Actionable Evidence Initiative Case Study

An Actionable Data System Approach

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City Connects | Mary E. Walsh Center for Thriving Children
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The Actionable Evidence Initiative

Led by Project Evident with funding from the Bill & Melinda Gates Foundation, the Actionable Evidence Initiative seeks to understand and remove barriers to building evidence that is equitable, useful, credible, and relevant for practitioners as they aim to improve the outcomes of students who are Black, Latino/a/x, or experiencing poverty. Please visit https://www.projectevident.org/actionable-evidence to learn more, join our network, and find partners interested in working together on actionable evidence solutions.

Actionable Evidence in Education Cases

This case is one in a series commissioned by the Actionable Evidence Initiative in 2020 and 2021. (Cases are published on the Project Evident website.) The series illustrates how researchers, evaluators, practitioners, funders, and policymakers across the country are exemplifying principles of the Actionable Evidence framework. It profiles a range of settings, actors, learning questions, methods, and products, unified by a commitment to practitioner-centered, timely, practical, equitable, and inclusive evidence building. Each case describes the origins, development, and results of a research or evaluation project, along with the authors' reflections on their experiences. Our hope is that these cases will provide both inspiration and practical guidance for those interested in generating and using evidence that leads to better and more equitable outcomes for youth and communities.

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Executive Summary

Across America, children in high-poverty urban schools face out-of-school challenges that impede their success in the classroom and life. Contexts beyond the school are critical, accounting for up to two-thirds of the variance in student achievement. City Connects emerged in response to the need for a systemic approach to addressing out-of-school factors. Its mission is to help students—academically, socially, emotionally, and physically—by connecting each child to a tailored set of prevention, intervention, and enrichment services in the school and community.

This case study describes the development and launch of a proprietary software system that supports several types of users who play roles in the delivery of City Connects in schools. This system, called MyConnects, provides a way to capture actionable information for practitioners implementing City Connects and those seeking to understand its impact. It was designed and developed using a process that engaged front-line practitioners such as counselors and social workers implementing City Connects, teachers and principals, community partners, and researchers, as well as software specialists and data security experts.

In the City Connects practice, a school-based Coordinator works with every teacher in the school every year to review the strengths and needs of every student across developmental domains (academic, social/emotional/behavioral, health, family). Based on this review, an individualized plan of supports and enrichments is drafted and documented in MyConnects. Information about the student, their family, and a wide range of community-based service providers and school services populates dashboards and reports that enable stakeholders to take action:

- A Coordinator uses information about student strengths and interests to find a community partner that offers a relevant service, enabling a referral that is a good fit for the student
- A teacher sees that several students in their class share a need for support in a behavioral area and chooses a classroom management approach suited to that need
- A principal refers to a student's plan to inform a conversation with their family about their strengths, needs, interests, and supports
- A family selects a particular after-school program for a student that considers teacher observations captured in the MyConnects student plan
- A researcher sees variation in the number of school partnerships across a city and is inspired to investigate the differences

This case study demonstrates how collaboration between scholars and practitioners can leverage reliable data and information and enrich research and practice.

About the Project

About City Connects

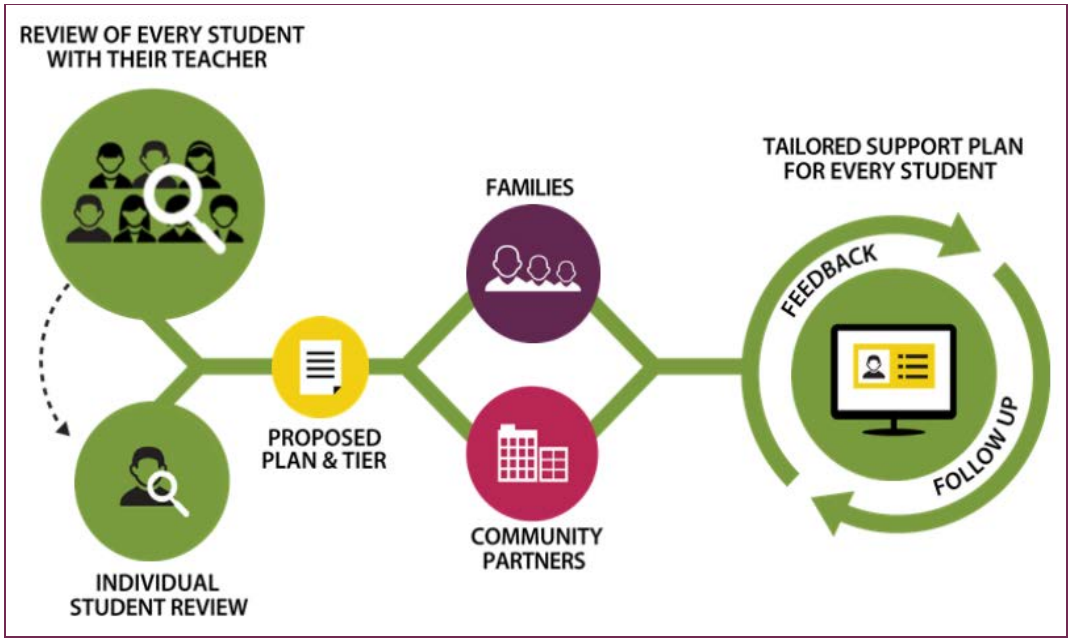
For students in schools within and beyond the U.S., what happens outside the classroom greatly affects what happens inside the classroom. Factors such as food insecurity, a stay in a homeless shelter, inadequate clothing, unmet medical needs, or lack of access to enriching opportunities in sports and the arts can impede students' healthy development and success in school.

Housed within the Mary E. Walsh Center for Thriving Children at Boston College's Lynch School of Education and Human Development, City Connects emerged in response to the need for a systemic approach to addressing these and other out-of-school factors. Its mission is to help students—academically, socially, emotionally, and physically—by connecting each student to a tailored set of prevention, enrichment, and/or intervention services in the school and community. Initially implemented in six schools in Boston, MA, City Connects has expanded to over 90 schools across the U.S. and internationally.

