Examining Systems of Student Support

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ABSTRACT

Virtually all elementary schools extend their activities beyond regular classroom instruction through varying approaches to and levels of supplemental support. These services are intended to support student learning and may be provided within the school or via referrals to external organizations in the community. While supporting the comprehensive needs of students is a common goal in today's schools, little is known about the degree to which schools are assessing, addressing, and monitoring the needs and progress of students. City Connects is a program that fosters student success by addressing the comprehensive strengths and needs of all students within a school. In a previous report, the costs and benefits of the City Connects program were evaluated (Bowden et al., 2015). The report found that the benefits of the program exceeded the costs. Additionally, the report showed that the portion of costs financed by schools was roughly 10% of the total costs of the program. A limitation in the evaluation was uncertainty about the extent of resources that would be allocated to student support in the absence of City Connects.

This report addresses that limitation by focusing on schools that do not have a formalized and systematic approach, like City Connects, to comprehensively address student needs. One finding is that the costs of administrative time spent on student support services in non-program schools are relatively greater than in City Connects schools. These costs are largely related to assessing student needs and in attempting to establish a school-wide approach. However, these higher administrative costs represent a small share of the overall costs of providing comprehensive student support services and of the total costs of school.

We find non-program schools are not utilizing community-based services as they would if City Connects was part of the school's approach. There are two major findings of this study that reinforce the original economic evaluation of City Connects. When City Connects is adopted, schools are able to reduce administrator time by relegating much of the burden of assessing, addressing, and managing comprehensive student needs to the City Connects Coordinator. Additionally, adopting an approach like City Connects allows the school to more fully integrate student support within the school's community and to leverage access to community-based services for students that would not otherwise have been available. The conclusion of the initial report, that the economic benefits of City Connects outweigh the costs of the program, is further supported empirically with more precision.

Keywords: Comprehensive Student Support Services, Student Support Teams, Benefit-Cost Analysis, Incremental Cost Estimation

CONTENTS

1. INTRODUCTION

Students come to school with a diverse range of strengths and needs that extend well beyond the traditional academic mission of formal schooling. There is growing evidence that out-of-school factors, such as physical and mental health, family support, and social and emotional development, significantly affect student learning (Berliner, 2009). Such challenges include health issues (Basch, 2011), trauma (Porche, Fortuna, & Alegria, 2011), hunger (Alaimo, Olson, & Frongillo, 2001), and homelessness (Fantuzzo et al., 2012). Poverty also affects student learning through lack of access to resources (Dearing & Taylor, 2007), higher levels of stress (Conger & Conger, 2008), and unpredictable systems of support (Dearing, 2008; Rothstein, 2010). These challenges have manifested themselves in a widening income achievement gap, even as the racial achievement gap has slightly narrowed in recent years (Reardon, 2011). Without attention to these non-school influences that affect learning, schools are limited in their effectiveness when constrained only to instructional strategies.

To address the challenges related to poverty, schools are being charged to serve as a focal point in providing and coordinating support services for students and their families (Adelman & Taylor, 2002; Dryfoos, 2002). Governmental and community-based agencies are also increasingly working together with schools to support students and families (Henig, Riehl, Rebell & Wolff, 2015). Schools today typically provide some student support programs that supplement traditional classroom instruction in the areas of physical education and health, counseling, and other extracurricular activities. However, in many schools these support services are provided in fragmented ways that do not address the needs of all students or engage teachers in connecting these services to the academic mission of the school (Walsh & DePaul, 2008).

An emerging school-based model, broadly termed "comprehensive student support" (Walsh et al., 2016), is designed to overcome such fragmentation. This model systematically integrates student support into the everyday business-as-usual practices of providing schooling. Areas of support include physical and mental health, expanded learning time inside and outside the school, positive school climate, opportunities for parent education and family counseling, and social services for families in need (Moore et al., 2014). One common feature of the model is that services are typically provided through partnership with institutions in the community with different specialization in one or more of these areas. The model coordinates the needs and services through the use of assessment to identify areas of needs and periodic reviews of student progress. Models referred to as "integrated student support," "wraparound services," "community schools," or "collective impact" all refer to slightly different versions of the same model (Dryfoos, 2002; Moore et al., 2014). The applications of these school models are nationwide. For example, the New York City Department of Education recently has embarked upon an ambitious program to establish 100 community schools to address the consequences of poverty (Johnston, Gomez, Sontag-Padilla, Xenakis, & Anderson, 2017).

One leading program of comprehensive student support is the City Connects program designed by Boston College faculty and staff and implemented in the Boston Public Schools since the 2001-2002 school year. The program's mission is to support the needs and strengths of students in the areas of academic, social/emotional, family, and health domains by connecting students with an individualized set of services. City Connects also helps schools connect with community-based organizations and service providers in the four domains and facilitate an efficient referral process. The heart of City Connects' theory of change is the use of Coordinators (formerly termed School Site Coordinators) at each program site who work closely with teachers to assess the strengths and needs of every student and connect students with appropriate services (City Connects Progress Report, 2014).

Existing research on City Connects shows that the program improves student outcomes. Outcomes explored include academic achievement, social and emotional outcomes, health knowledge and behaviors, and high school completion (Boston College Center for Optimized Student Support, 2014; Walsh, et al., 2014a; 2014b). More recently, a benefit-cost analysis of City Connects (Bowden et al., 2015) found that the program is a worthwhile social investment in which the economic

benefits outweigh the costs. However, there remained some uncertainties as to the magnitude of the benefit-cost ratio—the ratio of program benefits to program costs—due to methodological complexity.

Our main motivation for this report is to address this uncertainty; that is, the gap in knowledge as to how schools organize student support services without an overarching framework such as the City Connects program. Cost estimation under the ingredients methods framework (Levin, McEwan, Belfield, Bowden, & Shand, 2018) requires researchers to first identify resources or "ingredients" utilized to generate the program impact. Among all resources, only those resources that are incremental to or above and beyond the "business-as-usual," or what would have been used anyway in the absence of the program, should be included in the cost estimates. Business-as-usual in the context of the prior benefit-cost study (Bowden et al., 2015) refers to schools that do not have a comprehensive student support program. The challenge was to ascertain to what extent and how these schools still provide specialized student support services that address particular needs that inhibit learning.

In what follows, this report reviews the City Connects program design and describes research conducted to extend a previous evaluation of the costs and benefits of City Connects (Bowden et al., 2015).

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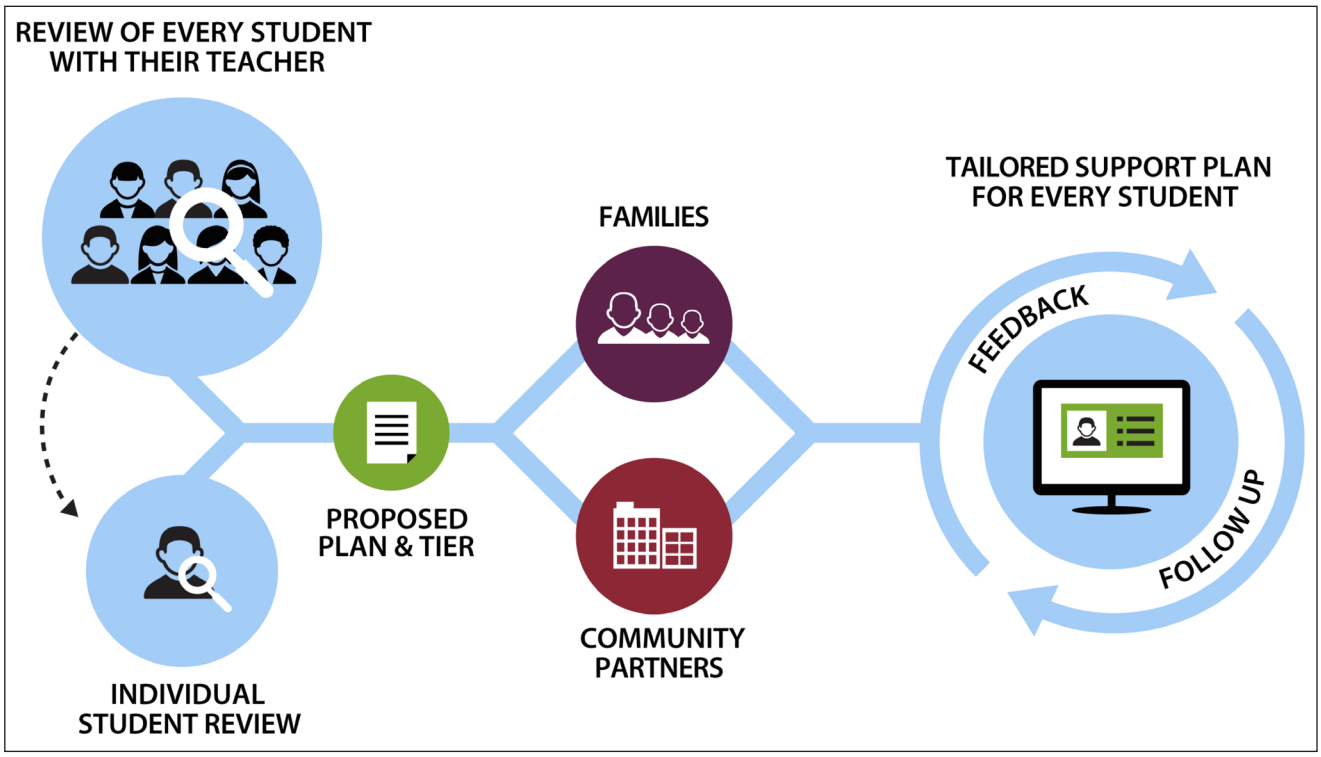
2. Review of City Connects Program and Previous Report

2.1. City Connects Program

Program Design

The City Connects program was developed through a collaborative design process among Boston College Lynch School of Education faculty and staff, Principals and teachers from Boston Public Schools (BPS), and community-based agencies in Boston in the early 1990s. Since then, City Connects has expanded to serve more than 100 urban public, charter and Catholic schools in 7 cities in five states. The program focuses on four domains: academic, social and emotional skills and behavior, health, and family support. The program is notable for taking a whole school approach to assess and address the challenges that prevent students from reaching their full potential in the classroom. A visual diagram or theory of change is provided in Figure 1 below to illustrate how the on-site Coordinator works to serve all students within a school.

Figure 1. City Connects Theory of Change



Source: City Connects, available at http://www.bc.edu/bc-web/schools/lsoe/sites/cityconnects/our-approach.html

Coordinators oversee the City Connects program at each school site. They are Masters'-level licensed school counselors or social workers. They receive extensive training through City Connects prior to being placed in schools. Additional professional development is provided to the Coordinators as they integrate their role and the program into the daily operation of schools. Coordinators work with the Principal and other staff to contribute to and learn the school's approach to student support, school climate, discipline, and other similar programming. Coordinators work with classroom teachers to review all children enrolled in a school, assessing the needs and strengths of each student across four developmental domains. This process called "Whole Class Review" covers four main dimensions: (1) academic; (2) social emotional; (3) health; and (4) family (City Connects Progress Report, 2014). After Whole Class Review, Coordinators develop tailored plans for each student, identifying supports to promote student strengths and meet needs in the four domains.

In addition to conducting the Whole Class Review, the Coordinator often aids or manages the school's student support team. These teams vary in composition across schools, but typically include the Principal or Vice Principal, school nurse, school counselor or psychologist, staff related to social and emotional learning programming, and teachers. Student Support Teams also vary in the role of the team and the amount of time allocated to various tasks. Typically, the team is tasked with designing support plan for students who have been referred because there is evidence of intensive risk in academics, behavior, or any developmental domain. The team is not responsible for assessing the need for an Individualized Education Plan (IEP), but may in some cases refer the student to the person or team coordinating special educational assessments in the school.

A distinctive aspect of City Connects is the thoughtfulness and process for leveraging partnerships. The Coordinator builds and maintains relationships with organizations in the community to expand access to services. These partnerships are carefully selected based upon the needs of students and their families. Coordinators have a computer-based tool to search for specific service providers based on factors such as service type(s), geographical location, schedule, transportation requirements, and family capacity to support participation. The service provider tool includes key information about all community partners in the district; a total of 350 for the district under study, Boston Public Schools. Community partner organizations may include providers of dental services, health and mental health services, mentoring and tutoring programs, and afterschool extracurricular activities. The Coordinator maintains continuing relationships with these organizations to accurately match students to available services and to monitor student progress. The program also highly values the importance of the relationship between the school and the families of its students and works to include families in the process of supporting and referring students for various services.

To manage this process and promote communication, Coordinators use a database developed by City Connects. This system allows them to manage all data related to assessment, student support needs, referrals, services received, and progress over time. Coordinators use a systematic process to assess, enter, and review data so that each child's "case" can be monitored and managed thoroughly and efficiently. Key aspects of this data-driven process are that duplicative services are avoided and it allows for management of service match and student progress over time. These data enable the Coordinator to build a school's systemic approach to addressing school climate and relationships with the students and their families.

