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Evaluation of the Networks for School Improvement Initiative

INTERIM SUMMARY REPORT

Susan Bush-Mecenas, Rebecca Herman, Michael Garet, Laura Stein, Matthew Johnson, and Jeffrey Max

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The Networks for School Improvement Initiative and Evaluation

The Bill & Melinda Gates Foundation established the Networks for School Improvement (NSI) to increase the proportion of Black students, Latino students, and students experiencing poverty who are on track for high school graduation and college enrollment.[i] The initiative supports networks of schools in using continuous improvement (CI) methods to identify and test strategies designed to improve teachers' practices and student supports. Each NSI consists of an intermediary organization leading a network of about 20 schools (ranging from fewer than 10 to more than 50 schools) and supporting teams of school staff in conducting CI. These intermediaries have partnered with almost 800 schools across approximately 150 districts and charter networks to identify, test, refine, and scale strategies to improve students' academic and behavioral outcomes.

The foundation funded three cohorts of five-year grants between 2018 and 2020, totaling more than $300 million in funding (see Exhibit 1).[ii] Most intermediaries leading NSI are either non-profit education organizations or university-affiliated centers; three are school districts and one is a charter school network. Each NSI focused its grant on improving student outcomes in one or more of the following areas:

- **8th- or 9th-Grade On Track:** The proportion of 8th- or 9th-grade students who meet a set of academic and behavioral outcomes related to high school graduation and college enrollment
- **College-ready On Track:** The proportion of 11th- and 12th-grade students who are on track academically to enroll in a college with a graduation rate of at least 50 percent
- **Well-matched Postsecondary Enrollment:** The proportion of 12th-grade students who complete the steps needed to enroll in a college with a graduation rate of at least 50 percent

Exhibit 1. NSI Grant Years By Cohort

Cohort	2018-19 school year	2019-20 school year	2020-21 school year	2021-22 school year	2022-23 school year
1	Year 1	Year 2	Year 3	Year 4	Year 5
1B/2		Year 1	Year 2	Year 3	Year 4
3			Year 1	Year 2	Year 3

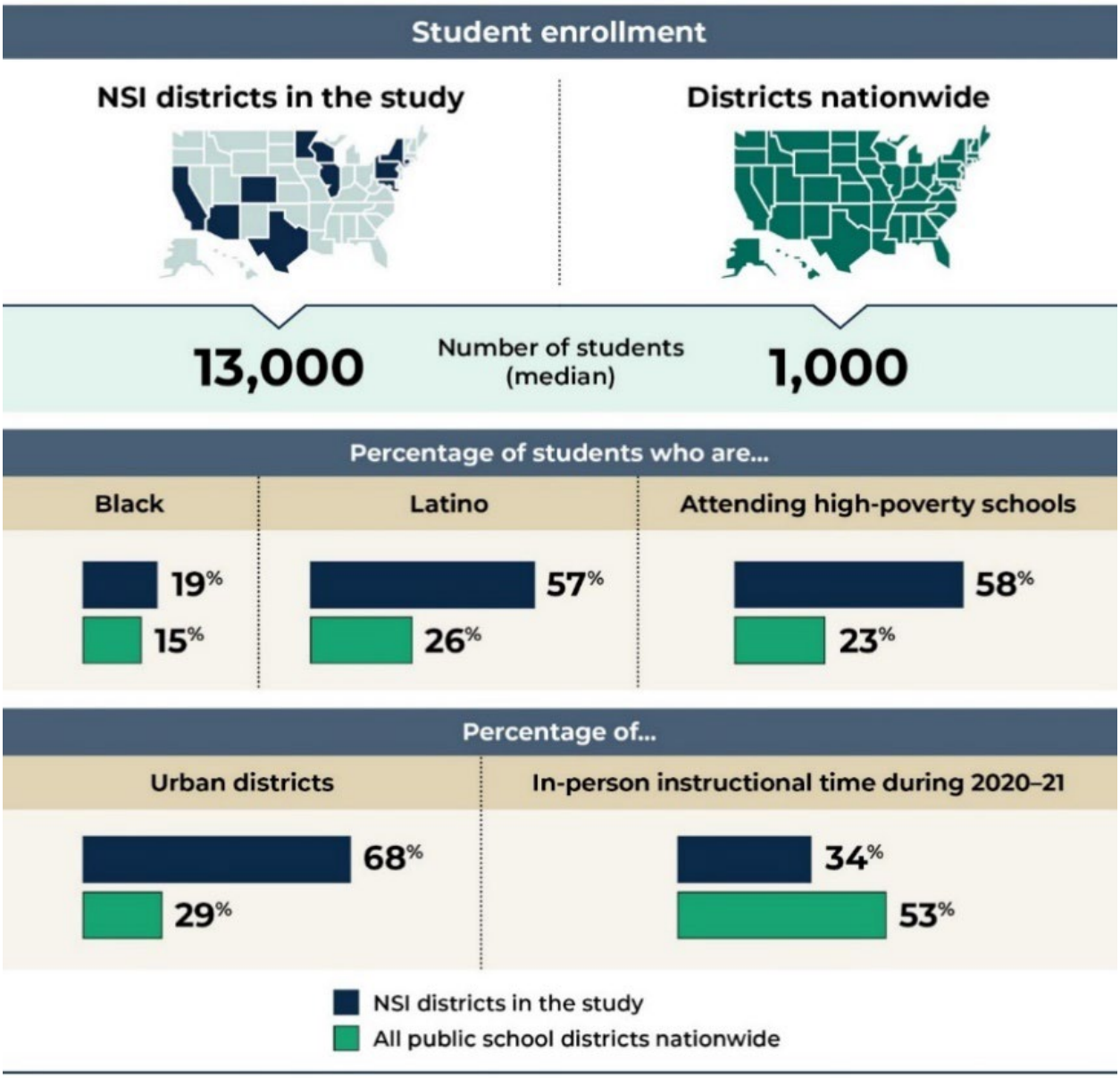
Notes: The foundation awarded two sets of grants in the 2019-20 school year (the Cohort 1B and 2 grants). The evaluation treats these two sets of grants as a single cohort because the NSI started work at nearly the same time.