In City Connects schools within the U.S., students who identify as racial or ethnic minorities make up 81% of the population; a third of the student population identifies as Hispanic, and 27% identify as Black. There are differences across districts in student race/ethnicity, highlighting the varied contexts in which City Connects is implemented. For example, compared to the overall City Connects sample, Ohio and Minnesota public schools serve a higher proportion of students who are Black; and Springfield, Massachusetts public and Minnesota Catholic schools serve a higher proportion of students who are Hispanic. Generally, almost a quarter of students in City Connects schools are English Language Learners and about 17% of students receive special education services. Further, at least two-thirds of students in City Connects schools are economically disadvantaged.

At the core of the City Connects practice is a Coordinator, a Master's-trained and licensed school counselor or social worker, who meets with each classroom teacher and other school staff to review every student in a school every year. They discuss each student's strengths and needs in the areas of academics, social/emotional/behavioral growth, health, and family. Each student is then linked to a unique set of supports and enrichments available in the school or community that address their individual strengths and needs. The Coordinator cultivates partnerships with community agencies, serving as a point of contact for the school. Coordinators collaborate closely with families and facilitate access to supports and enrichments. Figure 1 illustrates the City Connects practice.

Figure 1: Overview of the City Connects Approach



Ongoing evaluation of City Connects has produced a consistent set of findings that demonstrate its long-lasting impact.[1] Studies show that attending a City Connects school makes a difference for students through each stage of their development. City Connects students outperform comparison peers on measures of academic achievement, success, and enhanced life chances and opportunities.

- Preschool: City Connects sustains positive effects of preschool on elementary school math performance. Findings also suggest that preschool and City Connects programs complement each other to enhance student performance in elementary school.
- Elementary School: Students enrolled in City Connects schools experience better academic outcomes than their peers not enrolled in City Connects schools. These outcomes include higher report card scores and higher test scores on statewide tests in elementary school. They also demonstrate stronger academic effort and better attendance.
- Middle and High School: Students who experienced City Connects in elementary school outperform comparison peers on indicators of educational success and life chances in middle and high school. City Connects students experience lower retention (repeating a grade level) in grade, chronic absenteeism, and high school dropout.
- Postsecondary: Students who attended a City Connects elementary school are more likely to enroll in, and graduate from, postsecondary institutions than peers who never experienced City Connects.

[1] An, C. (2015); Dearing, E., Walsh, M., Sibley, E., Lee-St. John, T., Foley, C. & Raczek, A. (2016); Walsh, M.E., Lee-St. John, T., Raczek, A.E., Vuilleumier, C., Foley, C., & Theodorakakis, M. (2017); Walsh, M. E., Madaus, G. F., Raczek, A. E., Dearing, E., Foley, C., An, C. Lee-St. John, T. & Beaton, A. (2014).

Origins of the MyConnects Software Project

This case study describes an effort to develop and launch the proprietary software system that supports City Connects schools. This software system, MyConnects, provides a way to capture actionable information for practitioners implementing City Connects. Because the City Connects approach is grounded in developmental science and seeks ongoing evidence of effectiveness, the system also offers critical information for researchers seeking to understand the intervention's impact.

Before creating MyConnects, City Connects used the Student Support Information System (SSIS), an internally developed system branded by City Connects that allowed for the secure collection of data on student reviews, individual student plans, service referrals, and providers who deliver services. However, with the goal of continuous improvement, the City Connects team saw a need to modernize its system. SSIS captured practice information, but Coordinators saw the potential to improve the interface to allow quick capture of information on the fly. SSIS provided reports, but users reported that accessing and navigating them could be cumbersome (e.g., reports were not fully visible within a single screen and required moving a navigation bar to access all content).

We wanted to allow City Connects' Coordinators and other practitioners in the school to enter data easily in real time to produce user-friendly reports that could inform practice and student support interventions. We also wanted to enable Coordinators to streamline tracking and follow-ups and communicate more efficiently with school administrators, school and community partners, and families. Without these updates, Coordinators would be limited in their work—for example, less able to respond in a timely and fully-informed way to an emerging student need, or lacking access to pertinent information at their fingertips as they consulted with families and updated school staff and leaders.

The new system needed to serve several core programmatic functions:

- Document an individual support plan for every student in a school in a way that makes it easy for the Coordinator implementing the plan to track progress and follow up
- Aggregate information on reviews, service referrals, and partnerships in a way that helps schools and the community see progress and patterns, and take action based on what they see
- Track whether core practices are being implemented as City Connects expands to new geographies and provide support as needed
- Capture information in "real time," in the dynamic environment of a school and at times the surrounding community

Evidence needed to be actionable for multiple people and groups. Coordinators need to match students to the best supports, track progress, and follow up. Teachers need to be able to use the information to adapt classroom approaches based on the emerging picture of strengths and needs in the classroom and to build on student strengths through the choices of activities. Principals need to make decisions about classroom supports and school-wide interventions

that are informed by student strengths, needs, and interests, such as whether to bring in new programs and resources. Beyond the school walls, families need a way to make decisions about specific supports and programs for their children and communicate with the school about their views and preferences. Community agencies need to connect with the students who can benefit from their services, enabling them to add students to their programs based on information about interest and need. Finally, City Connects implementation leaders need to identify places where the practice is and is not being delivered as intended, target support to practitioners, and track outcomes for funders.

Partners

MyConnects was developed through a process that brought together partners with varying and critical perspectives on how best to capture and use information on student support in schools. Through live meetings, surveys, focus group conversations, and direct observations in schools, contributors shared their expertise on the kinds of information needed to provide strong, customized support to students. The partners included **front-line practitioners** such as counselors and social workers implementing City Connects; **teachers and principals**; **community partners**; and **researchers**. It was important to find ways to represent the perspectives of all of these groups because MyConnects supports a highly collaborative intervention that creates networks of support surrounding each student. A final important group of partners included **software specialists**, including data security experts, who helped define the necessary technical decisions.