Existing Evaluations of City Connects

City Connects has been evaluated against several student-level outcomes. The previous benefit-cost study (Bowden et al., 2015) used two specific outcomes that have implications for economic benefits: educational attainment and educational achievement. Educational attainment was measured as a reduction in the high school dropout rate (Walsh et al., 2014a) while educational achievement was measured by increases in math and English Language Arts (ELA) test scores in grades 6-8 (Walsh et al., 2014b). Table 1 summarizes these studies.

Table 1. Summary of Relevant Prior Outcome Evaluation

	Walsh et al. (2014a)	Walsh et al. (2014b)
Outcome measure	• Likelihood of high school dropout at age 16 or above	• Massachusetts Comprehensive Assessment System (MCAS) standardized raw scores
Treatment sample	• All students who attended a City Connects public elementary school in Boston during years 2001-2007 and reached high school by 2011 • N=2,265	• All students who attended a City Connects public elementary school in Boston 1999-2006 and reached 3rd to 8th grade by 2008 • N=1,901 or less for 6–8th grade outcomes, varies by grade
Comparison sample	• All students who attended elementary school in Boston during the same time frame but never attended a City Connects school • N=19,979	• A representative sample of Boston public school students who never participated in City Connects 1999-2006* • N=2,794 or less for 6–8th grade outcomes, varies by grade
Method	• Discrete event history analysis • Repeated measures nested within students using hierarchical logistic regression • Student-level characteristics as model covariates	• Propensity score-weighted linear regression models • Standard errors clustered at school-level • Baseline and current student characteristics as model covariates
Treatment dosage	• 6 years of City Connects in grades K-5	• Effect sizes are based on maximum dosage, 6 years of City Connects • Analyses conducted based on treatment sample with 1-6 years of City Connects in grades K-5
Effect size	• Log odds ratio of -0.689, or a 48% reduction in odds of dropout • Effect size of -0.380 with the transformation method by Borenstein, Hedges, Higgins & Rothstein (2009)	• Grade 6: ELA = 0.15, Math=0.18 • Grade 7: ELA = 0.33; Math=0.33 • Grade 8: ELA = 0.33; Math=0.45

**These students were either in: (1) one of seven randomly selected schools that never implemented City Connects; or, (2) four schools later implementing City Connects.*

Walsh et al. (2014a) compared the likelihood of school dropout at age 16 or above between students attending schools that are part of City Connects and those attending schools without it, using discrete event history analysis. The study reported the impact of attending a school with City Connects for six years in grades K-5 on dropout was equal to a log odds ratio of -0.689, or an 48% reduction in odds of dropping out. This is equivalent to a Cohen's d type effect size of -0.380 after multiplying the log odds by the ratio of root 3 to π, a transformation method proposed by Borenstein, Hedges, Higgins, & Rothstein (2009).

Walsh et al. (2014b) examined the program impact on ELA and math score by using propensity score weighted regression which compared students who attended a City Connects public elementary school in Boston to students attending matched Boston public school that had never participated in City Connects. The study found that attending a City Connects school for six years had positive effect on both ELA and mathematics achievement at Grade 6, 7 and 8. More specifically, the effect sizes were: 0.15 for ELA, 0.18 for math at Grade 6, 0.33 for ELA and 0.33 for math at Grade 7, and 0.33 for ELA and 0.45 for math at Grade 8.

2.2. Summary of Prior Benefit-Cost Analysis

The collaboration between the Center for Benefit-Cost Studies of Education and City Connects, Boston College, was established in 2014. The goal was to provide a careful analysis of the costs of City Connects to compare with the economic value of the benefits in a benefit-cost analysis. The report from the initial phase is available at www.cbcse.org.

The benefit-cost analysis estimated the cost of six years of participation in City Connects from kindergarten through fifth grade (the dosage under which effects were measured) at approximately $4,570 per student. This dollar value is based upon average Boston prices and includes a portion of the costs of the community partner services received by the students in City Connects schools. The benefits of City Connects were conservatively valued at $13,850 per participant (as a present value at kindergarten age), based on the program's impacts on the value of greater probability of high school graduation and higher academic achievement. The benefit-cost results indicate a return of about $3 for every $1 invested. The net benefits after subtracting costs was about $9,280 per student. This result implies that providing the program to a cohort of 100 students over six years would cost society $457,000 but yield $1,385,000 in social benefits, for a net benefit of $928,000. Even under the most conservative assumptions regarding costs and benefits, the program's benefits were found to exceed its costs.

Table 2. Benefit-Cost Results of CCNX (per student)

	Per Student
Total Costs: Intermediate Estimate	$4,570
Benefits: Average Estimate	$13,850
Net Present Value (B-C)	$9,280
Benefit-Cost Ratio (B/C)	3.03

Notes: Table 7 in Bowden et al. (2015). Present Value (PV) estimates at kindergarten (d=3.5%), 2013 dollars.

2.3. Boston Context

This study, like the benefit-cost analysis of City Connects (Bowden et al., 2015), took place in the Boston Public Schools (BPS), the 73rd largest school district in the United States, serving approximately 56,000 students in 125 PreK-12 schools (BPS Communications Office, 2016). BPS has made major strides in improving academic performance, closing achievement gaps between less advantaged and more advantage students as well as between Boston schools and those in more affluent suburban areas. BPS students showed steady increases in 4-year high school graduation rates, Advanced Placement exam-taking, and test scores over the past 10 years (BPS, 2018). Even with these improvements, the district continues to face challenges of family poverty, constrained resources, and finding successful strategies for addressing the needs of all students, including a growing population of English language learners.

Exploring the costs of school both with and without City Connects requires an understanding of the broader BPS context. Particularly, it is crucial to consider the way a "typical" school would operate in BPS and the resources available to a typical school for supplemental student support. However, defining a "typical" school in BPS is challenging because schools within the district are highly diverse in terms of student needs and strengths, curriculum and teaching, and organization of supplemental support. Moreover, the district is pursuing a number of different initiatives and strategies. These include district-wide and school-level approaches that target academics and other student supports. Altogether, these make each BPS school unique.

For instance, BPS has several types of school models in addition to *traditional district schools*. *Pilot schools* are traditional public schools with greater flexibility in areas such as budget, staffing, governance, and curriculum and assessment. These schools are generally more open to experimenting with new educational strategies and programs. *Innovation schools* represent a state-authorized effort to provide opportunities for schools to operate with greater autonomy and flexibility to try new strategies and programs, including innovations in such areas as curriculum, staffing, and school schedule. Turnaround schools represent state-mandated interventions in the lowest-performing schools to change staff, increase time, and add new supports for students. *Turnaround schools* tend to have a greater focus on social and emotional support and community partnerships (https://www.bostonpublicschools.org/Page/941). The City Connects program is operating in traditional public schools, innovation schools, and a turnaround school.

BPS is also involved directly in organizing and providing student support services. In the area of social and emotional learning the Office of Social Emotional Learning and Wellness (termed "SELWell") provides services and capacity-building opportunities. The Office emphasizes developing students' SEL skills, creating trauma responsive schools (Cole et al., 2005), and building Positive Behavioral Interventions and Supports in schools. The office also proposes a multi-tiered system of support for behavioral interventions where Tier 1 services concern prevention for all students, Tier 2 services include targeted group interventions for at-risk students, and Tier 3 services provide intensive, individual interventions for students with the most severe needs.

The Comprehensive Behavioral Health Model is a one of the initiatives under the SELWell Office. The Comprehensive Behavioral Health Model emerged as a district-university-community partnership among the Boston Public School Behavioral Health Services Department, Boston Children's Hospital and University of Massachusetts Boston. The initiative was launched in the 2012-13 school year. The model is a district-wide response to the compelling SEL and behavioral needs of children in Boston. One out of every five children in Boston has undergone two or more incidences of adverse childhood experiences (Boston Public Health Commission and Boston Children's Hospital, 2013), a measure associated with long-term adverse effects on physical and mental health, school attendance, social skills, and learning (Dube et al., 2003). The district provides opportunities for capacity building, coordinates resources for behavioral health services (such as school psychologists, counselors, and social workers), and connects schools with community agencies focused on behavioral health services (BPS, 2016).

The district model follows a standard tiered approach, where assessments and services are provided based on the student's level of need in the domains of social and emotional skills and behavior. Tier 1 of this model provides social-emotional learning and school- and classroom-wide Positive Behavior Intervention Support fundamentals. In Tier 2, students with higher risks of developing behavioral problems are screened with the Behavior Intervention Monitoring Assessment System (BIMAS) and provided with group-based interventions. Students with high needs, or those who do not respond to Tier 2 interventions receive intensive individualized Tier 3 interventions. Tier 3 includes specialized services, which require referral, and are often provided by partnering organizations with expertise the areas of behavioral health services.

3. OVERVIEW OF THE EXTENSION PROJECT

3.1. Overview

All elementary schools provide some level of supplemental student support services beyond regular classroom instruction – services that go beyond, and may contribute to, the core academic goals of the school. Many schools engage in community partnerships to various degrees. In Boston, there are many organizations that exist within the community and the school district that have a commitment to building partnerships. In our original report, we presented a range of organizational efficiency mechanisms that enable City Connects to improve student outcomes more parsimoniously than conventional programs.

We related the efficiency to the highly systematic approach adopted by each City Connects school. City Connects Coordinators receive specialized training and support from City Connects to serve as a single point of contact, to screen students across four dimensions, to refer students to services that match the strengths and needs of the student, to communicate with families, and to monitor services and student progress. The Coordinators also build relationships with community organizations and with the student support team at the school. Therefore, the program's mechanism for improving student outcomes could involve efficiencies and potentially little or no additional expenditure of resources on two levels: 1) better matching of students to services that best meet their needs and elimination of duplicative or unnecessary services, and 2) reducing the burden of the time and effort required (transaction costs) of schools, families, and community partners by having the Coordinator serve as a single point of contact.

While this mechanism of the program is powerful, our initial report acknowledged the need for additional information about the differences in student support services provided to students who attend schools that implement the City Connects program and those who attend schools without the program. Understanding this contrast is integral to interpreting the program's effect and estimating the cost to achieve that effect.

In our earlier report summarized above, the economic benefits of the program exceeded the costs even under the most stringent set of assumptions. However, estimates of the benefit-cost ratio varied widely based upon assumptions regarding the incremental costs of City Connects services beyond those of business-as-usual. That is, we had no direct measure of costs of support services provided by the comparison group. We were able to estimate the direct costs of City Connects, as the components of the program itself are easily identifiable and distinguishable from a typical school ("business-as-usual"). The reason for the different assumptions was due to uncertainty about how much of the support services provided through partnerships was due to the program versus those that would have been provided anyway (for more on this challenge in research generally, please see a description of Rubin's causal model in Holland, 1986). In addition to this issue, there are also questions about the marginal costs of partner provided supplemental services because some services may have been under-utilized with little additional cost for taking on City Connects students.

The purpose of this stage of analysis of City Connects was to augment the earlier study by providing information about the comparison schools and typical student support services. To achieve this, the work presented here focused on the context, process, and resources utilized in organizing and managing student support services, especially those that include partnerships with community organizations, in those schools that have not yet incorporated the City Connects model. This work takes a case study approach to provide more in-depth qualitative information about the typical processes and approaches to improve understanding of the contrast in models and to inform future research efforts on comprehensive student support models

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Research Questions

1. What are the overall characteristics of a sample of Boston public schools that have requested adopting City Connects, but have not yet implemented the program? How are the non-program schools similar to or different from the population of Boston public schools, schools that have implemented City Connects, or the specific City Connects schools in the sample in the first report?

2. How do these schools that do not presently participate in City Connects organize and manage student support services?

    a. How do these schools screen and evaluate student needs along various dimensions (academic and non-academic)? Who is responsible for this process? What kind of training has been provided, either pre-service, through selection of trained personnel or through in-service training?

    b. How do these schools classify students based on the intensity of student need?

    c. What student support services do these schools provide from their own resources?

    d. How do these schools identify and build partnerships with community organizations?

    e. What community partners provide student support services at each of these schools? What types of services are provided and are they provided at the school site? How many students does each partner serve?

    f. How do these schools monitor, evaluate, and adjust services based on student needs on an ongoing basis?

3. What is the cost of the organization and provision of student support services in these schools, and to whom? How do these costs vary across schools?

4. How do the findings inform the incremental cost estimate of City Connects published previously? What are the costs when substituting national prices for local, Boston prices of resources?

3.2. Motivation for and Organization of This Report

Prior research provides evidence that City Connects has a positive effect on academic achievement, social and emotional outcomes, and health knowledge and behaviors (Boston College Center for Optimized Student Support, 2014; Walsh, et al., 2014a; 2014b). The program was also found to reduce high school dropout rates (Boston College Center for Optimized Student Support, 2014). These findings were used to estimate the economic benefits of the program. The cost studies conducted previously and herein are designed to estimate the value of the resources utilized to produce these impacts and the resulting economic benefits. Therefore, it is important that the resources ("ingredients") identified correspond to those that were used during the delivery (1999-2006 for achievement and 2001-2007 for high school completion).

