

From Learning to Leadership: *A Cost Study for Early Career Supports for Teachers*

By Rennie Center for Education Research & Policy

Overview

While many agree that the classroom teacher is the single most important in-school factor in student learning, there is much debate about the structures, experiences and policies that best nurture teacher growth. In recent years, however, it has become increasingly clear that early career induction and mentoring are critical leverage points for beginning teacher development. Intensive professional supports during a teacher's first few years in the classroom have been linked to positive effects on job satisfaction, commitment, and retention, as well as overall effectiveness.¹ For example, research notes that mentoring from an experienced teacher in the same discipline reduces a new teacher's risk of leaving at the end of the first year by about 30 percent.² And, a recent review of the literature found that students of beginning teachers who participated in early career induction programs had higher gains on academic achievement tests.³ Unfortunately, intensive induction and mentoring experiences are not part of many teachers' initial workplace experiences. This lack of support undermines the stability and long-term development of the profession and the potential for beginning teachers to emerge as future education leaders.

Beginning Teacher Development in Massachusetts

According to regulations adopted by the Massachusetts Board of Elementary and Secondary Education (BESE) in 2000, all public school teachers in the Commonwealth must complete a year-long induction program as a requirement for obtaining their professional license. The regulations stipulate that such programs include: teacher orientation; mentoring; support from a school-based learning team; and release time for both mentors and beginning teachers to fulfill their obligations. In 2001, the Department of Elementary and Secondary Education (ESE) issued Guidelines for Induction Programs to provide districts with suggested approaches to the design and implementation of induction activities. The Massachusetts induction guidelines, especially when compared with other states, are well-aligned with research. For example, the regulations require mentors (e.g., veteran classroom teachers, consultants, or staff from relevant professional associations) be trained, and the guidelines further suggest preparing mentors to observe classroom instruction, analyze teaching strategies, and provide critical feedback. In June 2011, BESE approved a new evaluation system for public K-12 educators, making a renewed focus on induction and



ROADMAP TO
Expanding Opportunity
Evidence on What Works in Education

The promise of a high-quality education leading to opportunity and shared prosperity for all children is a deeply held value in Massachusetts. Despite a record of prominent successes, however, our Commonwealth has struggled to provide every child in every community the supports necessary for long-term life success. To confront this challenge, the Massachusetts Budget and Policy Center and the Rennie Center for Education Research & Policy are undertaking this shared research project: the *Roadmap for Expanding Opportunity: Evidence on What Works in Education*.

This series of reports builds on progress initiated with the Education Reform Act of 1993, addressing critical areas in which progress has stalled. Ultimately, this project will provide a roadmap for bringing education reform into the 21st century. Reports will examine promising evidence-based strategies for supporting all children in achieving college, career, and life success. In particular, analyses will be grounded in a recognition that learning must extend beyond traditional school structures and offerings.

Reports will offer strategies for adapting a broad evidence base to local contexts, including cost analyses to assess the level of resources required to support district and statewide innovation. Ultimately, these briefs are designed to provide education leaders and practitioners with building blocks for driving future educational reforms across the Commonwealth.

mentoring programs timely and critical. While the format varies across districts, all beginning teachers must be evaluated at least once per year on the following standards: Curriculum, Planning and Assessment; Teaching All Students; Family and Community Engagement; and Professional Culture. The new framework has been phased in over the last three years, and full statewide implementation will be complete during the upcoming school year (2014-15).

Yet, despite significant progress in promoting professional supports for beginning teachers, translating state guidelines into practice remains a challenge. First, the induction guidelines have not been updated since October 2001, and therefore do not take into account recent research on professional supports for teachers that document the benefit of connecting theory-based preparation with in-district clinical practice. Second, existing state licensure regulations require only one year of induction support for beginning teachers, and as such, fall short of the more comprehensive two years of support recommended in a recent randomized controlled trial of teacher induction programs.⁴ Finally, with countless other competing demands (e.g., updated curriculum standards, new educator evaluation systems, school turnaround) and dwindling resources, many district leaders and educators simply do not have available capacity to pursue a comprehensive vision of professional support for beginning teachers.

During this same era that Massachusetts has been developing and fine-tuning regulations and guidelines for beginning teacher induction and mentoring, higher education institutions and non-profit organizations have begun to partner with public school districts to offer teacher residency models. These residency programs are designed to provide teacher candidates the opportunity to meet coursework requirements for teacher licensure, gain clinical experience and successfully transition into the classroom, especially in high-need settings. Two models that have garnered national attention—the University of Chicago Urban Teacher Education Program (UTEP) and the Boston Teacher Residency (BTR) program—are implementing many practices identified by research and documented impact on teacher outcomes, such as in-district retention rates. These models have a specific focus on supporting beginning teachers in their first position as a teacher of record. UTEP does so for the first three years of teaching for program alumni; BTR does so for the first two years of teaching for program alumni (see one-page program descriptions in Appendix A).

This policy brief focuses on induction and mentoring in light of the promise these practices hold for promoting positive outcomes in teachers' early careers. More specifically, it asks: how might examples of strong professional supports found in the research literature inform district practice? Are various evidence-based strategies (e.g. new teacher orientation, peer/team learning, focused training for mentors) applicable across diverse settings, including partnership-based residency models? And, perhaps most important, what is the expected cost of greater investments in teachers' growth and development? This work is intended to build on Massachusetts' recent efforts to provide the support and evaluation systems necessary to help all teachers perform at high levels across their professional lifespan.

Study Methods

The Rennie Center for Education Research & Policy has taken up the challenging question of how to improve early career professional supports for teachers—specifically induction and mentoring offerings for beginning teachers—across the Commonwealth. To address this challenge, the Rennie Center team pursued a comprehensive data collection and analysis plan including:

- **Promising practice scan.** The team conducted a review of the literature on teacher induction and mentoring, focusing on the practices that are critical to nurturing the growth of effective educators who are committed to long-term careers in the teaching profession.
- **Qualitative analysis of exemplary practices.** The team selected four very different programs that each align with research recommendations for effective practices in teacher induction, mentoring, and professional support. We also sought program models that have demonstrated positive impact on

teacher retention and student learning. We used qualitative analysis to distill effective practices from interviews with program leaders.

- **Cost analysis of programs components.** Once program practices were identified, the team used a resource-based cost analysis approach, described in detail below, to identify attendant costs to Massachusetts' public K-12 districts. To align with the goals of *The Roadmap to Expanded Opportunity* project, the Rennie Center team then performed a cost analysis of these elements to establish the resources districts would need to implement highlighted practices.