The shared development of MyConnects paralleled the original development of the City Connects intervention. The City Connects practice was shaped through the input and direct collaboration of school principals, teachers, counselors, and social workers; families; community partners; and researchers at Boston College specializing in school-community-family partnerships, including developmental and counseling psychologists, social workers, and educational evaluators. The importance of the original guidance provided by these partners from 1998 to 2000, when the City Connects intervention was developed, was reflected again in the range of input needed for the upgrade of the City Connects software system that became the MyConnects project beginning in 2018.

Approach

Like the development of City Connects itself, the MyConnects project was undergirded by several research frameworks. First, developmental science informed the foundational choices that guided the practice for capturing and using student support information.[2] For example, because children develop in multiple domains simultaneously, the practice and the software

[2] Example sources from the developmental sciences include: Bronfenbrenner, U., & Morris, P. A. (2006). The bioecological model of human development. *Handbook of child psychology: Theoretical models of human development* (p. 793-828). John Wiley & Sons; Cicchetti, D., & Sroufe, L. A. (2000). The past as prologue to the future: The times, they've been a-changin'. Development and psychopathology (Special issue). *Reflecting on the Past and Planning for the Future of Developmental Psychopathology, 12,* 255–264; and Garcia Coll, C.T., Akerman, A., & Cicchetti, D. (2000). Cultural influences on developmental processes and outcomes: Implications for the study of development and psychopathology. *Development and Psychopathology, 12,* 333-356.

would need a way to consider each of these domains—academic, social/emotional/behavioral, health, family—individually and in relationship to each other.

Second, implementation science informed how practices were operationalized so that they could be implemented in a standard way, pertinent information could be captured, and fidelity of implementation could be measured. For example, the literature on implementation science recommends focusing on the core areas of practice when choosing which information to prioritize, aggregate, and report. This led the team to prioritize capturing information such as recommendations for student supports and services and community partner information and to de-emphasize information capture related to activities such as supporting student transitions across schools and grades. Although important, this second category of activity is less central to the City Connects practice.

Third, expertise from the field of educational evaluation informed choices about how to capture and use process indicators. For example, experts in educational evaluation emphasize the importance of understanding what actually happens in the delivery of an intervention[3], so the software enables capturing start and end dates of supports and whether they took place at a school or in the community.

The partners approached the development tasks by establishing a core team of four staff members charged with central responsibility for managing the project, creating deliverables, and engaging the full set of contributors and partners. This core team included two staff technology experts and two staff members with cross-project responsibility. None of the four has primary expertise in either program implementation or evaluation, but all have familiarity with both areas of City Connects' work.

In an initial information-gathering and requirements definition phase, the team began with an audit of the use of the previous version of the software, SSIS. This phase involved reviewing archived reports and seeking input via focus groups, surveys, and in-person observations from the stakeholders described above. Assimilating this input allowed the team to develop and document core requirements for the new software, which helped further clarify goals. A critical discovery from this process was that the information in previous versions of the software, although comprehensive, was not being compiled and presented to users to easily enable them to act on the information in schools. It became clear that making the information more actionable in real time needed to be a central goal of the MyConnects effort. Finally, the information-gathering phase allowed the team to create a request for proposals to guide the search for a software vendor.

The next phase of the work involved selecting a vendor, establishing a vision for the software itself, and translating that vision into specific development features. Guided by the selected

[3] Stufflebeam, Daniel L. & Coryn, Chris L.S. 2014. *Evaluation theory, models, and applications.* San Francisco, CA: John Wiley and Sons. Mowbray, Carol T., Holter, Mark C., Teague, Gregory B., & Bybee, Deborah. 2003. Fidelity criteria: Development, measurement, validation. *American Journal of Evaluation 24,* 315-340.

vendor, the team established a vision and goals for different users, taking advantage of direct user input. The core team included four users, who in turn consulted other users such as the Director of Implementation and other implementation staff, in a prototyping-and-feedback process. Through this period, the core team met weekly. Members of the team worked with the vendor multiple times per week. There were also typically 1-2 meetings per month with various stakeholder groups.

The initial launch of the new software in fall 2019 was accompanied by training and support for users. The team established communication channels to learn what was working and what was not from practitioners in the field. As the application was used more, the team gathered ongoing feedback via an input tracker. This was a shared spreadsheet that allowed implementation leaders and MyConnects team members to identify and classify issues for potential improvement, many of which they learned about from Coordinators. At weekly meetings, issues were prioritized and learnings were articulated.

The second year of implementation involved ongoing fixes and the release of enhancements, often in response to ideas from the field. For example, one enhancement was a mid-year report to teachers providing information on the supports and enrichments that each student in that teacher's classroom receives from City Connects. This report enables both Coordinators and teachers to take action—staying in touch about specific students' progress and adjusting support plans as needed.

Resources

The resources needed for this project included (1) dedicated time from the four core staff members described above (ranging from 2-4 hours per week to 15-20 hours per week per person depending on the phase of the project) and (2) the services of a software vendor with high-level design expertise, experienced front-end and back-end programmers, and the capacity to understand both the City Connects practice and its research goals. The project sought and obtained specific funding to build the new application. Because the project's total cost was significant, the funding was obtained from multiple sources, including foundations with a commitment to supporting evidence-based approaches to addressing the strengths and needs of the "whole child."

Challenges and Responses

One category of challenge the project team encountered related to interim benchmarks and deadlines. On several occasions, the core team and vendor recognized a significant risk that we would not meet an internal deadline. This required unanticipated problem-solving time—additional meetings to reset priorities and determine which areas of work could and could not be postponed. We discovered that direct access to project management information, beyond participants with defined project-manager roles, was a valuable aid to monitoring our process. This is a strategy the team continues to use in the current sustained phase of application use.