Estimates of effects and costs are obtained on the same sample at the same time to reflect a particular implementation for a particular population. These assumptions are important because the mission of a cost analysis is to value all of the resources used to produce an effect for a particular population that will provide useful information to replicate an impact or to explore variation in the efficiency of a program. When estimating costs retrospectively (i.e., after the evaluation of effects took place), it is challenging to ensure that the costs represent the inputs used at the time of the delivery produced those effects.

In our evaluation of City Connects, the challenges of retrofitting costs to effects are most salient in two areas: sampling and determining the contrast between schools with the program and without. Obtaining representative samples is challenging because schools and school systems change over time. This makes it difficult to precisely identify the inputs used

years ago and it complicates recruitment for a study, which may hold little direct benefit for non-participating schools. Both this extension and the previous report relied upon a smaller sub-sample of schools from the prior samples used to in the outcome evaluations. The first research question addresses the issue of sampling to quantify how similar our samples of schools and students are to those from the original impact evaluation.

The second challenge relates to the differences in resources between the schools that participated in City Connects and those that carried on with "business-as-usual", that is without the City Connects program. Each school type must be well defined to understand the differences between the two that caused an improvement in achievement and graduation rates. Our first study explored the resources and processes within City Connects schools. The second research question addresses the issue of contrast to improve what is known about schools that do not implement City Connects.

The remaining sections of the report aim to combine these findings with our previous report on the costs and benefits of City Connects. Each of the following sections begin by stating the research question addressed followed by an overview of methods employed and reported findings. The report concludes with a summary of our findings and recommendations for next steps in further evaluating City Connects

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4. DESCRIPTIVE ANALYSIS AND SIMILARITY OF SAMPLES

As stated above, the first charge for this evaluation is to explore the similarity of the sub-sample of schools selected for this extension and the previous evaluation.

Research Question 1: What are the overall characteristics of a sample of Boston public schools that have requested adopting City Connects, but have not yet implemented the program? How are the non-program schools similar to or different from the population of Boston public schools, schools that have implemented City Connects, or the specific City Connects schools in the sample in the first report?

Our analysis of similarity is exploratory in nature. It is intended to inform future evaluations of the City Connects program on how to incorporate this analysis into the design phase so as to ensure the sample representativeness. The findings in this section are not used for cost analysis in subsequent sections.

4.1. Samples for This Study and Previous Study

Sample for this study. Four schools for the present study were recruited to best approximate a counterfactual condition for what would have happened in City Connects schools had the program not been implemented. To best approximate this scenario, it was important to control for motivation among school leaders to adopt such a reform. Within BPS, a waitlist existed for schools that were interested in adopting City Connects. These schools provide a reasonable comparison group for the City Connects schools because the school leadership demonstrated interest in the program, but because of a variety of factors, the school had not implemented the City Connects model (nor any other school-wide comprehensive support model). Thus, we term these schools "non-program schools" in our discussion below. We used this list for recruitment to form a sample of four Boston public schools. One pragmatic criterion for selection was the schools' availability for site visits.

According to data from the Massachusetts Department of Elementary and Secondary Education (DESE), the four schools we sampled varied in terms of school-level characteristics in 2015-2016. Two of the schools serve both elementary and secondary grades, while the others serve elementary grades only. Even between the schools that serve the same grade level, school sizes vary widely, ranging from about 150 to 700 students. The two smaller schools have larger proportions of White students and special education students than BPS in general. The two larger schools have higher than average percentages of Hispanic or Asian students, and more students who are English Language Learners and students whose first language is not English. They also have a much higher proportion of students with high needs and economically disadvantaged students. All four schools have relatively low academic performance compared with their BPS counterparts, ranging from the 10th to the 30th percentile

Sample for previous study. The previous study (Bowden et al., 2015) used cost data from two school sites in the Boston Public Schools for the 2013-2014 school year. Both of the schools were long-time implementers of City Connects, were included in reported evaluations of outcomes, and represent different geographic areas within the city. Another criterion was their availability for site visits by the study team. Both sites were large elementary schools, with more than 700 students, serving mostly minority students from low-income families, many with limited English proficiency.

4.2. Analysis of Similarity

The sub-samples of schools with City Connects and those without ("non-program") can be compared in many ways. We set out five comparisons to explore in this portion of our analysis. We use publicly available data on school-level characteristics for all Boston public schools from school year 2000-2001 to 2015-2016. The five comparisons are:

1. Two sampled City Connects schools vs. Four sampled non-program schools.

2. Two sampled City Connects schools vs. All City Connects schools in BPS.

3. Four sampled non-program schools vs. All non-program schools.

4. All sampled schools vs. All Boston public schools.

5. All City Connects schools vs. All Boston public schools.

To examine the differences between each group, we use an approach developed by Tipton (2014) to explore similarities among samples for generalization purposes. The approach applies modeling techniques that used propensity score matching. Rather than using the probability of receiving treatment to estimate the treatment impact, a probability estimate is modeled to quantify the similarity of a sample to the larger population from which it was drawn. Here, we apply this modeling procedure to examine the similarity of a sub-sample to the sample from which it was drawn. While the thinking is similar, this is the first application of this approach for this purpose.

Tipton's similarity technique involves comparing standardized mean differences and computing a propensity-score-based similarity index. The similarity index uses available descriptive data about the sample and sub-sample to quantify the extent to which these sets of schools are similar or different from one another. The models used to estimate sample similarity are described below.

The propensity to participate in the program is estimated using the following Probit regression model:

$$\Pr(Y_{it} = 1 | \boldsymbol{X}_{it}) = \Phi(\beta \boldsymbol{X}_{it}),$$

Y_{it} is an indicator for whether school i is implementing City Connects in year t. $\boldsymbol{X}_{it}$ are the vector of covariates we obtained from DESE. The descriptive covariates include school-level data on enrollment, gender, race, English learner status, household wealth, disability status, teacher characteristics, attendance, and retention. We use pooled data from 2000-2016.

Following Tipton (2014), we then sort the propensity scores into k bins, with bin size (or bandwidth) h determined by: $h = 1.06s(N+n)^{-1/5}$, where s^2 is the pooled variance across the sample and population.

Lastly, we calculate the generalizability index using the algorithm:

$$B = \sum_{j}^{k} = 1 \sqrt{W_{pj} W_{sj}},$$

$$W_{pj} = N_j / N \text{, proportion of population in bin } j,$$

$$W_{sj} = n_j / n \text{, proportion of sample in bin } j$$

This analysis results in a summary score of the similarity among samples ranging from 1 to 0, where 1 indicates similarity and 0 indicates no similarity. Between these two extremes, Tipton provided guideline that the index value above 0.90 means two samples are virtually identical, whereas values below 0.90 signals noticeable differences between the samples. The scores provide a general estimate of similarity and do not allow us to examine specific differences. Thus, we also examine standardized mean differences among the descriptive covariates to more closely explore these sub-samples of schools.

The intention of this section is to employ an empirical strategy to explore the validity of our intentionally selected sub-samples. While this analysis is interesting, the results are not conclusive due to the small number of schools in the sub-samples. In addition, there could be preexisting differences that are related to school motivation to participate in City Connects. Also, some of the differences noted could be outcomes of the program itself. Therefore, these data are intended to provide additional information and support for our analyses and to help inform future evaluation efforts of this valuable tool to examine sampling strategies.

Findings

We find that our sub-sample of BPS non-program schools is similar to the population of BPS non-program schools. Table 3 below provides a summary of the similarity findings. The results show that there are likely distinctions between the City Connects schools we sampled and all participating schools within the district. In addition, our sub-samples of two City Connects schools and four non-program schools are not similar to each other overall and are not similar on specific school-level characteristics such as enrollment, student demographics, teacher characteristics, accountability, or attendance. The two City Connects schools are in general larger than the four non-program schools, and have higher proportion of Asian students and overall academic achievement.

Table 3. Summary of Similarity Results

Comparisons	Findings
Two sampled treatment schools vs. four sampled comparison schools	Very different
Two sampled treatment schools vs. All treatment schools in BPS	Noticeably different
Four sampled comparison schools vs. All comparison schools	Virtually identical
All sampled schools vs. All Boston public schools	Noticeably different
All treatment schools vs. All Boston public schools	Noticeably different

To complement the similarity analysis, we also examined differences among these groups across descriptive variables such as total enrollment, percentage of male/female students, percentage of students in different demographic categories, percentage of different student population (e.g., first language not English, eligible for free lunch, etc.), number of teachers, percentage of licensed teachers, percentage of core classed taught by highly qualified teachers, and percentage of students reaching proficient or advanced level in the state assessment tests. On average, the entire sub-sample is similar to all BPS in enrollment and teacher characteristics, but the sub-sample has higher percentage of students from disadvantaged backgrounds and higher performance on accountability measures. This analysis also indicated that all schools participating in City Connects are similar to all BPS in teacher characteristics and in accountability. However, the program schools tend to enroll more students with disadvantaged backgrounds and where attendance rates are higher. Some of these differences in school characteristics, particularly the proportion of students with needs, may imply variation in the cost of providing student support services. For instance, high proportion of students with disadvantaged background may require more support services, as well as services with higher intensity. Therefore, the incremental cost presented in Section 7, using a subsample of counterfactual schools with higher proportion of students with needs, may represent a lower bound estimate of incremental cost of City Connects over all non-program schools.

Due to small size of our selected sub-samples, the findings of this analysis require some caution in their interpretation. If the sub-samples were randomly selected or if they included a larger group of program and non-program schools, the results of this analysis may be different. By nature of small samples, it is likely that schools will look different from one another. Thus, these findings are exploratory. In future evaluations of the City Connects program, this method can be used prospectively during the design phase to ensure that samples are similar to the population in which inference is intended. In terms of estimating corresponding costs and effects, that also require few assumptions about the contrast between the support experienced by students in program and non-program schools, an experimental or rigorous prospective quasi-experimental evaluation is advised. As such, our analyses here must only be interpreted as exploratory.

Additional details and a technical table with all results from this analysis are available in Appendix A.

5. TYPICAL PROCESSES AND MANAGEMENT OF STUDENT SUPPORT

This section explores the process by which non-program schools organize and manage student support services in the absence of comprehensive student support programs like City Connects. We focus on illustrating the process of coordinating and delivering student support services at our sampled "business-as-usual" schools. Our analysis is guided by the following set of research questions:

Research Question 2: How do the non-City Connects schools organize and manage student support services?

a. How do these schools screen and evaluate student needs along various dimensions (academic and non-academic)? Who is responsible for this process? What kind of training has been provided, either pre-service, through selection of trained personnel or through in-service training?

b. How do these schools classify students based on the intensity of student need?

c. What student support services do these schools provide from their own resources?

d. How do these schools identify and build partnerships with community organizations? What community partners provide student support services at each school? What types of services are provided and are they provided at the school site? How many students does each partner serve?

e. How do these schools monitor, evaluate, and adjust services based on student needs on an ongoing basis?

Our findings are presented according to five different themes that correspond with the research questions: (i) identification and classification of student needs, (ii) training for student support, (iii) services directly provided by schools, (iv) utilization of community partnerships, and (v) monitoring and adjusting the support.

Particular attention is placed on identifying the resources or "ingredients" (e.g., personnel, facilities, materials and equipment, training, etc.) utilized for each of these themes. Altogether, the data collected through the following analyses allow us to more precisely identify the costs of City Connects above and beyond business-as-usual.

5.1. Methods for Research Question 2: Typical Processes for Student Support

The ingredients method provides a guiding framework for this examination of resource use on student support (Levin, McEwan, Belfield, Bowden, & Shand, 2018). This method identifies the resources ("ingredients") required to successfully replicate an intervention and the expected impacts on educational outcomes. To accomplish this, the method builds upon the economic concepts of opportunity cost and cost accounting. In addition to providing an estimate of the cost of an intervention, the resulting analyses (typically cost-effectiveness or benefit-cost analyses) include a detailed list that describes the ingredients used in delivering an intervention. By design these analyses are intended to highlight the change in costs that result from a reform to describe how the new approach differs from standard practice.

The ingredients method begins by developing an understanding of the intervention's theory of change, which is then used to identify the ingredients required for the program. This requires reviewing literature on established relationships and theories related to the program; information sharing about the program model and program delivery; observations and interviews with program staff and the standard "business-as-usual" practices that are altered by the intervention. Ingredients are described qualitatively, quantified, and categorized by personnel, facilities, materials, training, and other inputs. The ingredients are then valued according to their market prices to estimate the costs of the program.

In this study, we began by reviewing literature on comprehensive student support models to understand applicable theories of change and to identify important data for our analysis. We also familiarized ourselves with the Boston policy context to inform our interviews and discussions with school staff. We identified the ingredients involved in delivering City Connects during the previous benefit-cost analysis. This study focuses on the resources and process of allocating resources for student support in schools that do not employ City Connects (for additional details regarding methods, please see Bowden et al., 2015).