Case study site selection

The Rennie Center team began by attempting to identify both in-district programs and partnership-based residency models that most closely mirrored the research-based recommendations for beginning teacher induction and mentoring. Two of the models examined offer residency experiences to teacher candidates, which includes graduate coursework towards a master's degree. It is important to note that some elements of residency programs will not be appropriate for districts to offer new teachers. For example, it would be unreasonable to recommend that districts offer residency experiences for all new hires, or to presume that most districts can easily partner with an institute of higher education to offer degree-oriented coursework. However, these programs operationalize practices that align with the research base, and therefore provide examples of how particular elements can be effectively used to support beginning teachers. The Rennie Center team chose to highlight two partnership-based residency models: **University of Chicago's Urban Teacher Education Program**, which combines pre-service preparation and in-district training; and the **Boston Teacher Residency program**, which offers a post-baccalaureate route to the teaching profession.

To get a sense of the kinds of exemplary practices that are possible within the current state policy and fiscal environment, the team then selected two districts recognized for their effective, research-based approaches to new teacher induction. Both of these district induction programs pair mentor teachers with beginning teachers (that is, new-to-the-district and/or new-to-the-profession), include summer orientation activities, and provide regularly-occurring professional development opportunities. **Arlington Public Schools** and **Chelsea Public Schools** are the two districts selected for this study.

By combining findings from two very different program models, the team attempted to develop a comprehensive portfolio of effective practices associated with early career induction. This focus on different program structures is intentional; evaluating the quality of mentor/mentee interactions and/or assessing fidelity to a particular model is beyond the scope of this report. For comprehensive details on each of these four programs, please see the one-page descriptions available in Appendix A.

Analytic Approach

The Rennie Center team analyzed both program and cost data. First, the team compared program model components to research-based practices identified in the literature scan. We then analyzed original data to document how selected programs operationalize recommendations from the research. In the findings section below, we distill these research-based practices to recommend program components and practices that have the potential to help districts develop effective induction and mentoring programs. Next, the team constructed detailed resource profiles that describe the personnel and non-personnel resources associated with each relevant program component. Additional information about the study methods can be found in Appendix B.

Effective Practices from the Literature and Program Data

The findings presented below highlight points of alignment between the literature base and induction and mentoring supports offered by in-district programs and partnership-based residency models participating in this study. For each program component, we focus on district practices to demonstrate what is possible within

existing state policy and funding resources, as well as examine partnership-based residency programs for additional research-based strategies that can be translated to districts. The findings section discusses supports for beginning teachers, as well as professional development offerings provided to mentor teachers to enhance their ability to provide guidance to new educators.

Supports for Beginning Teachers

Orientation provides an overview of induction and mentoring program elements.⁵ Although the research base is limited, studies do suggest that teacher development programs may be more effective when they include orientation on the district/school/program expectations for a mentor-beginning teacher relationship.⁶ Working within contract guidelines, both of the district programs in this study provide a three-day summer orientation for beginning teachers that introduces mentoring offerings. In Arlington, new teacher orientation includes three days of teacher training and curriculum planning plus an orientation day within which the district mentoring program is explained to new teachers. The remaining two days are then devoted to curriculum training facilitated by district department heads. This “jump start to the year”—as described by Arlington’s Mentoring Coordinator—also includes an initial mentor-beginning teacher meeting that occurs immediately following the summer session to begin collaborative lesson planning. Partnership-based residency programs have similar orientation offerings for beginning teachers who are about to enter the workforce as a teacher of record, including meetings with district-based mentor teachers—often program alumni—who serve as Induction Coaches.

Teacher development experiences are linked to the social context of the school community.⁷

Several studies have found that teachers prepared for the broader cultural context of the school community in which they will teach have higher retention rates⁸ and a positive effect on student achievement during their first year in the profession.⁹ All programs selected for this study offer induction experiences that provide new teachers with an understanding of the socio-cultural context surrounding their school building, including the learning needs of students and the socio-economic resources available in the school community. Arlington and Chelsea give beginning teachers the chance to learn about community social context through facilitated opportunities to meet with educators in their school and other schools, and conduct observations with a subset of these colleagues. The UTEP program facilitates observations at a variety of Chicago schools in order to help teacher candidates understand how academic culture varies across city schools, and to help them gain a better sense of common social issues and pedagogical challenges.

Induction and mentoring supports for beginning teachers include at least a half-day of mentoring per week for the full school year.¹⁰ Comprehensive induction programs sustained over teachers’ first two years in the profession can have a positive influence on teacher candidates’ job satisfaction, retention, and efficacy.¹¹ Research suggests that induction should be paired with effective mentoring practices that include formal, structured opportunities for routine classroom observation as well as informal opportunities for feedback and reflection.¹² Often, this is facilitated by shared common planning time for beginning teachers and mentors.¹³ All programs selected for this study include multiple touch points between mentors and beginning teachers. Mentors and new teachers in Chelsea meet for the equivalent of one prep period (45-60 minutes) per week. These meetings are focused on developing curriculum action plans that respond to common classroom challenges. Mentors and beginning teachers meet with district-level mentoring and content leads (i.e., Lead Mentors and content-area coaches) twice per month and have at least one discussion of pedagogical challenges and one content workshop in either math or English language arts (ELA).

In-district and partnership-based residency programs selected for this study also offer induction supports to beginning teachers including monthly professional development meetings, opportunities to participate in action research projects, and regular observation and debrief cycles. UTEP, for example, provides beginning teachers with one year of support from an Induction Coach, who meets regularly to discuss teachers’ professional goals and to provide critical guidance on common early career challenges. These Induction Coaches—former master teachers with a demonstrated record of competence—specialize in curricular and

pedagogical support during teachers' first year in the profession. First- and second-year teachers in Arlington meet for five days per year for intensive coaching in math and ELA. School-based mentors lead beginning teachers through a pre-briefing, observation, and debrief of a classroom lesson facilitate these sessions; this cycle of activities helps teachers translate professional development experiences into classroom practice. In addition, beginning teachers in Arlington are encouraged to engage in classroom observations across district schools; these experiences are facilitated by the mentor teacher, who provides each mentee with a list of exemplary teachers and who meets with beginning teachers to discuss these classroom observations.

Peer cohorts are an effective set of supports for new teachers.¹⁴ Beginning teachers often attribute high levels of professional growth to cohort support on areas such as student assessment, classroom management, and differentiated instruction.¹⁵ Studies have linked cohort support to positive outcomes regarding teacher retention, supervisor ratings, and teacher self-confidence.¹⁶ There is evidence that building strong networks among candidates during preparation, and extending into the first years as teachers, is particularly effective at reducing attrition and improving teacher effectiveness at high-needs schools. Both of the partnership-based residency programs and one of the in-district programs organize beginning teachers into peer cohorts. UTEP and BTR peer cohort groups meet weekly or monthly in seminars to discuss common pedagogical challenges. In Arlington, peer cohort groups are assembled during the second year of the mentoring program for secondary school teachers; beginning teachers present a sample lesson and provide feedback within this peer group. The peer groups are typically convened after-school as an opportunity to discuss common classroom issues, and are often facilitated by district curricular leads when particular content issues will be discussed.

