components of Career*Advance*®. Many parents lack high school-level skills or credentials, and typically have been out of school for several years. To understand a potential candidate's readiness for training, Coaches rely in part on scores from two exams. The first is the Test of Adult Basic Education (TABE®), which covers four subjects: reading, language, match computation, and applied math. Scores are given as grade-level equivalents. Scores from participant's first administration of the TABE are shown in Table 3 (those who scored low are permitted to retake the exam). Mean reading scores for the groups were typically at the 10th to 12th grade-levels. Mean math computation scores were much lower, however, at the 7th to 9th grade-levels. Across pathways in both math sections, Cohort 8 had the highest average (mean) scores. Skill levels also ranged widely

within individual cohorts and pathways, with some individuals at the 2nd grade-level or below while others in the same group were at the highest 12th grade-level.

Table 6.3. TABE® Test Scores by Cohort and Pathway, Cohorts 4-8

		Reading	Language	Math Computation	Applied Math
Nursing					
Cohort 4	Mean	12.2	10.9	8.6	11.0
(n=15)	Range	9.1 - 12.9	4.8 - 12.9	4.9 - 12.9	5.9 - 12.9
Cohort 5	Mean	10.0	8.1	8.0	8.1
(n=11)	Range	6.4 - 12.9	2.9 - 12.9	4.4 - 12.9	2.4 - 11
Cohort 6	Mean	11.9	11.5	7.9	10.8
(n=18)	Range	7.6 - 12.9	7.7 - 12.9	3.5 - 12.1	6.4 - 12.9
Cohort 7	Mean	12.2	11.5	8.8	11.0
(n=15)	Range	10 - 12.9	7.7 - 12.9	5.3 - 12.9	7.6 - 12.9
Cohort 8	Mean	11.9	11.5	9.5	11.2
(n=17)	Range	5.0 – 12.9	7.4 - 12.9	5.1 - 12.9	8.6 - 12.9
Health Information Technology / Medical Assisting / Pharmacy Technician/Allied Health[a]					
Cohort 4	Mean	11.0	11.5	8.6	10.6
(n=15)	Range	7.6 - 12.9	5.6 - 12.9	3.9 - 12.1	3.5 - 12.9
Cohort 5	Mean	11.0	10.5	8.1	9.7
(n=12)	Range	6.6 - 12.9	0.0 - 12.9	2.5 - 12.9	1.7 - 12.9
Cohort 6	Mean	10.3	9.7	8.0	10.0
(n=10)	Range	7.4 - 12.9	5.6 - 12.9	4.4 - 12.1	6.7 - 12.9
Cohort 7	Mean	12.4	10.5	7.8	9.3
(n=6)	Range	10.0 - 12.9	7.7 - 12.9	4.2 - 11.2	6.7 – 11.0
Cohort 8	Mean	10.8	11.0	9.5	11.2
(n=19)	Range	4.0 - 12.9	4.8 - 12.9	5.0 - 12.9	8.6 - 12.9

[a] Due to low numbers of enrollees, test results for these four groups are reported together.
Note: Scores are presented as grade-level equivalents.
    Data are reported for the entry cohort for each individual.
Source: CareerAdvance® administrative records

The second test that is used in Career*Advance*® selection is the COMPASS® Exam, which is also used by many colleges and universities to assess college readiness and identify any need for developmental education courses. The test has three sections: reading, English, and Algebra; each section is scored on a 100-point scale. Each college establishes its own *College-Ready* standards, which often vary within an institution dependent on the standards of

specific fields of study. At Tulsa Community College, "A COMPASS® Placement score of 66+ on the Algebra test is needed to go straight into college level math. A COMPASS® Placement score of 75+ is needed on the English test as well as a score of 80+ on the Reading test to go straight into college level writing."[3] As shown in Table 4, no cohort's average score met TCC standards for college-level math. Results are mixed in regards to college-level writing standards. On average, all but one group met the reading requirement whereas all but three groups failed to meet the English requirement.