We also encountered challenges related to features of or access to the software itself. For example, Coordinators reported that much of the information they needed to collect had to be captured on the fly—for example, at the bus, at recess, or in the cafeteria. A desktop-only system would be of limited value; if users couldn't access the data from anywhere, at any time, on any device, they wouldn't be able to optimize their use of the system to take action. In collaboration with the vendor, the team responded by making the application cellphone-friendly. Voice capture can be used when needed, and dashboards and reports can be seen on mobile devices.

Another challenge related to anticipated concerns about information security. With the expanding digital ecosystem in schools and the evolving landscape of student data privacy laws and regulations at both the federal and the state levels, we faced a growing need to work with our district and school partners to clarify what information the system can collect, who may have access to it, and what we can use it for. Because information about student strengths and needs is sensitive, the team worked on a communication plan to describe the structural measures taken to protect this information, such as the clear definition of user roles and access; required data security training for users; and two-factor authentication. With the input of a wider team, we developed a suite of communications materials tailored to different audiences to describe the features of this secured system.

A final challenge arose when the application proved popular in schools and principals asked for direct access to MyConnects information (i.e., access not mediated through the Coordinators). They expressed interest in seeing information at the classroom and grade level, access to individual student support plans, and information about community partnerships. Capturing, selecting, and prioritizing those needs would add complexity to the development of the system and, as a result, impact the user experience. It would also require City Connects staff to develop data confidentiality protocols and train potential users on data security and privacy. We responded by developing this user role in the second year of implementation, designing a data security training experience that was respectful of principals' expertise, and launching access for principals.

Results

The newly developed MyConnects system creates, stores, and tracks individualized support plans to address the whole student. The data captured includes information about students (e.g., grade, strengths, needs, level of educational risks), service providers (both school-based and community agencies) and their services (e.g., type, location categories, service labels across developmental domains), and service referrals (e.g., delivery status, number of delivered services). Because of the user-friendly design, City Connects' Coordinators and other school administrators who have access to the system can generate analytical reports with just one click. For instance, they can choose to create a Summary Report that provides an overview of practice information. They also can generate a Whole Class Review Report and an Individual Student Review Report to learn more about review completion status and maximize the value and use of the analytical information provided in those reports.

We introduced MyConnects to the City Connects Coordinators and Program Managers in the fall of 2019, a year after development began. In the launch process, we provided the Coordinators with group training sessions designed to provide information on the functionality of MyConnects. Consistent with our Fidelity Framework (see sidebar on p. 14), which was designed to ensure that City Connects is implemented as designed, our Coordinators use MyConnects to capture information on service delivery for students, monitor progress, and make needed adjustments.

City Connects helps Coordinators, teachers, and school administrators to help the whole student. Designed to support the City Connects practice, MyConnects offers Coordinators a way to manage individualized plans to provide every student with the right services at the right time, and enables Coordinators to collect and access information about community resources. Specifically, the Coordinator works with each classroom teacher in the fall to review every student's strengths, needs, and interests. The teacher's insights into the student's development in academic, social/emotional/behavioral, health, and family domains are captured in MyConnects and inform the customized support for the student.

In regular meetings with Program Managers across the City Connects network, we have learned that Program Managers see their Coordinators using the rich service provider information in MyConnects to connect students to the services that are the best match for their particular strengths and needs. Seeing which services were referred, which services were delivered, and which services are not yet delivered allows Coordinators to take action to make sure students are getting the right services at the right time. Importantly, MyConnects helps capture goals and action steps for students experiencing intensive needs. For example, during the Covid pandemic, one Coordinator reported that the "action steps" feature in MyConnects helped make it clear whose responsibility it was (Coordinator, teacher, or school support staff) to take specific steps in support of a student—something that enabled action during the pandemic, when the professionals involved were not physically together in the school.

An equally important result for the Coordinators is the opportunity to monitor the implementation and effectiveness of the student's plan to make adjustments, such as revising supports when new concerns arise or fading supports when goals are met. For Coordinators, MyConnects facilitates building, analyzing, and refining their implementation process—critical components of progress monitoring.

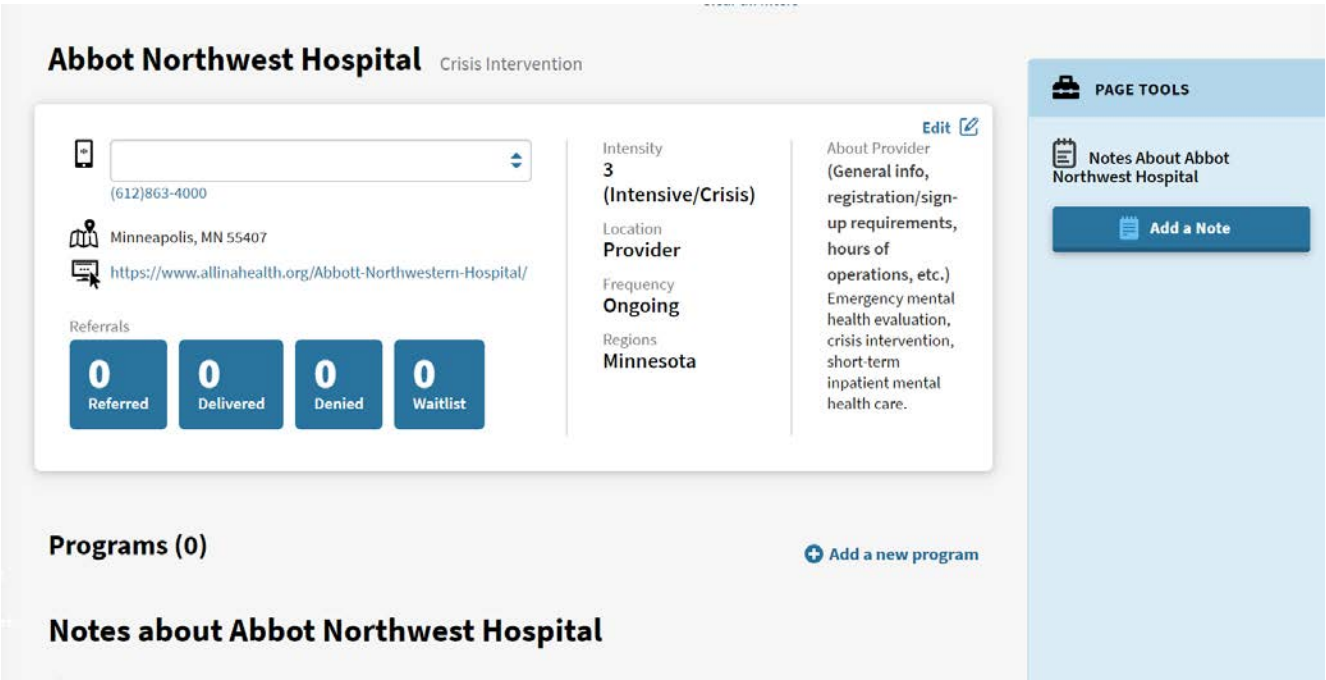
In addition, MyConnects offers more flexibility to CityConnects' Coordinators. Coordinators can access practice data for faster, more informed decision-making. MyConnects automatically and securely tracks and stores data in real time. It is easily accessible via any device, so everyone who needs to view the data can do so from virtually any location. To ensure continuous progress toward goals, Coordinators can use MyConnects to track Whole Class Review and Individual Student Review results at any time (see Figures 2 and 3). While the information from other tools that use end-of-year, aggregate data is valuable, the static nature of such data makes it essentially "unactionable" with respect to day-to-day student support. In contrast,