Ongoing, formative feedback is critical to new teacher development.¹⁷ Previous research suggests that feedback to beginning teachers should be based on a variety of data sources, including classroom observations, teacher self-reflection, and impact on student learning.¹⁸ The BTR program, for example, provides feedback to teachers during two "Gateway" periods during teacher residency. During this time, teacher candidates prepare detailed portfolios to demonstrate professional learning and growth on key programmatic foci (e.g., teachers as life-long learners). Residents are also required to complete a Family Gateway, where they plan and lead a family meeting. As noted earlier, district-level evaluation is guided by the state's new system for teacher supervision and evaluation. Consistent with the new Massachusetts Educator Evaluation protocol, "beginner" teachers meet with mentors to establish so-called SMART goals, professional development goals that are Specific and Strategic; Measurable; Action Oriented; Rigorous, Realistic and Results Focused; and Timed and Tracked. District-based supervisors evaluate teachers at least once per year to determine progress towards identified goals.

Supports for Mentor Teachers

Mentors are carefully selected and assigned.¹⁹ A recent study on the quality of mentoring during new teacher induction posits the importance of carefully selecting mentor teachers.²⁰ Selection criteria for mentors identified in the literature include: years of teaching experience; professional licensure status; recommendations from supervisors; expertise in an area that is an identified school or district need; demonstrated teaching effectiveness; and commitment to collaborative learning.²¹ Both the in-district and partnership-based residency programs rely on principal referrals to choose mentors. All programs observe mentor candidates to ensure that their teaching style aligns with program goals and expectations for beginning teachers. BTR, UTEP, and Arlington also conduct interviews with prospective mentor teachers. BTR evaluates potential mentors according to their impact on student learning, and the program uses a rigorous review process that includes interviews and observation of teaching practice. Arlington and Chelsea match mentors based on content-matter expertise, a practice put forth by research as impactful on beginning teacher practice.²²

Mentors are well-trained and offered release time.²³ In recent research, mentor training has been linked to positive beginning teacher outcomes,²⁴ including persistence in the field,²⁵ as well as higher levels of student achievement.²⁶ Each district program provides regular professional development to teacher mentors. Chelsea participates in Project SUCCESS, which provides professional development to new district mentors.^A Currently, the district has three Lead Mentors—one each for the elementary, middle and high school levels—who oversee mentoring and mentor development at their school sites. Each partnership-based program in the study trains teacher mentors. Once identified, BTR mentors participate in one three-hour professional development experience each month. Often facilitated by external consultants, these sessions focus on building mentor capacity to address common challenges in teacher development. In addition, Arlington provides mentor teachers with release time from classroom duties for the five professional development days they spend with beginning teachers—what research stipulates as a critical support to mentors in being able to effectively support beginning teachers.²⁷

Program Costs

Research-based programmatic elements for supporting beginning teachers and training mentors emerge as common attributes to both district programs and partnership-based residency models in this study. With these common programmatic elements identified, the Rennie Center team developed cost estimates associated with each of the selected models to address two key questions for policymakers and district leaders:

1. What does it cost to provide a research-based program that supports beginning teacher development in Massachusetts?
2. What accounts for the differences in costs across program models?

The descriptive profiles of the four selected programs taken together with per participant cost estimates provide us with a range of options and associated costs for ensuring well-trained mentors who can provide supports for beginning teachers. A resource cost model approach was used to estimate the program costs associated with each of the four selected models; the Rennie Center team identified the “ingredients,” or resources, used by each of the programs to deliver the research-based components of their educator support programs (e.g., veteran teachers, coaches, administrators). Identified resources were organized into five program components culled from the research and common to each of the three models:

1. Mentor Selection
2. Mentor Professional Development
3. Beginning Teacher Induction Support
4. Teacher Evaluation (Ongoing, Formative Feedback)
5. Program Administration and Oversight

These five components provide a common framework for organizing resources across the four models. Within each of the program components, we identified specific activities (see Table 1). For example, beginning teacher induction in one program includes summer orientation meetings, a transition to teaching seminar, and monthly coaching from induction coaches. These activities comprise the “package” of resources provided during Year 1 for the “beginning teacher induction” component in that particular model. A dollar value was assigned to each resource according to their unit prices, or market price. Resource values were then annualized so that the resulting cost estimates reflect the total annual cost. In this study, all of the resources

^A Chelsea Public Schools participated in Project SUCCESS (School University Collaboration Committed to the Educational Success of all Students) as part of Race to the Top. The program is a graduate-level course that prepares teachers to become teacher mentors. Over a three-year period, 27 Chelsea teachers were trained to be mentors through Project SUCCESS.

used were personnel resources. To create comparable estimates, the team utilized statewide average salaries in Massachusetts. Using the most recent data available for teachers and school principals reflects a decision to present personnel costs that would be borne by a district interested in replicating program activities (see Appendix C).

As described above, programs—and their respective components—were selected based on their alignment with the research such as a focus on developing and supporting beginning teachers and potential for implementation in a district. It is important to note, then, that cost estimates do not reflect total operating costs for each of the four models;^B rather, only the resources and corresponding costs associated with the five identified program components were included in the cost analysis, and for which there is likely to be an associated cost.^C For each model, the value of identified resources were added together to estimate both the costs of the five program components, as well as total cost. The resulting cost estimates reflect the value of all the resources used by a given model to deliver program activities. This allows comparisons across sites both in terms of the types of research-based services provided and their corresponding costs. The specific resources included in the cost estimates for each program component are included in Table 1.

Finally, costs are also presented per participant, distinguishing between investments in different personnel. For example, activities focused on program mentors were estimated on a per mentor basis. Activities focused on beginning teacher support were estimated on a per teacher basis. Activities such as program oversight, which affect all program participants (e.g., mentors and beginning teachers), were estimated on a per participant basis.

^B Although we did draw on resources typically provided during the residency year, primarily professional development provided to mentor teachers, most of the resources comprising the residency (e.g., coursework, action research projects) were not included. Also excluded were voluntary activities during the induction years such as participation in an inquiry group alongside other program graduates.

^C For example, we did not include peer cohorts in cost estimates as these typically exist as a voluntary activity often facilitated by beginning teachers, or with little or no support from mentor teachers.