Table 6.4. COMPASS® Test Scores by Cohort and Pathway, Cohorts 4-8

		Reading	English	Algebra
Nursing				
Cohort 4	Mean	86.7	78.0	39.9
(n=15)	Range	64 - 99	22 - 99	23 - 70
Cohort 5	Mean	71.4	49.4	34.0
(n=11)	Range	50 - 90	7 - 94	19 - 56
Cohort 6	Mean	84.7	71.9	41.4
(n=18)	Range	64 - 99	25 - 99	18 - 75
Cohort 7	Mean	86.5	74.8	46.5
(n=15)	Range	76 - 97	35 - 99	21 - 86
Cohort 8	Mean	86.7	80.8	47.0
(n=17)	Range	71 - 99	52 - 99	27 - 80
Health Information Technology / Medical Assisting / Pharmacy Technician/Allied Health[a]				
Cohort 4	Mean	83.0	66.5	36.6
(n=14)	Range	71 - 99	5 - 99	26 - 51
Cohort 5	Mean	85.3	65.0	39.4
(n=12)	Range	53 - 98	10 - 99	25 - 61
Cohort 6	Mean	80.8	50.5	32.3

[3] Email from Online Advisement, Tulsa Community College. onlineadvisement@tulsacc.edu. July 25, 2012.

(n=11)	Range	64 - 96	6 - 87	20 - 45
Cohort 7	Mean	86.2	78.5	27.8
(n=6)	Range	80 - 95	42 - 96	21 - 32
Cohort 8	Mean	87.4	74.8	45.1
(n=18)	Range	69 - 95	28 - 99	17 - 84

[a] Due to low numbers of enrollees, test results for these groups are reported together.

Note: Data are reported for the entry cohort for each individual.

Source: CareerAdvance® administrative records

Educational Pathways Program

One way that Career*Advance*® has worked to address parents' basic skills deficits is through the development of the Educational Pathways Program, a component of Career*Advance*®, which started in January 2013. Educational Pathways offers parents with low basic skills a graduated series of courses to build the literacy skills needed to prepare for a career or for further education. The program involves a set of intensive, graduated classes typically involving 16 hours of instruction per week. The *School-Ready* class is for parents with very low basic skills (5th grade and below). The *Skill-Ready* class is for those testing at the 6th-8th grade levels. Parents testing at the 9th-12th grade levels are placed in the *College-Bound* class, while those who test as college or career ready can place into the *Career-Bound* class. The Educational Pathways Program is part of a larger research study, the CAP Family Advancement Study evaluation that began in 2013.

Participant Progress

Cohorts 4 through 8 of Career*Advance*® all completed at least one semester of training by January 2014. The progress participants have made along each training pathway is detailed in the tables below. Table 5 presents the progress and achievements of participants in the nursing pathway, while Table 6 presents details for participants in the HIT pathway.

In the nursing pathway, 56 of 74 participants (76%) completed CNA 1, and 55 passed the CNA certification exam. Twenty-five participants found employment as a CNA based upon self-report from the Career*Advance*® progress data. Twenty-one of the 33 participants who completed PCT attempted the AUA certification exam; 16 of those passed (76%). Four of those found employment as a PCT. Three participants are enrolled in the RN program at Tulsa Community College, while eight are currently enrolled in the LPN program at Tulsa Technology Center.

Table 6.5. Participant Progress in Nursing Pathway as of January 2014

Career Path Step	Milestone	C4	C5	C6	C7	C8	Totals
CNA	Enrolled[a]	15	12	15	15	17	74
	CNA 1 Completed	13	7	12	12	12	56
	CNA Certification Exam Passed	13	7	11	12	12	55
	CNA 2 Completed	14	9	14	15	N/A[c]	52
	CNA 3 Completed	13	N/A[b]				13
	Geriatric Tech Certificate Obtained	12	N/A[b]				12
	CNA Employment Obtained	4	6	5	8	2	25
PCT/AUA	Enrolled	13	5	9	11	10	48
	Completed	11	5	7	10		33
	AUA Certification Exam Passed	7	3	6			16
	PCT/AUA Employment Obtained	4	0	0			4
LPN	Application	1	0	8	11	2	22
	Accepted	0	-	3	3	2	8
	Enrolled	1	-	3	2	2	8
	Graduated		-				
	NCLEX-Practical Nursing (PN) Exam Passed		-				
	LPN Employment Obtained		-				
RN	Working Towards General Ed Requirement	10	3	6	10		29
	Completed General Ed Requirement	0	1				1
	LPN-to-RN Bridge Program Application	N/A	0				0
	Application	6	2				8
	Enrolled	2	1				3
	Graduated						
	RN Exam Passed						
	RN Employment Obtained						