Coordinators appreciate the real-time information available in MyConnects to inform student-centered decisions. For example, in response to an open-ended question in the annual satisfaction survey, one Coordinator said that MyConnects made it clear which students needed more intensive intervention, saying the tool "helps keep me organized." Moreover, all of the information in MyConnects is presented visually in easy-to-read graphs and charts, and is "drillable" (that is, it can be disaggregated in various ways).

Figure 2: A Whole Class Review Screen in MyConnects

Coordinators use this dashboard for a quick look at their progress toward ensuring that every student has a comprehensive review and service referrals. They can easily add a service referral for a student using the page tools to the right. (The data shown here are illustrative.)

Figure 3: A Service Provider Screen in MyConnects



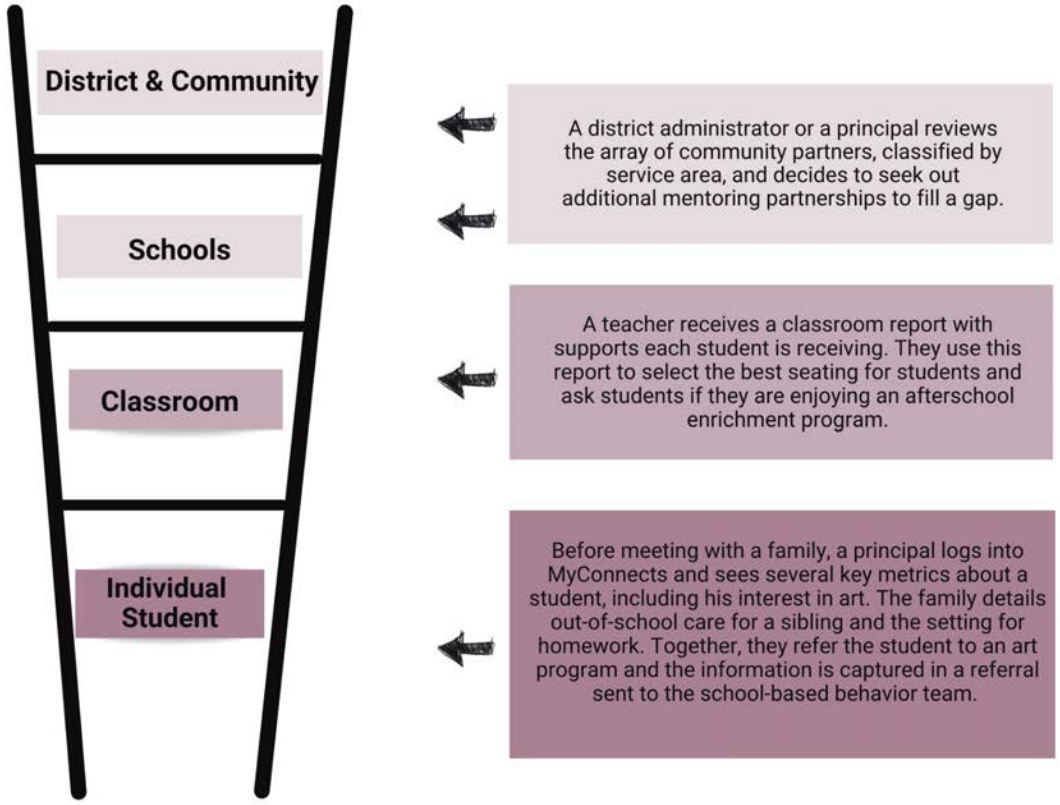
This screen provides the Coordinator with a quick overview of the information that helps them decide whether to choose this provider for the referral. For example, they may use the location to determine whether the service is feasible for students. (The data shown here are illustrative.)

We have learned through feedback to our implementation leaders in their weekly individual coaching calls with Program Managers that Coordinators find the information in MyConnects accessible when they are revising and implementing student plans, and that practitioners are excited to use these features to choose the level of detail that suits their critical but different information needs. For instance, Coordinators used MyConnects during the Covid-19 pandemic to keep track of which students were attending school in person and which were learning remotely in order to check in on how they were doing.