Table 1: Program Components included in resource cost estimates

		Residency-based Programs		District-based Programs	
		UTEP	BTR	Arlington Public Schools	Chelsea Public Schools
Mentor Selection	<ul style="list-style-type: none"> • Recruitment and selection of mentors through classroom observations, recommendations from school principals and interviews with staff • Recruitment and selection done by elementary and secondary Residency Instructors, approved by program director • All mentors must demonstrate content area expertise 	<ul style="list-style-type: none"> • Recruitment and selection of mentors through interviews and observations with interested faculty in a concentrated group of sites • Recruitment and selection done by Directors of Clinical Teacher Education • All mentors must demonstrate interest in improving as a teacher, a student as sense-maker mindset and focus on critical thinking 	<ul style="list-style-type: none"> • Selection of mentors through recommendations from principals, department heads and colleagues • Recruitment and selection done by program coordinator • All mentors must have attained Professional Teacher Status and must demonstrate content-area competency 	<ul style="list-style-type: none"> • Recruitment and selection based on recommendations from school principals as well as demonstrated teaching effectiveness 	
Mentor Professional Development	<ul style="list-style-type: none"> • Monthly professional development seminars for mentors as a group • Ongoing individual support for mentor teachers on a monthly basis 	<ul style="list-style-type: none"> • One full day or two half days of orientation during the summer • Weekly meetings with Clinical Teacher Educators (CTEs) and individual classroom mentors • Bi-monthly professional development seminars for mentors provided in their schools by CTEs or by external consultants 	<ul style="list-style-type: none"> • Three meetings of all mentors facilitated by the district Mentoring Coordinator who reviews the expectations for mentors and provides training based on latest research on beginner teacher development 	<ul style="list-style-type: none"> • One day training for beginner mentors provided by staff who have been trained previously in mentoring through Project Success at UMASS Dartmouth 	

Beginner Teacher Induction	<p>Year 1</p> <ul style="list-style-type: none"> • Summer orientation meetings prior to first school year • Transition to Teaching Seminar • Monthly First Year Induction cohort meetings • Induction coaches provide monthly coaching of first year teachers, including classroom observations, co-planning and debriefing lessons, looking at student work <p>Year 2 and 3</p> <ul style="list-style-type: none"> • Coaching staff provides regular monthly support with an eye towards preparing mentor teachers for the program over time 	<p>Year 1</p> <ul style="list-style-type: none"> • Summer planning meetings with Induction CTEs • Induction CTEs provide 4 coaching cycles per graduate including observations and pre- and post-observation meetings • Online professional development groups to address specific topics facilitated by recent grads and induction coaches <p>Year 2</p> <ul style="list-style-type: none"> • Induction CTEs provide up to 3 coaching cycles per graduate • On-line professional development groups 	<p>Year 1</p> <ul style="list-style-type: none"> • 3-day summer orientation that includes: one day of orientation to school- and district-level policies as well as two days of curriculum training and introductory meeting with teacher mentors • Elementary school teachers participate in five observation cycles each year, receive intensive training in math and ELA, and conduct observations of exemplary teachers. • Middle and high school teachers participate in monthly collaborative planning meetings that comprise no fewer than 15 hours total over the course of the school year. <p>Year 2 (elementary and special education teachers only)</p> <ul style="list-style-type: none"> • Elementary school teachers participate in five observation cycles each year, receive intensive training in math and ELA, and conduct observations of exemplary teachers. • Special education teachers (middle and high school) participate in monthly collaborative planning meetings that comprise no fewer than 15 hours total over the course of the school year 	<p>Year 1</p> <ul style="list-style-type: none"> • 3-days summer orientation that includes introduction to the district mentoring program, city tour of Chelsea, overview of contract guidelines, time to set up classrooms, and an introductory meeting with teacher mentors • Weekly meetings with mentors that are roughly equivalent to one prep period (45-60 minutes) per week. Teachers also receive one hour of content specific professional development each month facilitated by math and ELA coaches
Teacher Evaluation^D <i>On-going Formative Feedback</i>	<ul style="list-style-type: none"> • Bi-monthly formative feedback sessions from Residency Instructors • Two formal meetings with Residency Instructors to review progress and develop goals and action plans 	<ul style="list-style-type: none"> • 2 performance projects per year (Gateways) led by CTEs and CTE Directors • Formative feedback from CTEs based on four Gateway practice sessions 	<ul style="list-style-type: none"> • As per the ESE educator evaluation system, beginner teachers complete at least one evaluation cycle each year, as outlined in the state's supervision and evaluation regulations 	<ul style="list-style-type: none"> • As per the ESE educator evaluation system, beginner teachers complete at least one evaluation cycle each year, as outlined in the state's supervision and evaluation regulations
Program Admin. & Oversight	<ul style="list-style-type: none"> • Overall program oversight • Oversight of clinical instructors and program directors • Program evaluation 	<ul style="list-style-type: none"> • Overall program oversight • Supervision of CTEs • Program evaluation 	<ul style="list-style-type: none"> • Overall program oversight • Program evaluation 	<ul style="list-style-type: none"> • Overall program oversight • Program evaluation

^D Cost estimates for teacher evaluation/candidate feedback are provided in the appendix for UTEP and BTR. Comparable data are not available for the district programs.

Table 2 below provides total program costs per participant for comparable components across the four programs selected for the study.^E For the 2013-14 academic year, costs ranged from \$4,477 to \$23,413 with the induction and mentoring program provided by Chelsea Public Schools being the least costly program and the BTR program the most costly. Per participant costs at UTEP for the most recent school year were somewhat lower than BTR at \$22,187. As discussed in more detail below, these costs are driven both by the amount and frequency of program activities and the number of participants in each of the programs. In addition, the programs vary in the number of years for which support is provided to beginning teachers, and although costs are annualized, these additional resources contribute to the overall per participant costs. In the 2013-14 school year the UTEP program supported teachers who were in their first three years of teaching, the BTR and Arlington Public Schools supported teachers in their first two years of teaching and the Chelsea Public Schools supported teachers in their first year of teaching.

Table 2: Per Participant Resource Cost Estimates (2013-14 School Year)

	UTEP	BTR	Arlington Public Schools	Chelsea Public Schools
Resource Costs				
2013-14 Per Participant Resource Cost ^F	\$22,187	\$23,413	\$13,696	\$4,477
2013-14 FTE Number of Mentors	36 ^G	44	31	36
2013-14 Number of Teacher Candidates	36	70	—	—
2013-14 Number of New Teachers Supported	108	60	40	83
By Program Components				
Mentor Selection (per mentor)	\$146	\$327	\$79	\$0
Mentor Professional Development (per mentor)	\$15,670	\$12,339	\$456	\$613
Induction Support for New Teachers (per teacher)	\$5,038	\$8,587	\$12,776	\$3,743
Program Administration & Oversight (per participant)	\$1,333	\$2,159	\$385	\$121

As shown in Table 3, the distribution of resources across program models differs. In the partnership-based residency programs, the largest share of program costs across the five components included here is dedicated to *mentor professional development*. In the district programs, the vast majority of resources are spent on *induction support for beginning teachers*. This difference makes sense given the nature of the two types of programs described here. That is, a key mission of the residency programs is to provide high quality experiences for teacher candidates with well-trained mentors, while the overarching goal of the district induction programs is to support beginning teachers during their first few years of teaching.