Note: In this and following tables, gray boxes indicate that a cohort has not yet reached a particular milestone.

[a] This number includes individuals who entered the program with prior CNA certification and did not take CNA 1 or the CNA certification exam. This number does not include individuals who enrolled but never started the first class.

[b] CNA 3 and its associated Geriatric Tech Certification were dropped from the pathway in Cohort 5.

^c CNA 2 was dropped from the pathway in Cohort 8.
Source: CAP-Tulsa administrative records submitted on
February 10, 2014.

As of January 2014, no participant had yet completed the Health Information Technology associate's degree program, and none were working in the field. Eight of ten who started the Medical Coding program completed it; one participant passed the Certified Medical Coder exam. Six of the 17 participants from Cohorts 4 and 5 who completed Medical Assisting as the first step on the HIT pathway obtained employment as a Medical Assistant. In both the HIT and the nursing pathways, the completion pattern is consistent with a "stackable credentials" model of training in which the ability to briefly stop education to pursue employment is intentional.

Table 6.6. Participant Progress in Health Information Technology Pathway as of January 2014

	Cohort 4	Cohort 5	Cohort 6	Cohort 7	Cohort 8	Totals
Enrollment	**15**	**12**	**6**	**5**	**N/A[a]**	**38**
Medical Assisting Start	15	11				26
Medical Assisting Completed	9	10	N/A[b]			19
Registered Medical Assistant (RMA) Exam Passed	9	8				17
MA Employment Obtained	4	2				6
Medical Coding Start	3	1	6			10
Medical Coding Completed	2	1	5	N/A[c]	N/A[a]	8
Certified Professional Coder Exam Passed	0	0	1			1
MC Employment Obtained	0	0	0			0
Patient Billing Start				5		5
Patient Billing Completed		N/A[c]		5	N/A[a]	5
Patient Billing Employment Obtained				0		0
HIT Start	5	7	4			16
Certified Coding Associate's Exam Passed						
HIT Associate's Degree					N/A[a]	
Registered HIT Exam Passed						
HIT Employment Obtained						

Notes: [a] HIT was not offered in Cohort 8.
[b] In Cohort 6, MA was removed from the HIT pathway.
[c] As Medical Coding only starts in the fall semester, Patient Billing added to the HIT pathway in Cohort 7.
Source: CAP-TULSA administrative records submitted on February 10, 2014.

Table 7 below presents progress information for participants in other Career*Advance*® training program pathways. All Medical Assisting participants in Cohort 6 passed the Registered Medical Assistant (RMA) exam, and one found employment during the time period examined. No participant passed the Pharmacy Technician exam, and none of the Allied Health participants who applied for the Physical Therapy Assistant program were accepted on their first application.

Table 6.7. Participant Progress in Other Training Programs, Cohorts 6-8

	Cohort 6	Cohort 7	Cohort 8	Totals
Medial Assisting				
Medical Assisting Start	5		7	12
Medical Assisting Completed	5	N/A		5
Registered Medical Assistant (RMA) Exam Passed	5			5
MA Employment Obtained	1			1
Pharmacy Technician				
Pharmacy Technician Start		1	7	8
Pharmacy Technician Completed	N/A	1	7	8
Pharmacy Technician Exam Passed		0	0	0
Pharmacy Technician Employment Obtained		0	0	0
Allied Health				
Applied to Allied Health – Physical Therapy Asst			3	3
Accepted to Allied Health			0	0
Allied Health Start		N/A		
Allied Health Completed				
Allied Health Employment Obtained				

Note: A gray box indicates that a cohort has not yet reached that step in the pathway; N/A indicates that the training option was not available for a particular cohort of entering participants.