Besides aiding City Connects' Coordinators to develop and track individualized student support plans, MyConnects empowers Coordinators and other administrators to combine school districts' data into custom, interactive dashboards. We learned from Coordinator focus groups that they use real-time data to produce aggregated and user-friendly reports to inform and enhance practice and student support interventions. One example is a mid-year report to school principals. These reports include such information as the percentage of students who have received a comprehensive review of strengths and needs; categories of services referred and delivered across the school; and supports delivered by Coordinators, such as small social skills groups. In the most recent annual anonymous survey of all City Connects principals, 89% of principals reported receiving this report, and 96% of those principals rated it somewhat or very

useful to their work.[4] Those reports can increase data-driven decision-making and transparency between administrators, staff, parents, and school board members. In the survey, one principal reported using information from MyConnects to “be specific with the families" regarding student support needs. The same principal used information from MyConnects to “help focus teams of teachers to specifically support students.”

Figure 4: Using MyConnects Evidence at Different Levels to Inform Choices and Actions*



*This Ladder figure displays levels of aggregation of information in MyConnects, with examples of several uses of information to take action. Examples are anonymized composites based on real use of information in City Connects schools.

Equally important, MyConnects has advanced the effectiveness of practices in the field. As we constantly learn, visualized information from MyConnects provides City Connects’ Coordinators more capabilities to understand the data and take action. To show information in digestible ways and give practitioners a clear window into real-time analytics so that action can proceed, we continuously develop new features and improve MyConnects. In this process, we can hear from other practitioners and education stakeholders regarding the impact of MyConnects from different perspectives.

[4] Data source: spring 2021 anonymous online survey of City Connects principals (respondent N=81).

- For **teachers**, MyConnects supports a holistic approach to the whole-child concept of education. Teachers need to know about their students' academic progress, assessment results, and behavioral data, but it is equally vital for them to know their students' areas of needs and strengths. With the real-time information disaggregated down to the student level from MyConnects, teachers can adapt classroom activities based on individual students' strengths and needs. For example, if the teacher sees that several students in the class share an interest, the teacher can choose classroom activities that incorporate that interest. One area of constructive feedback relates to a classroom-level report for teachers describing the supports and services their students have received to date. In the most recent annual anonymous survey of City Connects teachers, 78% of respondents were somewhat or very satisfied with this report.[5] Although positive, this feedback indicates some room for growth; the team is working to enhance Coordinator support in presenting and using this report with teachers.
- **Administrative leaders** want similar data, but they often need to look at it by significant subgroups to ensure equitable outcomes across the school district. Providing real-time data related to individual students' support helps reduce leaders' workload; for example, MyConnects helps identify service resource gaps, freeing administrators to concentrate on creating student-centered decisions.
- Although they do not have direct access to MyConnects, **parents** benefit from close communication with Coordinators and school administrators who have a comprehensive view of their children's strengths, needs, and progress through this system. This information can provide a window into a student's world that parents don't otherwise have, and empowers many parents to help and advocate for their children.
- Finally, these many benefits for the field also lead to benefits for **researchers**. MyConnects makes visible patterns in students' strengths and needs, service referrals, and community partnerships. Seeing these patterns expands researchers' study horizons and strengthens the foundation of research on the nature and potential of student support. Researchers can produce high-quality studies that yield practical guidance for school districts. For instance, researchers conducted a series of studies on the effect of the COVID-19 pandemic on students and community partners by triangulating data collected across surveys with data from MyConnects. Researchers also link the data elements such as student engagement and level of educational risks provided by MyConnects with teachers' personalization strategies to determine whether and how teachers utilize deeper knowledge about the child's social-emotional, health, and family status to inform personalized learning plans, thereby expanding the understanding of the process of personalization and its impact.

Significantly, MyConnects helps CityConnects Coordinators and other education stakeholders visualize data across multiple sources, all rooted in equity. Promoting equity requires that students receive supports that match their individual strengths and needs in different domains. One size does not fit all. Using MyConnects, City Connects Coordinators work systematically

[5] Data source: spring 2021 anonymous survey of teachers in some City Connects districts (not all surveyed this year; respondent N=378).

with teachers and others to capture information about each student's strengths and needs, leading to tailored service and support referrals. MyConnects enables communication and collaboration among CityConnects Coordinators and others in the school, family, and community to provide tailored support to students within their personal ecosystem. This way, each individual student receives the specific supports they need. Evidence has demonstrated that this tailoring leads to more equitable outcomes.

Implementing and monitoring individual student support plans with quality, flexibility, efficiency, and equity requires commitment and time. MyConnects is designed and implemented as a progress monitoring and decision system. Implementing it helps City Connects and our partners to probe several questions collaboratively. How will we know whether the interventions are working? How will we know if everyone is implementing the plan with fidelity? How will we know when to modify supports? Are we doing what we said we would do? MyConnects helps education stakeholders work together to create research agendas that are responsive to current challenges and build collaborative networks to share data and find bright spots that solve common problems.

MyConnects in Action: The City Connects Fidelity Framework

The City Connects fidelity monitoring system was developed to ensure the intervention was implemented as intended as it expanded to more than 90 schools in multiple cities and states. During the past six years (2014-2020), City Connects has compiled and provided fidelity data and reports to practitioners to inform implementation leadership, professional development, and coaching.

We designed the system to track fidelity across seven key components of the intervention that align with the program practices (e.g. Whole Class Review; Family Partnerships). Each component has four to eight facets. (Facets are the features of the component that must be realized to implement the intervention faithfully.) Each component in the model has nine to fifteen indicators. (Indicators are the measurable, concrete, observable actions that a staff member would take to carry out City Connects features listed in the corresponding facet.) Fidelity system indicators come from existing intervention data sources and multiple informants to measure the degree to which the program is being delivered. All fidelity data is collected and managed in MyConnects for continuous enhancement of the fidelity system.

The framework is designed to be practical and easy to use. Program Managers, who coach and supervise Coordinators, can consult central staff when they have difficulty implementing the practice.

One example of fidelity data use in practice: A Program Manager noticed that the percentage of students in her district receiving an intensive review was lower than expected (8% instead of the typical 10%). Over a period of two years, she used fidelity indicators at the school level to identify opportunities to work individually with Coordinators on specific steps in the process, such as referrals from teachers, to better identify students who could benefit from this review. Two years later, the district-wide percentage of students receiving this review had increased to 10%.