Interviews

Understanding the contrasts in resources for organizing student support services between schools that participate in City Connects and those that do not requires in-depth qualitative data on school processes. We collected this information through semi-structured interviews following a protocol devoted to questions regarding student support at each school. Unlike the typical cost study interviews used to support the ingredients method, the interview protocol for this work was more focused on the process and personnel involved in student support. Specifically, the protocol included hypothetical questions about how the school would provide support if a student exhibited particular types of challenges, including signs that a student is facing major disrupters in life such as homelessness or loss of parents, a child in crisis behaviorally, or a sudden drop in academic performance and engagement (a full list of examples is available in the protocol in Appendix B).

The process of our protocol development was iterative. The City Connects team at Boston College reviewed the protocol within the context of BPS. Moreover, we were concerned about social desirability bias in responses rather than accurate description of programs; that is, school staff might respond to our questions about the school's approach to organize supplemental student support services by giving an idealized picture rather than actual school practices. In addition, we reviewed the protocol to clarify wording and overall flow of our protocol. Following the recommendation of Dillman, Smyth & Christian (2014), we piloted our draft interview protocol with an Assistant Principal of a public school in New York City. After the pilot, we subsequently made modifications to the protocol to incorporate the feedback obtained through the pilot.

After recruiting the four schools in the study sample, on-site interviews were conducted in two rounds - October 2016 and April 2017. Interviews were typically held with school leaders, such as Principals or Assistant Principals but also included teachers. Artifacts related to student support services such as forms, handouts, presentation slides, or links to online databases were also collected during the site visits. Follow-up interviews and email communication continued through the end of the 2017 school year.

Analysis of Data

All data from interviews and communications with school staff were synthesized for each of the school sites. Our work on interviews and in synthesizing the data was guided by inductive story-line creation based in the constant comparative method (Miles & Huberman, 2014, pp. 72-75). We first reviewed all data collected from each school and identified emerging themes. These themes overlapped with the sub-questions of Research Question 2. These were: (i) screening and evaluating student needs, (ii) classifying the intensity of need, (iii) identifying services that are provided by the school directly, (iv) identifying services provided by community partners, and (v) monitoring how student needs changed and improved. We searched for examples under each theme for each school—a process called "interpretive memoing"—to summarize the findings (Creswell, 2013; Merriam, 2009). The following sub-section highlights the findings.

5.3. Findings from Process Analysis in Non-Program Schools

Identification and Classification of Student Needs

In the non-program or "business-as-usual" schools, most student needs were identified through informal interactions and observations of student behavior patterns. Sometimes these informal assessments occurred for many students and other times specific students were observed following behavioral issues. For example, a school Principal of a small elementary school greets every student in the school as they enter the building in the morning. The Principal used this opportunity to conduct a quick informal visual and verbal assessment to identify which students arrived exhibiting obvious needs that would necessitate a follow-up check-in as the day progressed. This screening included observing red flags for homelessness such as dirty clothing and arriving via taxi. When possible, the Principal reported also checking quickly for outward signs of stress, sadness, or otherwise unusual social and emotional behavior. This process is an example of ways in which schools broadly assess student needs.

We are terming this effort as informal because these types of assessments were not formalized with a specific set of criteria, entered into a data system to monitor issues over time, and only pertained to the most salient of issues experienced by students. In addition, only those students who are externally presenting visible signs of distress or need will be identified and potentially addressed through this approach. It is important to note that this is a major distinction between practices within a business-as-usual approach and a comprehensive student support model, such as City Connects. The City Connects model relies on a formal, validated assessment process for the entire student body of a school at the start of each school year.

The more targeted informal assessments conducted by staff were detected by observing unusual patterns of behavior. For instance, a teacher may notice that a student tended to be disruptive prior to lunch. The teacher would follow-up with the student or the student's family to see if the student frequently skipped breakfast or whether there were family issues. The teacher tried to understand the cause of the behavior so that an appropriate intervention could be provided.

Some schools were working to build their own more formal assessments and data systems on student behavior, performance, and potential needs that could improve success in school. For example, one school improved the referral form process to better systematize their approach to discipline and school climate. Rather than relying on a system of individual referrals and suspensions, the school split referrals into categories so that less severe infractions were treated differently from ones that required a more thorough inquiry such as one-on-one meeting with a student and their family. These infractions were entered into a database so that the Principal could review and track behavioral data. A district-provided psychological support staff member supported this process through data entry, analysis, and discussion of strategies to improve student outcomes.

Another example of a formal assessment system included a school that collected teacher provided data on all students in the school. The data included information on each student's primary concerns, goals, strengths, age, primary language, and services received in school and out of school. The school's approach to assessing all children in the school was the most similar practice to the whole school review practiced by the City Connects model. The data were used to monitor student progress, to inform student support team meetings, to better document referrals for evaluation for special education, and to assign students to classrooms at the start of the next year.

In addition to assessments and data systems that were created by the schools independently, BPS had an initiative where selected schools were asked to use the Behavior Intervention Monitoring Assessment System (BIMAS) survey as part of the Comprehensive Behavioral Health Model to review the social emotional status and behavior of all students. Of the

schools in our sample that participated in this program, administrators shared that the BIMAS data were not sufficient for their needs.

Training for Student Support

The district-led Comprehensive Behavioral Health Model initiative provided teacher training for two schools in our non-program sample. These trainings focused on social and emotional skills and approaches to behavior and discipline, including: (1) workshops every two and a half months, with 53 other Boston public schools participating in the initiative; (2) resource folders containing Positive Behavior Intervention Support implementation kit and resources for how to improve student support teams; (3) assignment of support coaches to school psychologists; and (4) the SEL/behavioral assessment tool called BIMAS. Trainings on the use of BIMAS and the ideas of the tiered model of support were usually provided to teachers in-house by Principals or Assistant Principals. For instance, one of the interviewed Principals provided a once-a-year Professional Development (PD) session of about an hour and half to the teachers regarding how to use BIMAS and report the results.

Less formal training was also provided within non-program schools. In one school, this type of training came in the form of providing handbooks to all new teachers that outline the school's approach, team, and process for case management. This approach was tied to the school's focus on serving students with disabilities and high needs for individualized support. Other examples included book clubs, recommended reading, and administrator provided lectures on student discipline, school culture, and student support. The books included topics such as behavior supports, trauma-sensitive practices, school culture, and respectful speech. We provide a list of these resources in Appendix C.

Describing School-Based Student Support

Boston Public Schools provide a wide range of student services both inside and outside schools. These services range from before and after school programs, school vacation programs, sports or physical activities, academic and arts enrichment programs, social skills interventions, counseling, and crisis interventions. According to our interviews, the most commonly provided school-based student support services focus on the academic and family aspects related to improving social emotional learning (SEL) and behavioral domains.

In all four non-program schools, student support and referrals for special education or additional services are the responsibility of the Student Support Teams (SST) or the equivalent Case Management Teams (CMT). Depending on what staff are available within the school, SST teams may include the Principal or Assistant Principal, a psychologist/counselor, a special education coordinator, and the school nurse. The typical process for the SST begins with teachers. Teachers observe challenges for students and first try to intervene without additional support. Once classroom-level strategies are exhausted, teachers submit a request for the SST to review a student's case. Historically, this review would trigger a referral for an assessment for the need for an Individualized Education Plan through special education services or other evaluations to treat the student's behavior outside the system.

At the time of our interviews, two schools were in the process of overhauling their SST meetings to better reflect larger system and climate changes made in the schools toward student behavior and supports. The goals of these changes were to better identify student needs to provide support, and then to manage student progress by revisiting prior cases. These shifts included moving meetings from monthly to weekly. One school used the school's in-house data system to support the SST. Teachers fill out an online form and provide many details about the strategies tried in the classroom. The team reviews the information prior to the meeting and prepares notes to contribute to an action plan, which is created and agreed upon by the team during the meeting. The schools noted that changing the SST from largely a referral system for special education to one focused on student support and services involved major shifts and time to implement well. However, both

schools noted that while these shifts were important and helpful changes, reworking the mission and focus of the SST alone was not sufficient to truly change student outcomes.

One school had a special committee to support social and emotional learning and skill development. The team monitored student progress and provided additional support and materials to teachers. In most schools, however, social and emotional skills were included in the scope of the SST, especially in the schools that had overhauled their team's objectives. For students who were in need of psychological services or counseling, the schools largely sent referrals home for parents to address. The schools mostly did not offer support to manage this process as there was noted concern over insurance requirements and the school's capacity or role in assisting with external medical/psychological support. This is in stark contrast to the approach taken through the City Connects model.

Schools did not offer much support for the needs of families outside of the specific issues presented by the student in school. Some schools did have a staff member serving as the family coordinator to conduct minor outreach to families. All schools did mention the importance of building strong relationships with families. The schools stressed the importance of bringing in the families as needed to keep them informed and to build their trust to see the school as a partner. This relationship and trust was noted to be especially important in the process of utilizing services that were provided by external partners who were unfamiliar to the families – unfamiliarity is a real issue for undocumented parents or families who are fearful of potential repercussions that could result from talking with a community service organization.

Utilization of Community Partnerships

The purpose for this analysis is to better understand the processes and resources utilized to provide student support in non-program schools. An important aspect of the City Connects program is that the program is a "service mediation intervention", meaning that the impact of the program is partially a function of an induced change in the services students receive as a result of the program (Bowden et al., 2017). The program helps to build partnerships between schools and community-based organizations to comprehensively support student learning. For example, in each City Connects school in Boston, the program leverages additional student support through partnerships with around 70 community-based organizations. The services provided by partners are an important piece of the theory of change that ties together the roles of assessment and monitoring to ensure student success. Due to the critical role played by partner organizations, this phase of the project also aimed to better understand how non-program schools build and utilize partnerships. With this information, we can better understand what is changed or added through the City Connects program to better support students.

The most salient finding was that non-program schools had less than 10, or sometimes less than five partnerships with community-based organizations. Schools reported that this component of meeting students' needs was challenging for them because of the burden placed on administrative staff, insurance limitations, and the need for the service to match the student's needs and interest to ensure uptake. The services provided covered a range of domains: academic, health, social and emotional/behavioral, and family. For example, some partners included the Home for Little Wanderers, America Scores, Big Brothers Big Sisters, and counseling services.

The state assists schools in finding services for students with severe psychological distress from community agencies. For instance, the Executive Office of Health and Human Services has launched the Children's Behavioral Health Initiative. The Initiative aims to ensure that children with MassHealth who have significant behavioral, emotional and mental health needs get proper services and that these services are well coordinated.

A major component of the Initiative is the Community Service Agencies (CSA). "A CSA is a community-based organization whose function is to facilitate access to, and ensure coordination of, care for youth with serious emotional disturbance

(SED) who require or are already utilizing multiple services". CSAs are responsible for providing Intensive Care Coordination (ICC) services. ICC assigns a care coordinator to work intensively with youth and their families to ensure that services and supports are coordinated across systems and providers. During our interviews with schools, several service providers were repeatedly mentioned by different schools. These organizations, such as Home for Little Wanderers and Arbour Counseling, serve both City Connects schools and non-program schools. However, the non-program schools we interviewed also stated that they would like to have a designated school-based student service coordinator, or even a full-time social worker, to be the point of contact and work with the Intensive Care Coordinators of different students. In our view, having a trained coordinator with experience and continuous contact with the community partner network is a major source of efficiency for the City Connects schools.

At the district level, the Office of Social Emotional Learning and Wellness (SELWell) has a broader focus which not only covers social emotional learning but also includes health and wellness. These support services are typically divided into three tiers: 1) prevention, 2) targeted intervention, and 3) intensive intervention. The categories of the service range from athletics, to health and wellness, behavioral health, and homelessness. The SELWell office coordinates the various services provided by community partners to schools. The initiative started in the 2012-13 School Year.

Monitoring and Adjusting Support

In addition to assessing and supporting student needs, it is critical that these data be maintained and monitored for follow-up and continued progress over time. Before sharing our findings from non-program schools, we provide a brief description of the data management system used by City Connects to highlight the contrast between the program and business-as-usual.

In City Connects schools, the program's Coordinators are responsible for tracking and following up with students regarding their support services. This task is assisted by City Connects' Student Support Information System (SSIS), which is a Web-based database that records information on student reviews, individual student plans, service referrals, as well as service providers. A key part of Coordinators' daily routine is entering student service data into the SSIS, which in turn facilitates the evaluation of the implementation of student services.

In schools without City Connects, the responsibility of monitoring and following up with students' support services falls on different school staff depending on their relationship with the students and their families. In one school we visited, the school nurse was frequently involved in the follow up of student services. Other schools entrust teachers to keep track of students' services, although the process of how this is to be accomplished is unclear. One Principal stated, "Teachers know what kids are doing, not sure how." Schools do document student services and the follow-ups, however, not necessarily in a centralized database.