^E Because activities associated with required teacher evaluation in the district programs differ substantially from the types of activities engaged in to provide formative feedback to teacher candidates in the residency programs, the costs for the two types of programs cannot be fairly compared. We describe the activities here for information purposes, and in Appendix D, we provide resource cost estimates for this component for the two residency programs.

^F Program participants include both teacher candidates and mentors.

^G UTEP's program includes 2 half-year placements per school year for candidates, totaling 72 mentors at .5 FTE each.

Table 3: Distribution of Total Program Costs by Program Component (2013-14 School Year)

Program Components	UTEP	BTR	Arlington Public Schools	Chelsea Public Schools
Mentor Selection	1.2%	1.1%	1.2%	0%
Mentor Professional Development	62.7%	40.6%	6.8%	13.7%
Induction Support for New Teachers	20.2%	37.3%	79.0%	83.6%
Program Administration & Oversight	16.0%	21.0%	13.1%	2.7%

Note that the costs for *mentor professional development* include both the program resources devoted to professional development for mentors and the participation costs for mentors themselves. For this component, the per mentor costs vary quite a bit ranging from a low of \$456 in Arlington, to a high of \$15,670 for UTEP. The per mentor cost for this component for BTR is substantially lower than UTEP at \$12,339, in part because of the number of mentors included in their program in 2013-14. As reflected in Table 1, differences in costs are driven primarily by the frequency and intensity of the professional development provided. The district costs for this program are low because in-district program mentor teachers do not have the same opportunity to participate regularly with professional development providers as do mentor teachers in the partnership-based residency programs.

The per participant and corresponding share of total costs for the other program components also varies across the four program models. *Mentor selection* costs range from a low of \$0 in Chelsea and \$79 in the Arlington Public Schools, to a high of \$327 in BTR. Across the programs, however, the share of total program costs for this component is very similar—1.2 percent for UTEP and Arlington and 1.1 percent for BTR. Factors influencing mentor selection costs include the personnel involved and the breadth of the recruitment activity. Costs are limited because all of the programs have been operating for some time and have well-developed networks for identifying good candidates who can serve as high-quality mentor teachers. In addition, the programs also have a cadre of mentors that they have been working with for multiple years; partnership-based residency programs in particular cultivate graduates from their programs who can serve as mentors. Similarly, in Chelsea, recommendations from principals are accepted and many mentors participate year after year. Thus, limited resources are required to recruit and select mentor teachers for these programs.

Participant costs for *induction support for beginning teachers* varies rather substantially across the programs, ranging from \$3,743 in Chelsea to \$12,776 in Arlington. Not surprisingly, even though there is a difference of nearly \$10,000 between them, the two district induction programs devote the vast majority of program resources here (79.0 percent per beginning teacher in Arlington and 83.6 percent in Chelsea). While partnership-based residency programs spend less on new teacher induction, their financial commitment is still substantial. The number of program activities provided, and the intensity of those activities coupled with the length of time that beginning teacher candidates are supported drive differences in the costs of induction supports. Like the two partnership-based residency programs, Arlington Public Schools supported beginning teachers who were in their first and second year of teaching. Although plans are in the works to expand the program in Chelsea Public Schools across two years, the current program supports teachers for just one year, which contributes to the lower per participant costs for that program.

The partnership-based residency models dedicate a significant amount of time and resources to *ongoing evaluation of teacher candidates*. Appendix D details the costs of the activities that are a part of the BTR and UTEP models. Participants in the district programs receive feedback, and a formal evaluation, as part of the state-wide Education Evaluation system developed by ESE currently being implemented by districts. Given

that evaluation operates a separate district system from the mentoring and induction program, we did not include details on educator evaluation activities.

Program administration and oversight varies somewhat across the four programs on a per participant basis. The public school programs that are part of the overall district infrastructure range from \$121 in Chelsea to \$385 in Arlington, where there is a dedicated program coordinator (part-time). In the partnership-based residency programs, which encompass more than just induction activities, per participant costs for this component are \$2,159 for BTR and \$1,333 for UTEP.

Policy Considerations

For State Leaders

Update Massachusetts' Guidelines for Induction Programs. The Massachusetts Department of Elementary and Secondary Education (ESE) provides a valuable resource with its Guidelines for Induction Programs, offering districts research-based strategies for developing and implementing induction programs for beginning teachers.^H The guidelines describe suggested approaches to beginning teacher orientation; mentor selection, training, and assignment; core mentoring activities and beginning teacher evaluation, as well as set expectations for program participation. And while the content largely remains relevant, the document has not been updated since its publication in 2001. Due to the changing landscape of educator licensure, supervision, and evaluation, there is an opportunity to revisit the guidelines to ensure their alignment with current policy and practice. Furthermore, the updated guidelines could include increased specificity about recommendations for: the quantity of mentor/mentee interaction; adequate release time for both mentors and beginning teachers; the duration of induction and mentoring experiences; and the use of ongoing, formative evaluation of beginning teachers.

Publish information about district induction programs. According to state regulations, each year ESE collects data about districts' induction programs, including: program activities; number of beginning teachers served; number of trained mentors; number of classroom observations made by mentors; number of hours of mentor/beginning teacher interaction; and hiring and retention rates for beginning teachers. Teacher hiring and retention rates would be valuable additions to the publicly-reported School/District Profiles, while the programmatic information could be linked with the Guidelines for Induction Programs, and/or other resources for districts related to induction and beginning teacher development. These data can help both districts and teacher preparation programs identify areas of need and gaps in services, as well as exemplary practices that can be replicated across the state. And by making these data accessible, ESE would serve as a knowledge hub for induction practices across the Commonwealth.

Align guidelines and resources for induction with the educator evaluation frameworks and supporting resources. The regulations for educator evaluation adopted by the Board of Elementary and Secondary Education in June 2011 articulate a framework for evaluation and professional development of Massachusetts educators. The purpose of the evaluation framework is to enhance educator quality and practice in service of promoting increased student learning and achievement. Recognizing the differentiated needs and competencies of new educators, the regulations stipulate a specific type of Educator Plan be created for teachers who have not yet obtained Professional Teacher Status: the Developing Educator Plan.^I At the heart of the educator evaluation system—and Educator Plans in particular—are many of the same concepts that are central to effective induction programs: continuous reflection, ongoing observation, and frequent feedback. There seem to be ample opportunities to link effective practices for induction to the

^H The guidelines also cover induction programs for administrators.

^I The Developing Educator Plan is also used for administrators in the first three years in their district, and, at the discretion of the evaluator, for educators in new assignments.

development and implementation of Developing Educator Plans, and to strengthen recommendations on adequate feedback for beginning teachers in the process. ESE should encourage districts to think about the relationship between educator evaluation and induction; for example, there likely are roles that mentor teachers can play in a Developing Educator Plan that are currently underdeveloped in ESE guidance.