Communication is fundamental in the use and development of MyConnects. Reports and analytical information brought to practitioners' fingertips foster more systematic and efficient communication. As described above, direct access to MyConnects has recently been extended to school principals, allowing them to review relevant information regularly and correct course when necessary. The data empowers all practitioners with actionable information, and it is a critical tool/feature for traditionally underserved populations.

MyConnects facilitates collaboration, communication, and ongoing partnerships among researchers, practitioners, and other stakeholders. For example, as noted above, principals and teachers provided feedback on the usefulness of MyConnects reports to their work. The system demonstrates how collaboration between scholars and practitioners can leverage reliable data and information and enrich research and practice. **MyConnects helps build a community of inquiry, including researchers and practitioners alike, committed to a long-term, mutually beneficial collaboration that promotes evidence-based practice to enhance the success of all students.** This community of inquiry especially comes to life when practitioners and researchers convene, as in our annual summer Program Manager Institute, which includes sessions for Program Managers, implementation leaders, and researchers to work together.

Alignment with Actionable Evidence Principles

Principle	In This Case ...
Centers on Community Needs and Voices *Addresses the context, perspectives, priorities and assets of students and families, along with the challenges they face*	• MyConnects reflects City Connects' systemic approach to connecting each student, especially students facing systemic disadvantages, to a tailored set of prevention, enrichment, and/or intervention services. • Students provide information on their own interests and current activities at the elementary level, and additional information about career interests at the secondary level. • Data captured by MyConnects increases involvement and transparency for families and the community by enabling better and more specific conversations with school principals and teachers, promoting opportunities for families to advocate for their children. It offers a fuller picture of students and their context than would be available without a system pulling together multiple perspectives on strengths, needs, and delivery of supports.
Prioritizes Practitioner Learning and Decision-making *Answers questions that are highly relevant to policy and practice, and that help practitioners prioritize decisions in service of students and families*	• MyConnects provides different types of practitioners with the information relevant to them at the right level of aggregation for the decisions they need to make. • Coordinators can efficiently document an individual support plan for every student in a way that makes it easy to track progress, follow up and communicate with teachers, school administrators, community partners, and families. • Teachers can adapt classroom activities based on individual students' strengths and needs captured by MyConnects. They can also combine the data from MyConnects and data from other sources to get a more complete and comprehensive view of how each student is doing. • Further, MyConnects helps administrative leaders identify service resource gaps and ensure equitable outcomes across the school district.

Enables Timely Improvements *Allows practitioners to make evidence-informed decisions in a timely manner*	• Feedback from practitioners confirms that they appreciate the real-time information available through MyConnects to inform student-centered decisions. • The information is also easily accessible via any device, so every practitioner who needs to view the data can do so on demand.
Credible and Transparent *Uses high-quality data and analysis, aligning methods with practitioner questions, timeline and context*	• The iterative development process of MyConnects brought together a group of partners with varying and critical perspectives on how best to design an information system that facilitates systemic student support in schools. • Several research frameworks undergirded this project. Developmental science informed the foundational choices that guided the practice for capturing and using student support information. Implementation science informed the operationalization of the practice, information capture, and fidelity of implementation measures. Additionally, expertise from educational evaluation informed choices about how to capture and use process indicators. For example, the system triangulates input from Coordinators and Program Manager practice "checklists" to promote accuracy and consistency.
Responsive to Operational Context of Practitioners *Reflects the context in which practitioners operate, including organizational settings, relationships and resources, and political and policy environment*	• The MyConnects system is designed to fit into users' working patterns (by, for example, being mobile-friendly for City Connects and school staff who often aren't sitting in front of a computer). • Since COVID-19 impacted students and families, MyConnects has become even more critical to assist Coordinators and school administrators regarding the vital and evolving challenges and needs of students and families, especially historically underserved and underrepresented populations.

Accessible and User-Centered *Clearly communicates research design, analysis, and findings to facilitate practitioner understanding and use*	• We designed MyConnects to present information in easy-to-read graphs and charts and so that data could be disaggregated in multiple ways. The design allows end users to quickly and easily understand key information at a glance, and offers drill-downs to view details on specific metrics and/or data points. Practitioners are excited about the possibility of choosing the level of detail that suits their emerging information needs. • The information is also easily accessible via any device, so every practitioner who needs to view the data can do so from virtually any location, on demand. • Users are trained and supported in the use of MyConnects, and communication channels were established to learn from practitioners in the field what was working and what was not. • Design elements and features that were customized for the benefit of users included tools for filtering items on a list (for example, showing only providers offering health services) and sorting by criteria important to users (for example, organizing a list of students according to who needed elements of a review to be completed).
Builds Practitioner Capacity for R&D *Provides practitioners with data, products, tools and trainings to own and advance their evidence agenda*	• MyConnects helps build a Community of Inquiry, including researchers and practitioners alike, committed to ongoing use of evidence in ways that permit thoughtful action. • Practitioners take part in professional development conversations while examining reports from MyConnects in order to deepen their practice of using patterns in the data to guide action. For example, Program Managers may lead a discussion about the categories of services referrals, how they differ across schools, and why.
Attends to Systemic and Structural Conditions *Considers systems, policies, practices, cultural norms, and community conditions that drive inequity, including those related to poverty and racism*	• MyConnects enables practitioners to capture and act on the different needs of individual students. It strengthens the equitable delivery of supports by connecting each child to the supports that are appropriate to the individual and their racial/cultural circumstances. Family access to resources differs as well. MyConnects improves all children's and families' access to a wide range of culturally responsive community resources. • MyConnects also provides a platform for practitioners to receive ongoing professional development in culturally sensitive practices.

Reflections and Conclusion

Implementing and monitoring individual student support plans with quality, flexibility, efficiency, and equity requires commitment and time. From the feedback we received, it appears

MyConnects makes data work for Coordinators and other practitioners. This result is aligned with one of our critical visions when we initiated the MyConnects Project: **when robust and accurate data is accessible to all education stakeholders, our practitioners can make better decisions about student support strategies to improve student outcomes**.