All non-program schools interviewed have some databases or an online system to record students' needs, support received and students' progress with varying degree of sophistication. The extent to which these systems track and monitor data varies by school. One of the non-program schools uses a database that records information on academic performance, SEL/behavioral assessment for all students, as well as an online platform to record and track progress of each student case presented at SST. Another school has a data recording system for student needs where each child has a form but only those that need support have data in it (e.g., background information, strength, concerns, status, family, updates, history, triggers). BPS does provide a general student information system, but it is not used to guide school practices and is not user-friendly, according to an interview with one Principal. The use of a free, online collaborative platform (for example, secure Google forms and sheets) for the management of student information is popular among BPS.

6. SCHOOL RESOURCES AND IMPLICATIONS FOR COSTS

The third research question guiding this work focuses on the implications of the processes and school resources discussed above to the economic costs of City Connects that we previously estimated. The research questions guiding this section are:

Research Question 3: What is the cost of the organization and provision of student support services, and to whom? How do these costs vary across schools?

6.1. Methods for Research Question 3: Resource Implications

In this section, we discuss implications for the cost estimates of City Connects services and possible cost savings that would be incurred by schools by incorporating the City Connects program. We also present implications for efficiency in providing student support services that are related to several key features of City Connects.

6.2. Findings Regarding Resource Implications

City Connects has three fundamental features related to the organization and efficiency of the processes described in the previous section: a designated and well-trained individual (Coordinator) at the school to coordinate student support services, a Web-based database to keep track of student service (SSIS) and provide information for evaluation, and a network of partners. During our interviews with administrators at non-City Connects schools, we found that each elementary school in Boston organizes student support services differently.

Among the schools we visited, some adopted certain features similar to the City Connects model. For instance, one school has created its own database for the evaluation of each student's academic performance and behavioral issues. However, none of the schools interviewed incorporated all three features into their approach to student support services. These features have important implications on the efficiency of student support service provision.

A designated, full-time professional in charge of all student support services can help streamline the screening of student needs and the keeping of records associated with student services. Although most of the schools we visited did not conduct screening for all the students or adopt an online database for services, one school did both. The school's administrator responsible for these tasks spent as much as half of the full-time position on managing and improving the database that had been independently created. If a designated school staff member, like the Coordinator, were to take charge of data entry and the database were more comprehensive and time-tested, then up to half of the school administrator's time would be freed up, which translates into a cost saving of roughly $87,490/year based on the average school administrator's salary in Boston area, or $79,490/year in national average wages. If this task were completed by support staff, this cost would be lower.

Furthermore, the City Connects Coordinators are specially trained to implement the City Connects model of student support, which is a set of systematic and orderly procedures for screening, treatment and maintaining records on the status of each child. Further, they can call upon the Boston College team or colleagues at other school settings with similar training to draw on their experience, advice, and informational connections. This training and information sharing may improve the efficiency of implementing student support for the Coordinators. It also enables school Principals to designate some of the responsibilities of coping with student needs identified on-the-go by classroom teachers, as the Coordinators will be the point of contact in these cases. Lastly, the Coordinators are also likely to have greater tenure in their positions because they are specifically trained to do this and be part of a network. The potentially longer tenure and lower turnover for the designated student support personnel would reduce what economists call "transaction costs" for schools (e.g., Rao, 2003; Williamson, 1985; 1989, etc.); that is, costs associated with, for example, the time searching for and training new personnel.

Additionally, non-program schools generally lack a designated person to keep track of data on student support services. At some schools, the responsibility falls on the Principal, while other schools use existing personnel, such as the school psychologist or classroom teachers, and supplemental district personnel to aid with data management and interpretation. This lack of designated personnel in charge of student support services and data entry has resulted in a lack of capacity to conduct comprehensive screening and recording of student needs school-wide. The addition of a staff member, such as the City Connects Coordinator, would increase the capacity of non-program schools to provide and monitor student support services.

As mentioned in the previous section, the data maintained by schools tends to be in independent categories, focusing on specific domains, such as SEL/behavioral or academic. The resulting database systems are far less comprehensive compared with the SSIS used by City Connects schools, which tracks services across the four domains (academic, SEL, health, and family), as well as services provided by the school and community partners.

Finally, relatively few community partners serve non-program schools. We found that between four and nine partners served each non-program school; because some partners served more than one school, there is a total of 17 unique community partners serving non-program schools. Of these, ten also serve City Connects schools. The relatively smaller number of partnerships partly reflects the challenges for schools to establish partnerships with community agencies and the lack of resources to do so. Historically, partners were identified and assigned by the district to mostly underperforming schools without specific emphasis on the matching of schools' needs with community partner services. It is challenging for these schools to form good partnerships with community agencies, as schools with significant needs and challenges may face difficulty prioritizing needs and matching them to community partners. The schools also lack capacity and bandwidth needed to build and sustain fruitful partnerships needed to fully integrate interventions and enrichment services, and to build a "tier 1" foundation across the school. In this case, support from the district becomes crucial. Schools that were not particularly underperforming or "in crisis" from the perspective of the district would not have received as much support from the district even though their students may also face challenges that should be identified and addressed.

Having access to a more extensive network of community partners would assist these schools in successfully establishing partnerships and allow them to be selective in building partnerships that best match the needs of their students and families. Long-term contact with community partners should also reduce transaction costs of seeking information on providers and maintaining student records on treatment and other informational needs as well as reducing the "contracting" costs. Furthermore, with a designated student service coordinator serving as the single point of contact with all community partners, the service referrals and follow-ups would be more efficient for both schools and community partners, saving unnecessary meetings and other communication costs.

7. INCREMENTAL COSTS OF CITY CONNECTS AND THE BCA

This extension project was motivated and designed to inform and improve upon the previous benefit-cost analysis of City Connects (Bowden et al., 2015). As described above, the previous analysis relied upon costing assumptions and methods to estimate the costs associated with the impacts produced by the program compared to traditional schooling without an integrated student support program. The descriptions and findings presented above provide context and descriptive information about the processes and resources employed by traditional (non-program) schools in providing supplemental support. This section addresses the final research question:

Research Question 4: How do the findings inform the incremental cost estimate of City Connects published previously? What are the costs in average national prices?

Below, we relate those findings to the cost estimates of City Connects and provide an updated empirically supported estimate of the costs associated with the program that are above and beyond practices found in business-as-usual approaches.

7.1. Methods for Research Question 4: Incremental Costs of City Connects

The preferred cost estimate from the previous benefit-cost analysis was modeled to include the direct costs of City Connects and a portion of the indirect (induced) costs that were provided by community partners. This model estimated a cost of $4,570 per student for six years of program participation. This model included $1,540 in per student direct costs and a portion of the community partner provided services valued in total at $7,680 per student. This model is formally stated as:

$$(1)\ City\ Connects = Direct\ Cost + (IC_{T1} - IC_{To}) - (IC_{C1} - IC_{Co})$$

This equation shows that the costs of City Connects comprise the direct costs of the program plus the difference in changes in induced service costs over time between treatment and control schools. IC_{T1} represents the costs of induced services in treatment schools after the introduction of City Connects, IC_{To} represents the costs of induced services in treatment schools prior to City Connects, IC_{C1} represents the costs of induced services in non-program schools after City Connects has been introduced in treatment schools, and IC_{Co} represents the costs of induced services in non-program schools prior to City Connects.

We test the two main assumptions that drive this preferred estimate: 1) all direct costs of City Connects are above and beyond traditionally provided support in school, and 2) community partner services provided to non-program schools represent a specific proportion (about half) of the services provided to City Connects schools based on interviews with a sample of community partners. To accomplish this, we estimated a composite or average cost based on the City Connects sites and the non-program sites. We scaled the costs of non-program sites to be comparable in size to the City Connects schools from our original sample to capture differences in true resource use, rather than differences in scale.

The original direct cost estimate included all resources utilized in providing City Connects within a school. In terms of personnel, this means that the estimate included program staff (the City Connects Coordinator) and time provided by school staff for the program to operate and be integrated into the school. We updated this original comprehensive estimate to better reflect the school level resources, such as staff time toward assessing the comprehensive needs of students, building databases to track student needs, and reconfigurations of student support teams to address the comprehensive needs of students. Any time that school personnel devoted to coordinating and managing external partnerships for support services (tasks that would be covered by the City Connects site Coordinator) were also subtracted from the direct costs.

The indirect cost estimate reflected the resources provided by external organizations, typically termed community partners. As described above, we based the original estimate on the portion of these partner provided services that could

be ascribed to the City Connects program. The estimation of this portion was based upon interviews with the community partner organizations about the schools they serve and how City Connects changed their program and targeting of schools – in other words, partner service costs were considered incremental to business-as-usual costs if partners expanded services or reallocated resources from non-program to City Connects schools as a result of the program. One of the main goals of this work was to improve the precision and empirical support for this estimate with data from non-program schools.

All costs are presented using 2013 Boston average prices. The final per student cost estimates are calculated as the present value over six years using a 3.5% discount rate for comparability with the original report and the effectiveness estimates from Walsh et al., 2014.

7.2. Findings for Incremental Costs of City Connects

Original Estimates

Direct Costs

The original estimate of the average direct costs of the City Connects program itself is $1,540 per student for six years of program participation in present value terms at Kindergarten to Grade 5 in 2013 average Boston-area prices. These costs primarily comprise Coordinators, support from the City Connects central program office, administrator time overseeing and supporting the program at the school sites, teacher participation in Whole Class Reviews, and facilities and materials to support Coordinators' work.

Indirect Community-Provided Services

We estimated the costs of external community-provided services based upon a sample of five community partners in each of two school sites. Based on interviews with personnel of each partner, we estimated the costs of personnel, facilities, materials, equipment, and other costs of providing services to students at City Connects schools. We then extrapolated the costs of the sampled partners to estimate the full costs of all partner-provided services based on the share of total students served that each partner represented. With this analysis, we estimate that the average per student cost of all external partner services provided at City Connects schools is $7,680 over six years of program participation. Keep in mind that not all of these costs are borne by the school.

Original Estimate of Incremental Costs

In a resource-rich city, such as Boston where the district prioritizes community partnerships, most schools engage with external providers to help support student needs. Thus, the costs of services provided by community partner organizations are not entirely attributable to City Connects. In the original report, we estimated the share of partner costs that were incremental based upon interviews with sampled community partners about how their pattern of service provision changed with the introduction of City Connects; for the schools in our original sample, we found that between 30% and 70% of the costs of community partner services were induced by City Connects (i.e., incremental to business-as-usual). On average, this totaled an incremental cost approximately $3,080 over six years of community partner services provided through program participation. These costs represent a variety of services and cost structures. Some services provided care one-on-one or to small groups, which carried a higher cost per student due to the focused nature of the service and the way that costs vary based on participation. Other services included larger groups, such as recreational or enrichment activities, or served the whole school, which carried a lower cost per student because the costs are less driven by the number of students who participate and are instead more fixed in nature.

Table 4 summarizes the estimate of the incremental costs of City Connects from Bowden et al. (2015). We show the estimated costs of key ingredients for direct costs and the indirect costs of community partner services induced by City Connects for a school with 782 students, a weighted average of the enrollments of the two schools from our original sample for comparability between estimates. We also show the annual cost per student, and the present value costs over six years of program participation in 2013 Boston average prices.

Table 4. Incremental Costs per Student of City Connects, Bowden *et* al. (2015) Estimate

Ingredients	Incremental Costs per Student
Direct Costs	
Personnel	
Central Program Staff	$40
Coordinators	$210
School Staff	$20
Parents	<$10
Materials and Equipment	<$10
Facilities	$10
Direct Subtotal	$280
Induced Costs	$550
Annual cost	$830
Present Value Cost (6 years)	**$4,570**

Notes: Source: Bowden et al., 2015. The number of students is 782. Present value cost rounded to the nearest $10 and expressed in 2013 Boston metropolitan-area prices. Present value over six years calculated using 3.5% discount rate.

Estimates of Costs for Comparison Schools

Direct Costs

In non-program schools, multiple administrators reported spending between 25% and 50% of their time on assessing and supporting the comprehensive needs of students. To maintain a conservative estimate, we attribute a reduction of 0.25 of a school administrator FTE to managing student support services in non-City Connects schools as an efficiency that can be gained from City Connects. We found that the roles of teachers in student support services ranged from identifying potential students needing additional supports to student progress through data tracking, professional development, and participation on teams that meet weekly to coordinate student support. Total teacher hours ranged from 56 to 388 hours per year in the four schools in our sample, with an average of 167 teacher hours.

In addition, a range of other professionals are involved in managing services in non-program schools, including school nurses and psychologists along with full-time coordinators in two schools. In one school, no staff beyond administrators and teachers were identified in interviews as being involved in student support services. In a second school, two social workers participated in student success and social services teams monthly. The two other schools had one to two field coordinators devoted to student support services. We estimated the time commitment of each of these personnel based on interview data and matched them to appropriate Boston-area prices for social workers, school counselors, school nurses, and school psychologists, as appropriate.

We also estimated facilities and materials costs for office space and computer use associated with this time. We use the cost of computers annualized over five years and estimate that the Principal uses a computer 25% of the time and each of approximately 50 teachers per school use a computer 1% of the time for student support services, and that the Principal's office is used approximately 25% of the time for meetings and for coordinating student support services.