Providing incentive for deeper collaboration and partnerships between institutions of higher education and districts. Districts and non-profit organizations that wish to incorporate residency programs into teacher preparation often benefit from working with degree-granting institutions to ultimately confer a credential. The resulting triad can have a complex relationship due to widely varying norms, practices, and procedures. The relationship often proves particularly tenuous when the college or university partner is brought into the fold after the residency program already has been largely developed. A more effective strategy might be to encourage institutions of higher education to seek out partners and engage in collaborative program development. Grant funding opportunities are one way to support this work; another is to broker introductions between potential partners through convenings and networking sessions. The Readiness Centers, established by the Executive Office of Education in 2009, purport to serve as collaborative structures “focused on improving the quality of teaching...across the education continuum.”^J Further, one of their two core functions is to serve as conveners for the purpose leveraging resources and building statewide capacity around educator development. As such, the Readiness Centers seem like a natural thought partner for districts in enhancing their induction programs through partnerships, and can go a step further in terms of connecting districts with resources and potential partners to assist them in implementing their plans.

For District Leaders

Utilize existing resources for training mentors. Developing the skills and efficacy of mentors is critical to providing valuable support to beginning teachers. While some districts may have already honed their mentor training programs, others may lack the resources or capacity to develop and run the types of training for mentors proven to maximize their effectiveness. Districts should seek opportunities to share ideas and learn from one another, rather than build mentor training and professional development programs from scratch. Educational collaboratives or the regional Readiness Centers could facilitate these types of networking/learning opportunities—with additional funding from the state to do so. There are also organizations that focus on mentor training, such as Project SUCCESS based at the UMASS Dartmouth, which works with districts to train mentors to both work with beginning teachers and to train other veteran teachers to become effective mentors.

Explore the feasibility of a summer residency for beginning teachers. For most school districts, partnership-based residency programs, as outlined in this brief, are not feasible. However, a “mini-residency” conducted over the summer could provide many of the benefits of a full residency on a condensed scale and shortened timeline. For example, by participating in summer programs, beginning teachers would have opportunities to become acclimated with school culture and students, observe veteran teachers’ practice, and receive feedback on their own practice before they take the helm in their own classrooms. Coupled with comprehensive orientation programs, summer residencies can solidify the foundation upon which beginning teachers launch their service.

Create facilitated cohorts for the first two years of teaching. Formalizing the relationship among beginning teachers in a school or district through cohorts led by veteran teachers serves not only to increase the support and resources available to new teachers, but also to incorporate other effective induction strategies into their first years in the classroom. Ideally, peer cohorts would meet with their facilitator at least once a month to engage in common planning, reflection, and feedback.

^J For more information, see: <http://www.mass.gov/edu/docs/legislation-policy/readiness-ctr-initiative.pdf>

Explore opportunities for residency and induction partnerships. As noted throughout this brief, many of the induction and mentoring practices highlighted in the literature and the selected programs would not be easily replicated in school districts. However, a number of Massachusetts public school districts have their own residency programs that prepare and support teachers. For example, Newton Public Schools has implemented its own residency program operated entirely by the district. While residency programs can be resource-intensive to implement, Massachusetts is home to a number of institutes of higher education, non-profit organizations, and regional entities that are already doing—or are poised to do—the types of residency and induction programs that effectively support beginning teachers. Further, many of these organizations have the capacity to partner with several districts, which can potentially ease the resource burden.

Conclusion

Massachusetts—as part of the national policy landscape—has made dramatic improvements in recent years to set standards for teacher performance. With new criteria defined for educator milestones like professional licensure status, it is critical that current policy conversations focus on comprehensive supports for teachers to meet these new professional milestones. Teacher induction presents a high-leverage, low-cost area for innovation. Underutilized across the state, teacher induction and mentoring offerings can improve beginning teacher retention and effectiveness. Perhaps most overlooked currently are the systematic opportunities to identify and train effective educators to serve as mentors, and support the work of new teachers as they begin their professional careers in Massachusetts school districts. Creating a professional pathway to mentor teacher status establishes—and expands—the notion of a professional continuum for teacher growth. By implementing the recommendations above, the Massachusetts Department of Elementary and Secondary Education and districts can expand the learning opportunities available to teachers in the early career, and support the continuing, professional growth of experienced educators.

Appendix A: Brief Program Profiles of Selected Teacher Induction and Mentoring Programs

Arlington Public Schools- Teacher Induction Program

www.arlington.k12.ma.us/home/

Background

The Arlington Public Schools (APS) provides all new teachers with a robust induction program that includes: a summer orientation, regular one-to-one support from an experienced educator and professional development experiences targeted to teacher learning goals. APS supports all elementary and special education teachers for their first two years in the district, while secondary level teachers receive one full year of support. Uncommon in the state, the district has hired a part-time Mentoring Coordinator to oversee all aspects of district mentoring and induction.

Program Structure

Summer Orientation. Serving as a launch to the district mentoring program, APS conducts a comprehensive 3-day orientation that provides new teachers with opportunities to meet with their mentors and includes everything from intensive curriculum training to an overview of teacher contract guidelines. Like all aspects of the APS mentoring program, the summer orientation is designed and facilitated by the district's Mentoring Coordinator. Over the course of three days, more than 30 district- and school-level stakeholders provide orientation to a wide menu of topics, including union policies/procedures, the use of instructional technology, payroll information and health benefits. Days one through three are devoted to curriculum training, facilitated by department heads or, in some cases, internal curriculum specialists. While elementary teachers review curriculum and assessments in all main subject areas, secondary-level teachers focus intensively on their particular content area.

New Teacher Induction. During the 2013-2014 school year, 31 mentors supported 40 new teachers—19 special education and general education teachers at the secondary level and 21 at the elementary school level. While general education teachers at the secondary level receive one year of induction support, all other teachers are supported for two years.

- **Elementary-Level Teachers:** Special education teachers at the elementary level are supported in a unique structure: in their first year, special education teachers work with general education mentors; in their second year, they transition to working with a special education mentor. This structure has allowed the district to align the general education and special education support services offered to students.

Over the course of the year, teachers participate in five days of professional development in English language arts (ELA) and math. First- and second-year teachers meet in cohort groups, which are facilitated by school-based mentors. In addition to participating in content training, cohort groups conduct focused classroom-observations in district schools. Beyond the five days of professional development, new teachers at the elementary level are encouraged to observe exemplary teachers across the district.

- **Secondary-Level Teachers:** At the secondary level, mentors and new teachers meet monthly on a one-to-one basis. Typically, mentors present a proposed lesson, and the mentor assists with collaborative planning and lesson design. Although mentors are required to meet each new teacher for at least 15 hours per year, it is common for mentors and new teachers to spend much more time working with each other over the course of the school year.