The foundation also categorized each NSI in one of three "entry points" based on the primary focus of their CI activities: instructional (working to improve the quality of instruction within classrooms), early warning and response (working to create more supportive, connected school environments), and well-matched postsecondary (working to support postsecondary application, enrollment, and persistence). Entry points are similar but not identical to outcome areas. For example, an NSI that aims to improve college-ready on-track outcomes might use an instructional entry point or early warning and response entry point to achieve that outcome.

The NSI partnered with large, mostly urban districts that served a higher proportion of students who are Black, Latino, or experiencing poverty, compared to districts nationally (Exhibit 2). The median enrollment of districts with NSI schools was 13,000 students, compared to 1,000 for districts nationally. In addition, the NSI districts had more than double the percentage of Latino students and students attending high-poverty schools than districts nationally.

The COVID-19 pandemic affected the work of all three cohorts of NSI grants. The first two NSI cohorts had already commenced at the onset of the pandemic in spring 2020, and the pandemic delayed the start of Cohort 3 in fall 2020 by six to nine months. After shifting to virtual instruction in spring 2020, NSI districts provided in-person instruction for about a third of the 2020-21 school year, on average. NSI adapted their grant activities to help educators respond to pandemic-related disruptions and the challenges of virtual instruction. The disruptions to schooling during this period contributed to lost learning opportunities and larger achievement gaps (Goldhaber et al. 2022; Jack et al. 2023; Fahle et al. 2023). Although schools returned to in-person instruction in the 2021-22 school year, they continued to face challenges with chronic absenteeism, student mental health, and academic recovery (Dee 2024; Liu et al. 2021; Cattan et al. 2023.

Exhibit 2. Characteristics of Districts with NSI Schools in the Evaluation, Compared to Districts Nationwide



Source: U.S. Department of Education Common Core of Data for the 2017-18 school year; Return 2 Learn Tracker for the 2020-21 school year.
Notes: The exhibit shows average district characteristics weighted by the number of students in NSI schools (NSI districts) or by the number of students in the district (districts nationwide). High-poverty schools are defined as schools with at least 75 percent of students eligible for free or reduced-price lunch.