Indirect Community-Provided Services

The findings described in Section 6 provide evidence for the level at which non-program schools typically partner with community organizations for supplemental support services. These data support the assumptions proposed in our prior report that Boston public schools are partnering with external service providers. The results also support the prior assumption that the amount of services received by students does differ depending on the partnership with City Connects, with students at participating schools receiving more support services than they would have received had they attended a school without City Connects. While the prior assumptions were supported generally, the partnerships schools typically have to provide supplemental support were far fewer than previously assumed. Thus, in the section below we re-estimate our incremental cost estimate of City Connects, both the direct cost of the program described above and the indirect costs of supplemental services that are induced by the program to more accurately reflect the additional resources provided to students in City Connects schools above and beyond what they would have received otherwise.

To ensure that our modeling approach maps onto the context and terminology used by City Connects, we organized our analysis to fit with the program's categories of services. City Connects classifies services into three broad categories according to the intensity of the intervention. Category 1 is "Prevention and Enrichment," which includes services such as before school programs, summer programs, and arts enrichment programs. Category 2 is "Early Intervention," and includes services such as social skills interventions, psycho-social group services, and adult mentoring programs. Category 3, "Intensive/Crisis Intervention," includes the most demanding category of services such as violence intervention, mental health counseling, and special education evaluation.

As mentioned earlier, non-program schools have partnerships with several community service agencies. Their services generally cover most of the service categories of City Connects, as well as all of the four key domains: academic, health, social emotional/behavioral, and family. However, the number, diversity, and extent of participation of service providers is not as broad as the City Connects community partner network. Each school had between four and nine community partners, for a total of 17 unique partners, as some partners served more than one school. We estimate a weighted average of the costs of partner services across these four schools by estimating the per student costs of each service provided and applying the per student cost to the number of students served by each partner in one non-program school due to data limitations.

To estimate the costs of partner services at non-program schools, we first determined the average cost of service provision for each of the 17 unique partners identified across the four non-program schools by reviewing its category and domain of service. For partners for which we had a direct analogue in our original sample (same category and domain), we use the costs of services provided by that partner as an estimate of the cost of the comparison services. For other partners, we use the average costs from our original sample of 10 community partners within the same category of service as a rough approximation of the costs of providing that service. This extrapolation requires two assumptions. First, partners that provide services to both City Connects and non-program schools will generally do so in similar ways with regard to cost, whether or not a school partners with City Connects. There is some empirical justification for this assumption based on interviews with sampled partners from Bowden et al. (2015), and generally little reason to believe that community partners will drastically adjust their service provision based on whether or not a school partners with City Connects. The second assumption is somewhat stronger: for partners for which we do not have a direct analogue in our sample of partners for which we have cost estimates, the average cost of service provision across the category and domain is representative of any

given partner. We then applied the per student cost of each service to the number of students served in one partner school to obtain an estimate of the costs of partner services at non-program schools. Based on this analysis, we find that the annual cost of providing community partner services is $540 per student in non-program schools, with a present value over six years of $2,990.

The estimates of the direct and indirect costs of providing student support services in non-program schools are presented in Table 5. We include rows for the ingredients of City Connects for comparison, although these costs are not incurred in non-program schools. The costs of school staff are notably higher in non-program schools than in City Connects schools, suggesting that the City Connects Coordinators in part substitute for administrator and other professional time, one dimension of the efficiency provided by City Connects. Overall, we find that the costs of student support services including the induced costs of the services received are $3,800 over six years.

Table 5. Per Student Costs of Student Support Services among Non-Program Schools, Bowden *et* al. (2015) Estimate

Ingredients	Comparison Cost per Student
Direct Costs	
Personnel	
Central Program Staff	-
Coordinators	-
School Staff	$150
Parents	-
Materials and Equipment	<$1
Facilities	<$10
Subtotal	$150
Induced Costs	$540
Annual Cost	$690
Present Value Cost (6 years)	**$3,800**

Notes: Source: Bowden et al., 2015. The number of students is 782. Present value cost rounded to the nearest $10 and expressed in 2013 Boston metropolitan-area prices. Present value over six years calculated using 3.5% discount rate.

Revised Estimate of Incremental Costs of City Connects

The revised incremental cost estimates are presented below in Tables 6-8. Table 6 compares the original estimates of the direct costs of City Connects with the new estimate of the costs of coordinating student support services in non-program schools to obtain a revised estimate of direct costs. Approximately half of the costs of City Connects would be incurred by schools even in the absence of the program, and a large share of the costs of City Connects are recovered via efficiencies elsewhere. Thus, the additional direct cost of City Connects is $130 per student per year, for a discounted total of $720 over six years of program participation.

Table 6. Revised Estimates of Incremental Direct Costs of City Connects (per Student, beyond Those of Non-Program Schools)

Ingredients	Bowden et al. (2015) Estimate	Comparison Estimate	Revised Incremental Direct Cost Estimate
Direct Costs			
Personnel			
Central Program Staff	$40	$ -	$40
Coordinators	$210	$ -	$210
School Staff	$20	$150	($120)
Parents	<$10	$ -	<$10
Materials and Equipment	<$10	<$1	<$10
Facilities	$10	<$10	$10
Annual cost	$280	$150	$130
Discounted 6-year total	**$1,540**	**$830**	**$720**

Notes: All costs rounded to the nearest $10, expressed in 2013 Boston metropolitan-area prices, and over six years calculated using 3.5% discount rate.

Table 7 summarizes the revised estimates of the incremental costs of City Connects by presenting the original estimates from Bowden et al. (2015) and the present estimates. The estimated cost of the direct costs of City Connects remains consistent as this estimate was not the focus of this report. There are two revisions highlighted in Table 7 below.

First, the original business-as-usual estimates assumed no direct costs would be incurred in schools that did not have a comprehensive support program in place. As described above, the findings of this work demonstrated that schools are incurring direct costs even in the absence of a formal comprehensive support program, such as City Connects. Thus, the new revised incremental cost reflects a direct cost of $130 per student (cost of treatment $280 minus cost of business-as-usual $150).

Second, the original estimates used interview data to roughly estimate that non-program schools received approximately 60% of the community partner services that City Connects schools received. The results of the current project provide stronger empirical support than previous estimates regarding induced services in the business-as-usual condition. The revised incremental cost estimate includes induced costs of student support services in the amount of $540 per student in non-program schools, which results in an estimated $850 per student in induced services for the incremental cost estimate.

Table 7. Original vs. Revised Estimates of Incremental Costs of City Connects (per Student, beyond Those of Non-Program Schools)

	Bowden et al. (2015) (Treatment)	Bowden et al. (2015) (Business-as-Usual)	Bowden et al. (2015) (Incremental)	Revised (Business-as-Usual)	Revised (Incremental)
Direct Costs	$280	$ -	$280	$150	$130
Induced Costs	$1,390	$840	$550	$540	$850
Total	$1,670	$840	$830	$690	$980

Notes: All costs rounded to the nearest $10, expressed in 2013 Boston metropolitan-area prices, and over six years calculated using 3.5% discount rate.

In summary, the original estimate of incremental costs reflected more services for students through partnerships than actually occurs in schools. Thus, the revised estimate shows much lower utilization of community partner services at non-program schools than originally estimated. Importantly, we also find that approximately half of the direct or core costs of City Connects are not incremental, as they are incurred in managing student support services in schools in the absence of the program.

Table 8 summarizes the incremental direct and induced costs, including annual and present value total costs, as well as per student costs. The revised estimate of $5,400 per student over 6 years provides an accounting of both mechanisms of City Connects through cost savings in managing support services due to efficiencies, as well as additional resources invested in more services for students. In other words, City Connects reduces the burden of student support on schools while adding to the overall resources received by students through partnerships with community organizations.

Table 8. Revised Estimates of Incremental Costs of City Connects (per Student, beyond Those of Non-Program Schools)

Ingredients	Revised Incremental Costs
Direct Costs	
Personnel	
Central Program Staff	$40
Coordinators	$210
School Staff	($120)
Parents	<$10
Materials and Equipment	<$10
Facilities	$10
Subtotal	$130
Induced Costs	$850
Annual cost	$980
Present Value Cost (6 years)	**$5,400**

Notes: All costs rounded to the nearest $10 and expressed in 2013 Boston metropolitan-area prices. Present value over six years calculated using 3.5% discount rate. Costs in parentheses indicate cost savings.

Interpretation of these results hinge on the question of how these costs are financed, particularly from the perspective of schools. In the earlier benefit-cost analysis report of City Connects, it was found that schools in Boston finance roughly 10% of the total costs of the program while the remaining resources were provided from other sources. The costs to the school were reallocated resources such as teacher time, office and conference room space, principal time, and office materials. More on this analysis can be found in Bowden et al., 2015, pg. 17 and Table 3.

8. BENEFITS AND COSTS OF CITY CONNECTS IN NATIONAL PRICES

Under this section, we adjust the price values applied to ingredients to reflect national average prices rather than those specific to Boston. This adjustment translates the results of the benefit-cost analysis to a national audience and improves comparability of the results to sites within City Connects nationally, as well as in comparisons across programs nationally.

The cost estimate in the previous City Connects Benefit-Cost Study (Bowden et al., 2015) is based on Boston local prices and reflects how much it would cost to produce the equivalent outcome measured in Walsh et al. (2014) in Boston. While the original cost estimate using local prices is highly relevant to the Boston area, how much it would cost to replicate the City Connects program model elsewhere in the country is an important extension. Furthermore, making the cost estimate more comparable to the estimates for similar supplemental student support programs would provide valuable information for interested educational policymakers. This section presents a recalculation of the average program cost using the national average prices as an extension of the original analysis.

8.1. Methods and Sources of Pricing

Estimating costs using the ingredients method (Levin, 1975; Levin, McEwan, Belfield, Bowden, & Shand, 2018) begins with identifying the resources used for program implementation regardless of how they are budgeted or who finances them. These resources – "ingredients" as we call them – are then specified in quantity and quality. For instance, in gathering information about the personnel category of ingredients, the researcher would need to specify qualifications, responsibilities, and time commitments for each staff member involved in program implementation. The data will be collected in a similar manner for facilities, materials and equipment, and other categories of ingredients. Based on these qualitative and quantitative data, each ingredient is matched with an appropriate market price based on the principle of opportunity costs, and then the costs are calculated by multiplying the quantity by the price. For this national price analysis, the quantities and qualities of ingredients used remains the same as in the prior report (Bowden et al., 2015). The difference is that all ingredients are matched with national average prices in 2013 US Dollars rather than the Boston area average prices.

Conversion of prices was carried out by *CostOut* (https://www.cbcsecosttoolkit.org/), an online tool designed to facilitate costs and cost-effectiveness estimations of educational programs. Most of the national prices used for this analysis were extracted from the *CostOut* price database which contains more than 1,000 national prices from credible data sources. In addition, the original source or database (e.g., U.S. Department of Labor's Bureau of Labor Statistics) are explored whenever there was no appropriate price to match in the *CostOut*. Below we summarize the sources of information for the national prices used for this analysis:

Personnel: Ingredients in the category of personnel are derived primarily from the U.S. Department of Labor's Bureau of Labor Statistics (BLS) - Occupational Employment Statistics - May 2015 National Occupational Employment and Wage Estimates United States. These personnel ingredients include staff at the City Connects central office in Boston College, City Connects Coordinators at school sites, school staff such as Principals and teachers, and staff at community partners including volunteers.

Volunteer time: We estimate volunteer time based on the specific tasks associated with their service. For example, the average hourly wage for teacher assistants in 2013 ($13.58/hour) was applied to those volunteers that provide tutoring or mentoring services. The Federal minimum wage ($7.25/hour) was assigned to volunteers doing simple/low-skill tasks. We test the sensitivity of these assumptions by including an additional analysis using a wage rate based on the volunteer's education level. The patterns of results are not changed by this test.

Benefits: For personnel with fringe benefits, the benefit rates were estimated using rates reported by the U.S. BLS via the National Compensation Survey (U.S. Bureau of Labor Statistics, 2014).

Facilities: For office spaces at community partners, we used the national average yearly rental price per square feet reported by the *Entrepreneur* magazine. National average price for school facilities is obtained from *Peter Li Education Group*, using the national median price for a new K–12 school (per sq. ft.) in 2012, uprated by 33% to adjust for land acquisition and furnishing costs. The prices of facilities were annualized over 30 years at a 3.5% rate of interest.

8.2. Results & Findings for National Cost Estimates

Table 9 compares the core costs of City Connects valued in average Boston Prices to average national prices. The costs are in present value terms representing participation from Kindergarten through Grade 5, in 2013 U.S. Dollars. As expected given Boston's high cost of living, the national price estimate is approximately 10% less than the Boston price estimate.

Table 9: Direct Costs of CCNX (Present Value over Six Years, per Student), Boston vs. National Prices

Ingredients	Boston Prices	National Prices
Personnel		
Central Program Staff	$220	$220
Coordinators	$1,150	$1,010
School Staff	$120	$90
Parental Involvement	$10	$10
Materials	$10	$10
Facilities	$30	$30
Total (rounded to nearest $10):	**$1,540**	**$1,370**

Notes: Total per student direct costs across 2 sites. Number of students: 1560. Present Value based on 6 years participation (K-5), discounted back to kindergarten using 3.5% discount rate, expressed in constant 2013 dollars using Boston average and national average prices.