Boston Teacher Residency

www.bostonteacherresidency.org/

Background

Founded in partnership with the Boston Public Schools (BPS) district, the Boston Teacher Residency (BTR) prepares cohorts of 70-80 teacher candidates each year to fill high-needs positions in partnering district and charter schools. During a one-year residency, teacher candidates receive intensive mentoring support from program- and district-based mentors while participating in graduate coursework at the UMASS Boston. Following a residency year, teachers receive two years of induction supports from BTR staff. All BTR graduates enter formal commitments to teach for 3 years in a partnering public or charter school, and over 80 percent of BTR graduates remain in teaching beyond the original 3-year commitment.

Program Structure

Year 1: Teacher Residency. During the summer before teachers begin fieldwork in a local public or charter school, residents participate in an 8-week orientation, which includes an introduction to program logistics as well as an official launch to residents' graduate-level coursework. Once matched to fieldwork placements, residents receive a diverse array of professional supports, including:

- **Mentoring from a District-based Cooperating Teacher:** During the residency year, teacher candidates work with district-based Cooperating Teachers four days per week. Residents are clustered in schools according to grade level or subject area in order to provide teacher candidates with the support of a collaborative mentoring environment. In addition to modeling effective classroom practices, Cooperating Teachers are responsible for engaging in regular planning meetings with residents and in helping to evaluate teacher candidate growth.
- **Mentoring from a Program-based Clinical Teacher Educator:** Clinical Teacher Educators (CTEs) play a major role in supporting teacher candidates during their residency year. Because this role is central to teacher development, BTR seeks Master Teachers with at least ten years of teaching experience as well as deep knowledge of content and pedagogy. CTEs lead the instruction and coaching of BTR residents. Throughout the residency year, CTEs act as instructional leaders for residents, meeting with them regularly to set learning goals and monitor candidates' growth as educators. Additionally, CTEs conduct formal evaluations of teacher candidates at various "gateways" throughout their experience in the program.
- **Graduate Coursework aligned with Field Experiences:** To ensure that coursework is closely aligned with residents' experiences in the field, CTEs also lead graduate-level seminars on curriculum and instruction. Coursework is organized into topic areas (i.e., "guided reading") that track alongside residents' experiences in the classroom. Additionally, course assignments are heavily-rooted in the Boston social context, often requiring that residents conduct critical analysis of how socio-economic factors influence student learning. Following completion of all course assignments, residents earn a Massachusetts Initial Teaching License as well as a Masters in Education from the UMASS Boston.

Years 2-3: Placement and Induction. Starting in candidates' residency year, BTR staff monitor placement opportunities for graduates, and, during the summer after residency, BTR's Director of Placement and Alumni Relations helps to locate job opportunities for graduates. Over 95% of graduates find jobs in BPS. During the summer before the school year, residents complete graduate coursework and meet with Induction Coaches to plan for the upcoming school year.

- Following placement, BTR Induction Coaches observe, reflect and offer feedback with graduates in the form of Collaborative Coaching and Learning cycles, which consists of four one-on-one meetings around a particular lesson or curriculum unit. Induction Coaches typically conduct four Collaborative Coaching and Learning cycles per year with BTR graduates in their first or second years in the profession. Additionally, BTR graduates have access to an online professional development network that is facilitated by peers and Induction Coaches.

Chelsea Public Schools- Teacher Induction Program

www.chelseaschools.com/cps/

Background

The Chelsea Public Schools (CPS) supports all new teachers with one full year of one-to-one mentoring that includes: a summer orientation, weekly mentor meetings, and monthly professional development in ELA and math. As part of Race-to-the-Top, CPS participated in Project SUCCESS (School University Collaboration Committed to the Educational Success of all Students), a graduate-level course that prepared teachers to become teacher mentors. Over a three-year period, 27 CPS teachers were trained through Project SUCCESS. Using a Train-the-Trainer model, those teachers now spearhead district-wide efforts at teacher induction. The district Assistant Superintendent oversees all aspects of the district mentoring program.

Program Structure

Summer Orientation. With support from a wide array of stakeholders, CPS conducts a comprehensive 3-day orientation during the summer before new teachers start in the district. During the first day, program coordinators provide an overview of the special education, ELL, STEM and literacy support services offered to district students. Additionally, union representatives review contract guidelines with teachers, and the superintendent and school principals review district- and school-level policies and procedures. New teachers also receive orientation to the district's induction program, conducted by the mentoring coordinator. Following these presentations, all new teachers participate in a city tour of Chelsea that highlights city/school community context. On the second day, teachers have time to set up their classrooms and to meet with mentors. Meanwhile, the final day is reserved for principals to provide targeted professional development in school-based initiatives, such as Response to Intervention or Understanding by Design.

New Teacher Induction. The mentoring and induction program in CPS includes multiple and overlapping touch-points for teacher development. The district Assistant Superintendent oversees the work of three Lead Mentors, one each at the elementary-, middle-, and high-school levels. Trained by Project SUCCESS, Lead Mentors draw from the project's curriculum and activities when working with school-based mentors. Additionally, Lead Mentors review logs of all mentoring meetings conducted at their school site and intervene when necessary to provide supplemental support either to the mentor or to the beginner teacher. In some cases, Lead Mentors work directly with new teachers.

In the 2013-2014 school year, 36 mentors worked with 83 new teachers across the district. Typically, each mentor worked with two to three new teachers, meeting weekly for at least 45-60 minutes. During these meetings, teachers review student work and develop curriculum action plans. Additionally, Lead Mentors facilitate 90-minute monthly meetings with mentors and new teachers. Lastly, at the elementary level, ELA and math coaches provide one 60-minute workshop each month of targeted professional development in ELA and math. Meanwhile, at the secondary level, teachers participate in content-specific professional development during early release days or in the context of professional learning communities; however, these experiences are not restricted to new teachers.

University of Chicago—Urban Teacher Education Program

www.utep.uchicago.edu/

Background

Operated with major support from the University of Chicago Urban Education Institute, the Urban Teacher Education Program (UTEP) is a 5-year program that supports teachers from pre-service development through their first three years in the profession. The UTEP program offers three certification pathways: Elementary Education; Secondary Biology; and Secondary Mathematics. Each year, the program supports cohorts of about 40 prospective teachers, divided roughly evenly among elementary and secondary certification pathways. All graduates receive a Masters of Arts in Teaching (MAT) degree from the University of Chicago as well as three years of induction support from UTEP staff and alumni. Due, in large part, to the comprehensive support offered to teachers, 90 percent of UTEP graduates remain in Chicago Public Schools, or other urban districts, five years after graduation.