The MyConnects system is perfectly aligned with City Connects' mission to ensure that all students have an individualized support plan and access to the right resources at the right time. In the culture of City Connects, all partners are committed to this mission—whether they work mostly in a school, at a district level, with families, in the community, as part of the software team, or as researchers and evaluators. We believe this unity of purpose and accompanying desire to collaborate enabled the partners to build a software system that serves all users.

This system has proven to be valuable through unexpected challenges. For example, during the COVID-19 pandemic, school districts met with unique and unprecedented challenges. MyConnects became even more critical to assist Coordinators and school administrators, offering stakeholders visibility into data at the student, classroom, school, and district levels. Through surveys of Program Managers, we learned that Coordinators used the individual plans in MyConnects to quickly identify students who might need immediate attention by virtue of their housing or family circumstances. As a result, Coordinators were able to provide students and families services (e.g., food, technology) in a timely fashion throughout the pandemic. Although built before the pandemic began, the system proved responsive to situational needs, in terms of both the comprehensiveness of information about individual students and ease of access to this information.

Working together on developing and implementing MyConnects is just one of many steps in a fruitful and enjoyable partnership that CityConnects has developed with education stakeholders over the past twenty years to build a network of support for all students, their families, and the schools that serve them. This critical step fosters capacity and capability among City Connects practitioners and prompts research questions that we can examine to explore whether and how adoption of a system like MyConnects drives better outcomes for students: *What effect did the introduction and use of MyConnects have on student outcomes? What effect did the introduction and use of MyConnects have on the outcomes of historically underrepresented and underserved students?* Including these questions in the research agenda that we are developing and taking concrete steps to study them are imperative. Our efforts to design, develop, and implement MyConnects are driven by the assumption that it will improve practitioners' practices and efforts, and ultimately, improve student outcomes. The fundamental objective of our MyConnects project in terms of capacity building is for everyone in the school community to use robust and meaningful data to maximize their support and contribution to the success of the student, classroom, school, district, and our education system. Ultimately, with the right support at the right time, regardless of the income or zip code, every student finds his or her spark and succeeds.

References

An, C. (2015). Estimating the effectiveness of City Connects on middle school outcomes. [Doctoral dissertation, Boston College]. eScholarship@BC.

Bowden, A. B., Belfield, C. R., Levin, H. M., Shand, R., Wang, A., & Morales, M. (2015). A benefit-cost analysis of City Connects. Center for Benefit-Cost Studies in Education: Teachers College, Columbia University.

Bowden, A. B., Shand, R., Belfield, C. R., Wang, A., & Levin, H. M. (2017). Evaluating educational interventions that induce service receipt: A case study application of City Connects. American Journal of Evaluation, 38(3), 405-419.

City Connects (2020). The impact of City Connects: Progress report 2020. Mary E. Walsh Center for Thriving Children, Lynch School of Education, Boston College.

Dearing, E., Walsh, M., Sibley, E., Lee-St. John, T., Foley, C. & Raczek, A. (2016). Can community and school-based supports improve the achievement of first-generation immigrant children attending high-poverty schools? Child Development, 87(3), 883-897.

Haywoode, A. (2018). City Connects prompts data-driven action in community schools in the Bronx. Phi Delta Kappan, 99(5), 44-46.

Walsh, M. E., & Brabeck, M. M. (2006). Resilience and risk in learning: Complex interactions and comprehensive interventions. In R. J. Sternberg & R. F. Subotnik (Eds.), Optimizing student success in school with the other three Rs: Reasoning, resilience, and responsibility (pp. 113–142). Information Age Publishing.

Walsh, M.E., Lee-St. John, T., Raczek, A.E., Vuilleumier, C., Foley, C., & Theodorakakis, M. (2017). Reducing high school dropout through elementary school student support: An analysis including important student subgroups. [Policy brief]. Mary E. Walsh Center for Thriving Children.

Walsh, M. E., Madaus, G. F., Raczek, A. E., Dearing, E., Foley, C., An, C. Lee-St. John, T. & Beaton, A. (2014). A new model for student support in high-poverty urban elementary schools: effects on elementary and middle school academic outcomes. American Educational Research Journal, 51(4), 704-737.

Walsh, M. E., & Murphy, J. (2003). Children, health, and learning: A guide to the issues. Praeger.

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Claire Foley is the Associate Director of City Connects at the Lynch School of Education and Human Development. Over her 13 years with the program, she has collaborated with both the research and evaluation team and the implementation team in a variety of cross-project capacities, including serving as a liaison across these teams. She has contributed to the development and enhancement of City Connects' student support information system, now MyConnects, over the past ten years. She was also a core contributor to the development of the intervention's fidelity of implementation system. A linguist specializing in child language acquisition, she is an adjunct faculty member in the Boston College Linguistics Program. She has taught at Linguistic Society of America Summer Institutes and is a founding member and contributor to the Virtual Center for Language Acquisition at Cornell University.

Mary Walsh is the Kearns Professor of Urban Education and Innovative Leadership at the Lynch School of Education and Human Development, and is the Executive Director of City Connects. She co-developed City Connects over 20 years ago with an interdisciplinary group of colleagues, including district leaders; school principals, teachers, and staff; families; community agency representatives; and colleagues at Boston College. Since 2001, under her leadership, City Connects has been implemented in hundreds of schools in the U.S. and Dublin, Ireland, and studies demonstrating its effectiveness have met the highest standards of external review. A clinical-developmental psychologist, Dr. Walsh has led both the Master's program in School Counseling and the Doctoral program in Counseling Psychology at Boston College. She has published widely in the area of school-community supports for schoolchildren and their families. Her most recent book is *Children, Health and Learning*.

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Case Keywords

K-12 | implementation support | program improvement | implementation science | dashboard | school | teachers | school administrators | community service providers | academic learning outcomes | social emotional outcomes | behavioral outcomes | equity