Table 10 presents community partner costs valued in Boston average prices and national average prices. Differences in costs are mostly derived from lower costs in the personnel category. There are also slight differences for facilities and other inputs, mostly reflecting differences in office rental prices and cost of public transportation between Boston and the national average. These prices serve as the foundation for the incremental cost estimates shown below, wherein only a portion of these costs are attributed to City Connects as induced costs.

Table 10. Costs of Community Partners (Present Values over Six Years, per Student), Boston vs. National Prices

Ingredients	Boston Prices	National Prices
Personnel	$6,390	$5,890
Materials	$240	$240
Facilities	$990	$990
Other Inputs	$50	$50
Total (rounded to nearest $10):	**$7,680**	**$7,170**

Notes: Number of students: 1560. Extrapolated from sampled services to full service costs based on sample share of total services. Present Value based on 6 years participation (K-5), discounted back to kindergarten using 3.5% discount rate, expressed in constant 2013 dollars using Boston average and national average prices.

Table 11 presents the revised incremental cost estimates of City Connects, based on the analysis in Section 7, using national average prices. We apply the same national average prices described in this section to the costs of City Connects and community partner services, along with the costs of providing comprehensive student support services in non-program schools, in order to obtain an estimate of the per student incremental costs of City Connects and induced services, over and above the supplemental student support that would happen even in the absence of the program. Using this approach, the per student costs over six years of program participation are $5,010 in national average prices, as compared to $5,400 in average Boston-area prices.

Table 11. Revised Incremental Cost Estimate of City Connects (per Student National Prices)

Ingredients	Incremental Costs
Direct Costs	
Personnel	
Central Program Staff	$40
Coordinators	$180
School Staff	($100)
Parents	<$10
Materials and Equipment	<$10
Facilities	$10
Subtotal	$130
Induced Costs	$780
Annual cost	$910
Present Value Cost (6 years)	**$5,010**

Notes: Number of students: 782. Present Value based on 6 years participation (K-5), discounted back to kindergarten using 3.5% discount rate, expressed in constant 2013 dollars using Boston average and national average prices.

8.3. Updating the Benefit-Cost Analysis of City Connects

Table 12 below combines the revised cost estimate with the economic benefits of the City Connects program. Both estimates reflect U.S. national average price values. In this analysis, we apply the per student benefits of $13,850 estimated in Bowden et al (2015). This estimate was derived using previously published impacts of the program in improving academic achievement and high school graduation rates. We combine these to this cost estimate to obtain a revised benefit-cost ratio and net present value of the program. The benefits are already expressed in 2013 national average prices, in present value terms at Kindergarten entry using a 3.5% discount rate, and thus are directly comparable to the revised cost estimate using national prices. The benefits therefore exceed the costs by $8,840 per student, and the benefit-cost ratio is 2.76. In other words, for every dollar invested in City Connects, there is a return to society of about $2.75.

Table 12. Benefit-Cost Analysis of City Connects in National Average Prices

	Estimates
Present Value Cost per Student	$5,010
Present Value Benefits per Student	$13,850
Net Present Value (Benefits - Costs)	$8,840
Benefit-Cost Ratio (Benefits/Costs)	2.76

Notes: National average prices and benefits in constant 2013 dollars. Present value based on 6 years participation (K-5), discounted back to kindergarten using 3.5% discount rate. Benefits estimated in Bowden et al. (2015).

8.4. Limitations

Our desire to achieve construct, internal, and external validity with a purposive sample in a retrospective analysis presents a significant research challenge given the tremendous diversity of schools and the students they serve. Evaluating mechanisms and costs for treatment schools, and an internally valid sample of comparison schools, that are both representative of a larger population, can be best achieved in the context of a randomized controlled trial. In lieu of that, a well-designed quasi-experiment with a clear counterfactual sample can be a useful setting to extend this work so as to credibly and precisely estimate the costs of both the treatment and the comparison.

9. CONCLUSIONS AND DIRECTIONS FOR FUTURE WORK

Building upon the previous Benefit-Cost Analysis of City Connects (Bowden et al., 2015), the current study examines the student support services in non-program schools in BPS. A purposive sample of four schools was selected for this study. Comparing across school level characteristics, we found that the sampled schools are representative overall of all of Boston public schools. However, these schools are substantially different from the two program schools sampled in the previous study, with the latter having larger enrollments, higher average academic achievement, and different student demographics.

We found variation in non-program schools regarding the identification of student needs, organization of student support, training of school staff, and record keeping of student services. Although many schools have ways of defining academic needs and identifying services, and some schools conduct systematic reviews of each student for social and behavioral needs, most schools (especially smaller schools) rely heavily on informal daily interactions to identify student needs. The reliance on such an unsystematic system to assess non-academic student needs is not likely to yield an efficient system of support required to improve student performance in the classroom. While all schools have existing student support teams (or similar case management teams) to manage student support, the focus of the teams varies. Schools tend to lack a designated person to keep track of data on student needs, services, and follow-up. The schools also differ in the comprehensiveness and coverage of students. Finally, we found that all schools do use student services provided by community partners. The services cover similar domains as those provided to City Connects schools. However, the amount of services provided to students in non-program schools is far less than City Connects schools.

9.1 Implications for Incremental Costs of City Connects

We applied our analysis of the organization of student support services in comparison schools to refine our estimates of the incremental costs of City Connects. Based on this analysis, we conclude that City Connects almost certainly does entail some degree of "additional" resources. For instance, the Coordinator position is by and large additional to any other school support staff, as schools do not displace other support staff when getting a Coordinator. We also have evidence from comparison schools that they have many fewer external partnerships and services provided by community partners than City Connects schools. However, it is extremely unlikely that the entire costs of City Connects are incremental because the City Connects program also replaces the demands on personnel in the comparison schools. In addition, the program's professionally trained coordinators and their system of screening and follow-up allow for greater efficiency in the identification and responsiveness to student needs. The City Connects Coordinator frees up school staff to perform other important duties, easing the burden on the Principal, Assistant Principal, school counselors, psychologists, nurses, and others. Further, even though City Connects schools respond to student needs by providing more services, on average, all the comparison schools also enlist some supplemental services provided by community partners. Therefore, the evidence seems to support both an efficiency mechanism and a supplemental resources mechanism, and thus is supportive of a cost model that reflects additional support without allocating the full cost of all supplemental services provided by community partners to the City Connects program.

9.2. Implications for Organization of Comprehensive Student Support Services

Finally, we learned from interviews with school Principals that BPS allocated extra resources to schools that are in a state of "crisis" in terms of student performance and behavior. The issue that was shared was that schools in crisis rarely have the organization to use these resources well. Then, once schools start to do better, resources are taken away. This pattern also poses challenges for schools that are seeking additional support for comprehensive student support services like the City Connects. Specifically, the district decides which schools can participate in City Connects and allocates particular funding

to finance their implementation of the program. However, for schools that are not considered "in dire need", it is difficult to seek external help in improving their student support services.

Even if all schools in the sample are not able to implement City Connects due to limited district resources, there are potential lessons to be learned from comparing the organization of student support services in City Connects to those in comparison, non-program schools that can contribute to raising the effectiveness and efficiency of supplemental student support across all schools. In particular, coordinating training and sharing best practices, and potentially pooling resources for management and building relationships with community partners across small schools is a promising strategy for enhancing efficiency. Secondly, while all schools did have some system in place for tracking student needs and support services, a streamlined and centralized database along the lines of the system created by City Connects could be beneficial in improving communications within the school, reducing transaction costs, and coordinating services to meet the needs of all students, not only those with the most severely demonstrated needs. A third lesson is the utility of a well-trained on-site coordinator who devotes full-time effort to integrating support into schooling. This is accomplished through a systematic approach to assessing needs, providing and referring students for appropriate services, monitoring service receipt and service fit. An additional, and equally important, role of this staff person is building relationships with families, teachers, and community partner organizations.

9.3. Contrasting City Connects Schools with the Traditional Approach

In this report, we summarize our analyses of schools that lack a comprehensive student support model and relate those findings to our previous benefit-cost analysis of City Connects. This section summarizes the similarities and distinctions we found between the two types of schools overall. As shown in Table 13, the process and staffing structure across the two types of schools differs. Schools with City Connects have a full-time staff member, who is well-trained and supported by the City Connects team, devoted to the comprehensive strengths and needs of all students in a school.

In contrast, the processes and practices of staff within non-program schools, though well-intentioned, lack highly organized systems and access to the support and training provided through the Coordinator and City Connects. While these schools are attempting to assess and monitor student progress, our findings support earlier work noting that traditional approaches to providing support are generally haphazard and do not address the comprehensive needs of all students. This is not due to a lack of motivation or interest, but the absence of a systematic process that can undertake this challenge efficiently. Our findings suggest that this contrast is at the heart of the efficiency benefits offered by City Connects.

Overall, school leaders and staff in all schools shared a serious devotion to their students and a commitment to the importance of addressing comprehensive needs for support. The main challenge among the non-program schools was one of a lack of resources to provide a professionally trained and dedicated coordinator, continuous training and mentoring of staff, a comprehensive and accurate database, regular student assessments, support services inside and outside of school, and relationship building with families and community partners.

Table 13. Contrast between City Connects and Business-as-Usual approach

City Connects	Business-as-usual in BPS
Screening & evaluation of student needs	
• "Whole Classroom Review (WCR)" twice a year to review every student • Coordinators & Classroom Teachers responsible for WCR • Review all students' needs & strengths • Academic, social emotional, health, and family domains • Student Support Team (SST) meetings or direct referral by teacher whenever severe needs come up • SST is led by the Coordinator and may include School Nurse, Assistant Principals • Training – 4-day Coordinator training every August (*1 day for returning Coordinators) – Online training for Program Manager – Principal training on WCR every fall	• No systematic screening process (*some use the district's behavioral screening) • Principal or Assistant Principal, Classroom Teachers identify needs • Partial review and focused on needs • Academic and one or two more domains depending on student population • Student Support Team (SST) meetings or direct referral by teacher whenever severe needs come up • SST includes Family Coordinator, Specialist Teachers, Counselors, School Nurses and/or other staff • No specialized training is provided consistently (*some Principals provide training to his/her staff, and some receive district's training on SEL domain)
Classifying intensity of student need	
• Students are grouped into three tiers based on the intensity of their needs – Tier 1: Prevention and enrichment – minimal risk (e.g., tutoring, academic enrichment, athletics, dance, arts) – Tier 2: Early-intervention – moderate needs (e.g., mentor programs, dental care, community-provided clothes) – Tier 3: Intervention – severe needs (e.g., psychological services or medical assistance)	• Tiered approach was found in all of the sampled schools
Services directly provided by schools	
• Individual and group counseling or other services provided by Coordinators – heavier dependence on community partners	• Before and after school programs such as tutoring, parent workshop – provided by school staff such as literacy specialist teachers or Family Coordinator
Partnership building	
• City Connects Community Resource Advisory Board formalizes the relationships between City Connects and the community partners • At school level, the Coordinators are responsible for building and maintaining partnership	• Partnership building depends largely on the capacity of school leadership
Services provided by community partners	
• 39-47 community agencies • 1,363-5,270 services	• 4-9 community agencies • Smaller number of services
Monitoring of student progress	
• City Connects Student Support Information System (SSIS) • Coordinators are responsible for tracking and following up with students	• Database developed by the school – how detailed, etc depends on the school • Principal or Assistant Principal is typically responsible

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APPENDIX A: SIMILARITY ANALYSIS TECHNICAL APPENDIX

Table A1. Detailed Table for Similarity Comparisons (in SMDs)

	(1)	(2)	(3)	(4)	(5)
Enrollment					
Total enrollment	**0.437**	**0.516**	**-0.472**	**-0.160**	**-0.448**
% Males	0.142	0.160	0.085	0.141	0.054
% Females	-0.142	-0.161	-0.085	-0.141	-0.054
Student characteristics					
% African American	0.110	**-0.621**	**-0.841**	**-0.768**	-0.089
% Asian	**2.312**	**2.384**	**0.424**	**1.466**	**0.287**
% Hispanic	**-1.248**	**-0.880**	**0.610**	-0.033	0.198
% White	**-0.345**	0.203	0.036	-0.034	**-0.417**
% Other race	0.046	-0.148	0.086	0.056	0.228
% First language not English	0.122	**0.678**	**0.836**	**0.842**	0.227
% English Language Learner	-0.004	**0.433**	**0.981**	**0.878**	**0.443**
% Low-income	-0.102	-0.231	**0.460**	**0.303**	**0.480**
% Students with disabilities	0.189	0.050	-0.141	-0.050	-0.001
% Eligible for free lunch	-0.145	**-0.322**	**0.385**	0.212	**0.458**
% Eligible for reduced-price lunch	0.200	0.371	0.133	0.235	-0.032
Teacher characteristics					
Total # of teachers	**0.579**	**0.575**	**-0.553**	-0.173	**-0.446**
% Licensed teachers	-0.082	0.234	**0.258**	0.223	-0.047
% Core academic classes by highly qualified teachers	-0.109	-0.047	-0.014	-0.039	-0.061
Accountability: (MCAS, % proficient and advanced)					
Grade-5 Science	**1.125**	**1.249**	0.086	**0.439**	-0.031
Grade-4 ELA	**0.660**	**0.934**	0.144	**0.414**	-0.104
Grade-4 Math	**0.918**	**1.091**	0.135	**0.504**	-0.030
Attendance					
Retention rate	0.017	-0.135	**-0.575**	**-0.425**	**-0.344**
Attendance rate	0.105	0.244	**0.654**	**0.636**	**0.419**
Average # of absences	-0.074	**-0.261**	**-0.690**	**-0.632**	**-0.409**
Propensity to participate City Connects	**2.895**	**1.668**	0.098	**1.238**	**1.079**
Generalizability Index	***0.061***	***0.744***	*0.957*	***0.756***	***0.812***

Two sampled treatment schools vs. four sampled comparison schools.
Two sampled treatment schools vs. All treatment schools in BPS.
Four sampled comparison schools vs. All comparison schools.
All sampled schools vs. All Boston public schools.
All treatment schools vs. All Boston public schools.
SMDs calculated by: [Mean(1st group) – Mean(2nd Group)] / S.D.(BPS). Bold highlights refer to |SMD| > 0.25 S.D., or Generalizability Index < 0.90, both suggesting lack of similarity or representativeness.