Table 8 details the status of participants from all pathways as a group for Cohorts 4 through 8 as of January 2014. More than half participants are currently active. Of those who are inactive, the majority (about 72%) earned at least one workforce credential prior to exiting the program.

Table 6.8. Status of CareerAdvance® Participants as of January 2014

	Nursing					Total
	C 4	C 5	C6	C7	C8	

Enrolled	15	12	18	15	18	78
Active	6	3	6	13	17	45
Inactive	9	9	12	2	1	33
Achieved any Certificate	9	6	8	2	0	**25**
Exited Prior to Achieving any Certificate	0	3	4	0	1	**8**

	Health Information Technology				Medical Assisting		Pharmacy Technician		Allied Health	Total
	C 4	**C 5**	**C 6**	**C 7**	**C 6**	**C8**	**C 7**	**C8**	**C8**	
Enrolled	15	12	6	5	6	7	1	8	4	64
Active	4	6	5	3	0	7	0	7	4	36
Inactive	11	6	1	2	6	0	1	1	0	28
Achieved any Certificate	6	4	1	2	5	0	1	0	0	**19**
Exited Prior to Achieving any Certificate	5	2	0	0	1	0	0	1	0	**9**

Another way to consider the progress data is to examine it in the context of the training pathway. The figures on the following three pages track participant progress through key points along the training pathways. Figure 3 details progress along the Career*Advance*® nursing pathway; Figure 4 the HIT pathway; and Figure 5 the other healthcare training programs supported by Career*Advance*® through December 2013. Green boxes represent major coursework, while blue circles represent key application and exam hurdles. Red hexagons identify drop- /stop-out points for participants. The graphs at the bottom of Figures 3 and 4 summarize the flow of participants through each pathway.

Figure 6.3. Nursing Career Pathway Progress through December 2013, Cohorts 4 through 8

RN Application
3 of 8
accepted

RN
3 of 3
current

RN
Exam

Pre-Reqs
1 of 29
completed
or current

Bridge
0 of 0
completed

1 Stopped and did not complete RN pre-req classes

LPN Application
8 of 22
accepted

LPN
7 of 8
completed
or current

LPN Exam
0 of 0
passed

0 Stopped after the LPN program

PCT
44 of 48
completed
or current

AUA Exam
16 of 21
passed

4 Stopped after the PCT program

CNA Exam
55 of 55
passed

CNA II or III
52 of 52
completed

11 Stopped after the CNA program

CNA I
56 of 60
completed

Prior CNA
14

Number Who Started Each Training Program

CNA 1
60

CNA 2 or 3
52

PCT or LPN
56

Bridge or Pre-Reqs
29

RN
3

58

Figure 6.4. HIT Pathway Progress through December 2013, Cohorts 4 through 7

HIT Exam
0 of 0 passed

Associates in HIT
13 of 16 completed or current

Med Coding 2 Exam
0 of 0 passed

Patient Billing
5 of 5 completed

Cohorts 7+*

5 Stopped after Patient Billing

Medical Coding
8 of 10 completed

Med Coding Exam
1 of 8 passed

Cohorts 6+*

4 Stopped after Medical Coding

Medical Assisting
19 of 26 completed

RMA Exam
17 of 17 passed

Cohorts 4-5 only*

5 Stopped after Medical Assisting

CORE
38 of 38 completed

Academic Nursing Skills
30 of 38 completed

1 Stopped after CORE

Number Who Started Each Training Program

ANS 38

CORE 38

MA 26

Patient Billing or Medical Coding 15

HIT 16

*For Cohorts 4-5, Medical Assisting was part of the pathway to Associates in HIT.
 Patient Billing introduced with Cohort 7.