Program Structure

Year 1: Foundations Year. Teacher candidates engage in coursework and fieldwork opportunities in four distinct areas of professional growth:

- **Academic Strand:** Teachers engage in subject-area and methods coursework.
- **Fieldwork Strand:** Candidates are grouped in content-specific cohorts to conduct 12 observations at a variety of Chicago Public Schools and Chicago Charter Schools.
- **Tutoring Strand:** Candidates tutor three students per year in an afterschool program on a campus of the University of Chicago Charter School.
- **Soul Strand:** Prospective teachers engage in multi-media explorations of their developing teacher identity and of the ways that socio-economic factors influence student learning.

Year 2: Residency. Teacher candidates become residents at nearby Chicago Public Schools or a partnering Chicago charter school while continuing MAT coursework. During residency, prospective teachers receive direct mentoring from Residency Instructors, UTEP staff who observe student teaching experiences and teach graduate coursework, as well as Clinical Instructors, district-based mentors who host residents in their classrooms four days per week. Residents are offered a variety of placement opportunities throughout four seasonal quarters:

- **Summer 1 (July-August):** Residents are assistant teachers in five-week summer school programs.
- **Fall, Winter, and Spring Quarters (August-June):** Residents engage in two, half-year placements each at a partnering University of Chicago charter school and at a Chicago public school. During the Fall-Spring quarters, residents work with clinical instructors Monday through Thursday each week while participating in graduate coursework each Friday.

Years 3-5: Placement and Induction. Following successful completion of teacher residency, UTEP graduates receive placement and induction support to help ease the transition into a local Chicago public or charter school. Placement support begins in the summer following teacher residency, when prospective teachers complete all MAT coursework and engage in a Transition to Teaching seminar that focuses on final preparations for entry into Chicago Public Schools. Once teacher of record, UTEP offers graduates the following induction supports:

- One year of support from UTEP Induction Coaches
- Two years of support in the context of collaborative inquiry groups composed of UTEP alumni
- Monthly First Year Induction Meetings, organized by cohort
- Quarterly events and workshops offered by the Urban Education Institute
- An online professional community for common questions and peer feedback

Appendix B: An Overview of Study Methods

The Rennie Center team initiated this work by attempting to identify both in-district programs and partnership-based residency models that most closely mirrored the research-based recommendations for beginning teacher induction and mentoring. The Rennie Center team chose to highlight two partnership-based residency models: the University of Chicago Urban Teacher Education Program which combines pre-service preparation and in-district training and the Boston Teacher Residency program offering a post-baccalaureate route to the teaching profession. The team then selected two districts recognized for their effective, research-based approaches to new teacher induction: Arlington Public Schools and Chelsea Public Schools.

Data collection and analysis

Once sites were selected, the Rennie Center team conducted 75-90 minute interviews with leaders at each of the four programs. The team paid particularly close attention to program structures for teacher induction and mentoring; to each program's goals for teacher growth; and to specific practices used to support teachers in their early career. The team then compared these program model components to research-based practices identified in the literature scan. Through this process, we sought to identify how the sometimes-broad recommendations from the research are operationalized in the day-to-day work of public education. Ultimately, the team chose to distill and highlight research-aligned program components and practices that have the potential to improve most districts' approach to beginning teacher induction and mentoring.

Next, the Rennie Center team constructed detailed resource profiles that described the personnel and non-personnel resources associated with each relevant program component. A resource cost modeling (RCM) framework was used to identify these resources. Specifically, RCM applies an economic lens to educational program costs by first identifying, from the "bottom up," all of the resources used to provide a service or program (e.g., mentors) and then assigning dollar values to these resources.²⁸ The strength of this approach lies in its ability to clearly articulate resources used by a program to estimate the fiscal, or monetary, costs associated with program operations in a way that other districts interested in replicating the selected models may apply.²⁹ To do so, RCM calls for enumerating all of the resources used by a program to produce observed effects and then assigning a dollar amount to these same resources.³⁰ The list of ingredients specified depends on the nature of the district's programmatic approach. Given the study's focus on teacher induction and mentoring, resource profiles and corresponding cost estimates reflect the personnel resources associated with supporting beginning teachers, including costs associated with training and supporting veteran teacher mentors. In order to standardize program model costs, all estimates are based on the state teacher salary scale; additional details are presented in the Program Costs section and Appendices A and C.

Study Limitations

As part of the analysis conducted for this study, the Rennie Center team selected practices found to be common across selected partnership-based residency models and in-district programs that are also aligned to the research base. However, there are a number of limitations to the conclusions that the Rennie Center team was able to draw based on the program and cost data collected for this study. Two of the models examined offer residency experiences to teacher candidates, which includes graduate coursework towards a master's degree. Clearly, many elements of a residency program will not be appropriate for districts to offer new teachers. For example, it would be unreasonable to recommend that districts offer residency experiences for all new hires, or to presume that most districts can easily partner with an institute of higher education to offer degree-oriented coursework. Further, it was not the goal of this study to determine the extent to which reported program data represented fidelity to the model, or to capture the variation that is likely to exist as these programs are implemented across several districts, and administered by public school districts, universities, and non-profit organizations.

Appendix C: Resource Values

Table 4: Resource Values Used in Calculations of Cost Estimates

Personnel	State Average Salary	State Average Salary with Benefits*	Information Source
Licensed Teachers	\$70,962	\$91,896	Massachusetts Department of Elementary & Secondary Education: http://profiles.doe.mass.edu/state_report/teachersalaries.aspx
School Principal	\$111,600	\$143,964	http://nces.ed.gov/surveys/sass/tables/sass1112_2013311_d1s_010.asp

* Assumes a benefit rate of 29.5%

Appendix D: Teacher Candidate Feedback Activities

Table 5: Per Participant Resource Cost Estimates for Residency Programs, including Candidate Feedback Activities (2013-14 School Year)

Resource Costs	UTEP	BTR
<i>Resource Costs</i>		
2013-14 Per Participant Resource Cost ^K	\$23,719	\$33,556
2013-14 FTE Number of Mentors	36 ^L	44
2013-14 Number of Teacher Candidates	36	70
2013-14 Number of New Teachers Supported	108	
<i>By Program Components</i>		
Mentor Selection (per mentor)	\$146	\$327
Mentor Professional Development (per mentor)	\$15,670	\$12,339
Induction Support for New Teachers (per teacher)	\$5,038	\$8,587
Teacher Evaluation (per teacher)	\$1,532	\$10,143
Program Administration & Oversight (per participant)	\$1,333	\$2,159

Substantial differences exist in the resources the two partnership-based residency programs devote to the *teacher evaluation* component. Again, cost differences are a result of the intensity and corresponding personnel time required by the activities associated with each program's approach. While both programs are committed to providing ongoing formative feedback to teacher candidates during their residency year, BTR provides intensive coaching to residents for an extended period of time twice during the residency period in preparation for two performance projects (Gateways). This is in addition to the regular formative feedback activities characteristics of the UTEP program.

^K Program participants include both teacher candidates and mentors.

^L UTEP's program includes 2 half year placements per school year for candidates, totaling 72 mentors at .5 FTE each.

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