Similarity Analysis Findings: Comparison 1

The first comparison is between the two treatment schools and four non-program schools we sampled. It examines how our sample in this study is similar to or different from the sample in the prior cost-benefit study.

We considered the following five aspects of school characteristics: enrollment, student demographics, teacher characteristics, accountability, and attendance. The list of specific variables included in our model is presented in Table A1. For each of these variables, we calculated the standardized mean differences (SMD) comparing the two treatment schools in Bowden et al. (2015) and four non-program schools in the current study, as well as the SMD for propensity to participate City Connects which serves as an overall measure of difference between the two group of schools. As suggested by Tipton (2014), SMD is a straightforward means to examine differences in characteristics between two groups of samples. The SMD with absolute values greater than 0.25 is considered as a "large" difference as a rule of thumb. The absolute values of SMDs reported in Table A1 Column (1) show that our two samples differ substantially across all aspects of school characteristics. These differences are confirmed by the SMD for propensity to participate City Connects is more than ten times the threshold of 0.25. Lastly, we followed Tipton (2014) to calculate the generalizability index between the two samples. The index is another overall measure of difference and ranges between 0 and 1, with values greater than 0.90 indicate that the two groups in this comparison are virtually identical. Our index value of 0.061 suggests the two treatment schools and four counterfactual schools we sampled are far from identical over the observable school characteristics.

Similarity Analysis Findings: Comparison 2

The second group of comparison is between the two sampled treatment schools and all City Connects schools in Boston. This comparison examines the representativeness of our treatment sample in Bowden et al. (2015) to all treatment schools in the population.

Column (2) in Table A1 suggests that in addition to being distinct from our counterfactual sample, the two treatment schools we sampled are also substantially different from all City Connects schools across all aspects of characteristics examined. Column (2) in Table A1 sheds some lights on the specific differences between the two groups. For instance, the sampled treatment schools serve more English Language Learners and students whose first language is not English. They have a slightly higher percentage of students eligible for reduced-price lunch. However, despite having more students from disadvantaged background as mentioned above, the two sampled school outperform their peer City Connects schools in Grade-4 ELA and Math and Grade-5 Science. Finally, our two measures of overall difference lead to the same conclusion of lack of similarity and representativeness of the two schools among all program schools.

Similarity Analysis Findings: Comparison 3

The third group of comparison examines the representativeness of our sampled counterfactual schools to all non-program schools in BPS. The SMDs in Column (3) of Table A1 suggest that our sampled schools are noticeably different from all non-program schools in various school characteristics. A closer look at each variable shows that the four sampled schools have larger proportion of students from disadvantaged background, higher share of licensed teachers, and better attendance rate but similar academic achievement compared to other non-program schools. However, when taken together, these differences across the many characteristics do not lead to noticeable overall difference between the two groups. Specifically, the generalizability index of is rather large at 0.957, indicating that our small convenience sample of comparison schools taken in this report appears to be a random sample from the population, and hence can be viewed as representative of all non-program schools in BPS.

Similarity Analysis Findings: Comparison 4

The fourth group of comparison pools the samples of treatment and comparison schools together and compare with all Boston public schools to see how representative our sampled schools are of the general population of BPS. We find that our pooled sample is representative regarding enrollment and teacher characteristics. Despite similarity in these aspects, the 1.24 SMD for propensity to participate and 0.76 of generalizability index suggest that our combined sample of treatment and counterfactual schools cannot represent the population of Boston public schools.

Similarity Analysis Findings: Comparison 5

In the last comparison, we examine how City Connects schools are similar to or different from Boston public schools in general. City Connects schools different from BPS in terms of enrollment and student demographics. Specifically, as shown in Table A1, the program schools have well-below average proportions of White students. They serve larger proportions of English Language Learners and students with disadvantaged backgrounds. Although the two group of schools appear to be similar over accountability, largely due to equivalent academic achievement, the City Connects schools do have better attendance compared with their BPS counterparts. The generalizability index show that overall City Connects schools are different from Boston public schools.

As our data are pooled from 2000-2016, the differences found between City Connects schools and BPS may be due to their preexisting differences even without City Connects, as BPS tends to select schools in dire need for participation in the program. However, the difference in characteristics of program schools may also reflect the effect of City Connects. For these reasons, the findings presented here are intended to be informative for future studies rather than to provide a conclusive judgment on the comparability of these groups.

APPENDIX B: INTERVIEW PROTOCOL

Overview of Supplemental Student Support

We are interested in learning how your school serves the diverse needs of your students—particularly "non-academic barriers to learning"—, whether the support programs are provided here at school or somewhere else, and how you and your colleagues might be collaborating with other organizations in the community that have expertise in supporting these needs.

Q1. Could you briefly describe your school's approach to organizing student support programs and activities? Who is involved, how are the needs of the students assessed, and how do the students assigned to specific services?

Q2. What is your involvement in the process of providing student support?

Q3. Who else is involved and how? If we would like to ask for more information on the student support services at your school, who would be the point person for us to contact for each category of services provided at your school?

Q4. Who else is also involved? Are they associated with your school or with other institutions (e.g., school district, or other organizations in the community)?

Q5. Have you recently observed any of the following or similar case at your school? Would you please walk us through how you and your staff identified and dealt with any of the following case?

- A student needs some extra help in a specific subject;
- A parent expresses concerns about his or her child's behavior and/or academic progress;
- A student shows signs that s/he may be distracted due to vision, medical or dental issues;
- A student shows signs that s/he is not socializing with peers in class or has been repeatedly suspended for fighting;
- A student exhibits signs of bullying or being bullied;
- A student has demonstrated signs of severe depression or anxiety;
- A student displays signs that s/he is facing major disrupters in life such as homelessness, loss of parents, parents' divorce, or parents' heavy illness;
- A student takes frequent unexcused absence and/or misses a substantial portion of his or her school days; and
- A student's grades drop dramatically a semester.

Q6. What specific services and activities are provided at your school in the Academic Year 2016-2017 (e.g., tutoring, mentoring, athletics, arts/music, counseling, health services, food assistance, etc.)?

Q7. Approximately what is the proportion of students that have been served by these supplemental student support programs during the Academic Year 2016-2017?

Q8. Do all students receive some of these services? In other words, does your school have an emphasis that all students should receive one or more of these programs?

Q9. About how many of these services did students each receive, on average, this academic year?

Q10. Where are these student support provided (e.g., at school and provided by school, outside of school and provided by community partner, etc.)?

Specific Questions on the Ingredients Information

*(**Note that questions in this section refer primarily to the organization and management of service provision, including diagnosis, referral, and monitoring, as opposed to directly providing supplemental student support themselves, unless such services are provided by the school**).*

1. Introduction

Q1a. What is your current connection with the provision of this type of supplemental student support?

Q1b. Please provide a general description of the activities the program entails at your school:
- Where does each activity occur?
- Who has been directly involved in each activity?

2. Personnel

The questions below are organized by headings to indicate the level of administration: state, district, and school personnel (Principals, teachers, counselors, specialists, aides, volunteers, coaches, tutors, etc.). Ask below questions for each personnel.

- Role in the program?
- Number of people in that position?
- Time spent on the program? (hours per week, percentage, etc.)
- If appropriate, what are the qualifications, years of experience for the position?

[District]

Q2a. Personnel at the district level

[School]

Q2b. School administration (Principal, assistant Principal)

Q2c. School Counselor or Youth Development Coordinator

Q2d. Teachers

Q2e. Volunteers

Q2f. Other School-level Personnel

3. Training

Q3a. Is any training provided to any of the personnel in year 1 of the program implementation?

Q3b. Who did the training?

Q3c. What were the trainers' qualifications?

Q3d. How were personnel trained in the first year?
- Duration and frequency of training e.g. number of days per year?
- Timing - was it during the school day or after-school/summer training?
- What facilities were used and where?
- If off site - lodging, travel, per diem?
- What materials and equipment were used?

Q3e. What training/PD has been provided beyond the first year? (repeat questions listed above for each year)

Q3f. How many days per year are substitute teachers hired to cover teachers' classes because the teachers are involved in the program?
- How many substitute teachers are hired each year?

4. Materials and equipment

Q4a. What materials are required for the program?

Q4b. How many of each are required?

Q4c. Does the program require the use of computers?

Q4d. If so, how many computers are required, for how long, and how often? If the computers are shared, what percentage of the time are they used?

Q4e. Does the program receive any contributed donations of materials, supplies, or equipment? If so, what donated materials were used by the program?

5. Facilities

Q5a. What spaces are required for the program? How often are these spaces used, and how large are they?

6. Other questions

Q6a. Does the program involve any travel for personnel or students? If so, who travels, to where, using what mode of transportation, how often?

Q6b. Does the program require any inputs from students' families? For example, do parents need to come in for additional conferences?

Q6c. Are there any other aspects of the program - including resources paid for by the school and other donated goods and services - that we haven't covered?

Q6d. Do you have any additional cost or budget data about this program?

Q6e. Do you have any idea how much of the program cost is paid for by the state, district, school or private sources?

Q6f. Do you know how differently your school implements the program as compared to other schools, or compared to how the program was originally designed?

Q6g. Is there anyone else you think we should contact at the state, district or school level who might be able to give us further information about the ingredients and costs of implementing the program?

7. Information related to students

Q7a. How many students are served by your program in the Academic Year of 2016-2017?

Q7b. For how many years has this program been implemented at your school? Has there been a big change of the implementation over the years?

APPENDIX C: BOOKS AND MATERIALS USED BY SCHOOL STAFF

List of Recommended Books and Resources

Cole, S. F., Greenwald O'Brien, J., Gadd, M. G., Ristuccia, J., Wallace, D. L., Gregory, M. (2005). *Helping traumatized children learn: Supportive school environments for children traumatized by family violence.* Massachusetts Advocates for Children Trauma and Learning Policy Initiative in collaboration with Harvard Law School and the Task Force on Children Affected by Domestic Violence.

Cole, S. F., Eisner, A., Gregory, M. , Ristuccia, J. (2005). *Helping traumatized children learn: Safe, supportive learning environments that benefit all children* (2nd ed.). Trauma and Learning Policy Initiative in collaboration with Massachusetts Advocates for Children and Harvard Law School.

Denton, P. (2013). *The power of our words: Teacher language that helps children learn*. Center for Responsive Schools, Inc.

Doll, B., & Cummings, J. A. (2007). *Transforming school mental health services: Population-based approaches to promoting the competency and wellness of children*. Thousand Oaks, CA: Corwin Press.

Elias, M. J., & Arnold, H. (2006). *The educator's guide to emotional intelligence and academic achievement: Social-emotional learning in the classroom*. Thousand Oaks, CA: Corwin Press.

Goleman, D., & Senge, P. M. (2014). *The triple focus: A new approach to education*. Florence, MA: More Than Sound.

Greene, R. W. (2009). *Lost at school: Why our kids with behavioral challenges are falling through the cracks and how we can help them*. New York, NY: Simon and Schuster.

Kriete, R., & Davis, C. (2014). *The morning meeting book*. Center for Responsive Schools, Inc.

Elias, M. J., & Arnold, H. (2006). *The educator's guide to emotional intelligence and academic achievement: Social-emotional learning in the classroom*. Thousand Oaks, CA: Corwin Press.

Stormont, M., Lewis, T. J., Beckner, R., Johnson, N. W. (2008). *Implementing positive behavior support systems in early childhood and elementary settings*. Thousand Oaks, CA: Corwin Press.

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