Figure 6.5. Progress in Other Healthcare Training Programs through December 2013, Cohorts 6 through 8
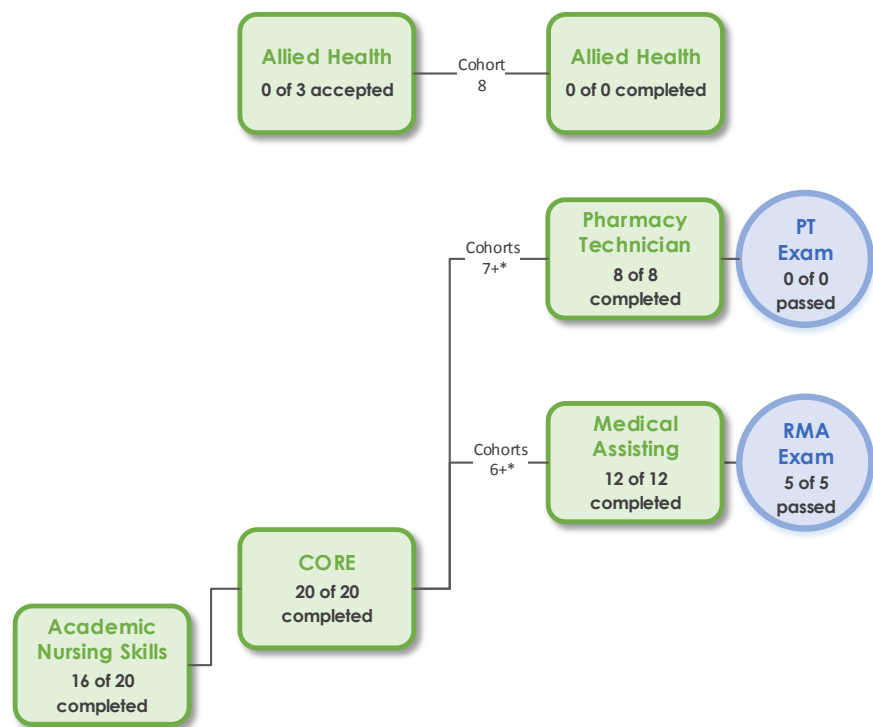
*Beginning with Cohorts 6, Medical Assisting is a career training program not part of a pathway. Previously, Medical Assisting was part of the HIT pathway.
 Pharmacy Technician classes offered beginning with Cohort 7.

Factors that Impede or Support Progress

Focus group sessions, conducted twice annually with participants at all levels of the program, are an important source of information for understanding how program components and other factors impede or support an individual's progress through Career*Advance*®. Sessions held in May and November 2013 provided feedback on how participants were responding to program modifications and helped to identify current issues.

Impeding Factors

Factors that hinder progress or otherwise reduce the likelihood for participant success are considered impeding factors. Career*Advance*® participants identified several impeding factors in focus group sessions held in 2013. Among those factors, miscommunication and misunderstanding, staff turnover, and feeling that children are being short-changed were frequently cited as concerns by participants across all levels of the program.

A common feeling among participants in focus group sessions was that CAP-Tulsa could do more to collaborate with Tulsa Community College and Tulsa Technology Center. Many participants reported that they were not aware of support resources and services available through their training provider. Most had not received an orientation to the campus at the start of training, relying instead on word of mouth to discover supports like free bus passes, tutoring centers, and the gym. The lack of communication and misunderstandings about the career pathways has created a perception that the program is disorganized and that pathways were not fully researched before implementation. Participants reported receiving conflicting information from teachers and Coaches, which undermined their confidence in the program and possibly their employment prospects.

Staff turnover has exacerbated the perception of communication challenges. Participants who have shuttled between several Career Coaches in a few semesters reported that often a new Coach did not have time to get to know them personally and left them feeling as if they had no one to turn to when issues arose. Participants also reported that as the program has grown, the Coaches' caseloads have increased to the point where it has become difficult to have a personal relationship and that calls and emails sometimes went unanswered.

A big issue facing many participants is the loss of family time due to homework and studies. *"Time is more precious now, definitely."* One participant reported that it is hard to find time to help her kids with their homework like she was able to in the past: *"I know this is good for me in the future, but right now [my son] needs me."* Other participants report that their children have had trouble adjusting to mom being in school, developing attachment and behavioral issues that require frequent meetings with teachers and school staff.

Supportive Factors

Most focus group participants identified numerous ways that CAP-Tulsa, the Career*Advance*® program, Family Support staff, and their families were supporting them in their pursuit of career training. Connections with others in their cohort for academic and emotional support were particularly motivating for participants, who felt that their common backgrounds—the fact that they were all parents of young children looking for better opportunities—helped to bond them together. Sample statements from the focus groups include:

- "*I'm so grateful for these ladies.*"
- "*In this program, you meet people who are going through what you're going through…We feed off each other.*"
- "*It helps to have people who understand about being a mom and going to school.*"

The program itself offers many supports to participants. The program's emphasis on building "soft skills" along with occupational skills is a key factor in building self-confidence among participants. As one participant stated, *"I'm getting smarter by the day."* Another reported, *"I'm capable of doing more than I used to think I could."* Soft skills development, including time management, communications, and interpersonal skills, have benefits for participants in and out of the classroom.

Another program component that is a strong supportive factor for participants is the Career Coach. The role of the Coach is to help participants transition to college and learn to juggle their multiple roles as parents, students, and employees. Many participants' echoed the sentiment of one: "*She [the Career Coach] wants to see you succeed."* Another credited the Coaches for helping her *"recognize that you have to do something for yourself, not just your kids."*

The attendance incentive is another program feature that, although described by many as being too strict and unforgiving, has become a critical supportive factor for some participants: *"I strive to get to class so that I can earn my reward for doing good."* Another participant reported, *"It helps keep us accountable for every day."* The incentive also had benefits for participants' children: *"Because of me doing [CareerAdvance®], my kids got the perfect attendance award at school for the first time."*

Section 6: Learning from and disseminating to external audiences

Our cross-disciplinary research team is committed to collaboration among program and institutional partners as well as participation in a wide variety of policy, program, and research forums and conferences. Our goals are to: (1) maximize the rigor and quality of the study; (2) foster dialogue about study findings; and (3) contribute to the nascent field of two-generation programs and broader workforce policy at the federal, state, and local level. As researchers and advocates for the growing field of two-generation interventions, members of our cross-university research team presented at the following meetings:

- Society for Research in Child Development (SRCD) Biennial Meeting, *Two-Generation Workforce and Education Programs: An Initial Inquiry into Parents' Persistence,* April 18-20, 2013, Seattle, Washington (presenters Emily Ross and Terri Sabol, co-authored by Lindsay Chase-Lansdale, Teresa Eckrich Sommer, Christopher King, Rayane Alamuddin, and Ummul Kathawalla)

- Administration for Children and Families Office of Research, Planning, and Evaluation Brown Bag Series, *The Community Action Project (CAP) Family Life Study*, May 2, 2013, Washington, D.C. (presenters Lindsay Chase-Lansdale and Christopher King)

- The Aspen Institute Forum on Innovations in Early Childhood: Opportunities for Two-Generation Approaches, *Innovating in Tulsa, Oklahoma*, September 24, 2013, Los Altos, California (presenters Steven Dow, Monica Barczak, Lindsay Chase-Lansdale, and Teresa Eckrich Sommer)

- Health Professions Opportunity Grant- University Partnerships (HPOG-UP) Grantee Meeting, *Community Action Project of Tulsa (CAP) Family Life Study- A Model Two-Generational Program: Health Care Education & Training for Low-Income Parents and Early Education for Their Young Children*, May 28, 2013, Washington, D.C. (presenter Teresa Eckrich Sommer)

- Welfare Research and Evaluation Conference (WREC), *Community Action Project of Tulsa (CAP) Family Life Study: The Two-Generational Impact of Health Care Training and Education on Low-Income Parents and Their Children,* May 28, 2013, Washington, D.C. (presenter Teresa Eckrich Sommer)

- Association for Public Policy and Management (APPAM) Annual Research Conference, *Two-Generation Programs in the 21st Century*, November 8, 2013, Washington, D.C. (presenters Lindsay Chase-Lansdale and Jeanne Brooks-Gunn)

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