The NSI Evaluation

The foundation sponsored an evaluation to build evidence on the NSI approach. Despite growing efforts to support school networks in using continuous improvement to test and refine

solutions to educational challenges, there is limited evidence on their implementation and impact (Feygin et al. 2020). In particular, there is little evidence on the characteristics of effective school networks (Bush-Mecenas et al. 2020), and there are few studies on the use of CI in education settings (Garet et al. 2021). The NSI initiative provides a valuable opportunity to address these evidence gaps and learn about the formation of school networks, the use of CI in schools, and the impact of these efforts on student outcomes. The foundation specifically designed the evaluation to measure implementation and impacts across the NSI rather than evaluating individual NSI. The evaluation addresses three main research questions (Box 1): [iii]

1. How do intermediaries design and implement their NSI?
2. To what extent do participating schools implement CI activities?
3. What is the impact of the NSI on student outcomes? What aspects of the NSI approach are related to impacts on students?

This report summarizes interim findings on the implementation and impacts of the NSI. The report describes intermediaries' implementation of school networks (Research Question 1) and schools' implementation of continuous improvement (Research Question 2) through the 2022-23 school year, as well as impacts of NSI on student outcomes through the 2021-22 school year (Research Question 3). These findings are preliminary because the analysis of impacts is based on schools' second year of participation, whereas the foundation initially expected the NSI to achieve full impact after three years. The foundation assumed that three years were needed for the NSI to develop connections among schools in their networks and to test and refine solutions through continuous improvement. It is also important to note that these interim findings are based on school years heavily affected by the COVID-19 pandemic.

The purpose of this report is to provide an interim picture of the NSI initiative. This report is accompanied by a set of three reports that provide more detailed findings for each research question (Herman et al. 2024; Garet et al. 2024; Johnson et al. 2024). A second set of reports in 2026 will describe two additional years of NSI implementation and will measure impacts after schools' third year of participation, after the peak of the COVID-19 pandemic had passed.

BOX 1. STUDY SAMPLE, DESIGN, AND DATA ANALYSES

Which NSI were included in the analysis?

- For Research Questions 1 and 2, this report describes implementation for 25 of the 34 NSI, beginning in the 2020-21 school year. The evaluation team selected the 25 NSI by prioritizing NSI that were in the impact analysis and NSI that covered a variety of outcome areas, entry points, and grant contexts. We describe implementation by calendar year or by cohort year, depending on the topic. This analysis includes NSI focused on each of the four outcome areas (8th-grade on track, 9th-grade on track, college-ready on track, and well-matched postsecondary enrollment).
- For Research Question 3, the report describes impacts for 22 of the 34 NSI in schools' second year of participation in the NSI (regardless of calendar year). These 22 NSI focused on the following outcome areas: 8th-grade on track, 9th-grade on track, and well-matched postsecondary enrollment. The evaluation included NSI in the impact study if there was a reasonable comparison group for measuring impacts and relevant data to carry out the study analysis. The report does not present impacts for college-ready on-track NSI because there was not a sufficient sample of schools that had participated for two years. Impacts for these NSI will be described in the next report.

What data were collected for the analysis?

- The Research Question 1 team collected the following data to analyze intermediaries' implementation of NSI: a team connections survey, completed by the lead member of each school's CI team, to understand interactions among CI teams in the network and with intermediaries; intermediary staff interviews to collect information about intermediary- and network-level activities, supports, strategies, challenges, and enablers; district staff interviews to understand district involvement in the NSI and alignment of the NSI with district work; CI team focus groups for a subset of NSI to understand CI team members' experiences and the enablers and challenges of their work; and observations of network convenings for a subset of NSI to observe the content, structure, and timing of convenings.
- The Research Question 2 team collected the following data to analyze schools' CI activities: CI artifacts created by each CI team that document schools' implementation of CI and the core components of CI; a school leader survey for each NSI school to understand the school context; intermediary staff interviews to understand intermediaries' approach to supporting CI in schools; and case study interviews of staff in NSI schools to understand CI and the supports for teaching and learning.
- The Research Question 3 team collected the following data to analyze the impact of the NSI on student outcomes: administrative data on students, schools, and districts collected from districts, state education agencies, the U.S. Department of Education, and the American Enterprise Institute's Return 2 Learn Database. We also used school rosters collected from intermediaries to identify schools that participated in the NSI.

How did the study analyze implementation and impacts of the NSI?

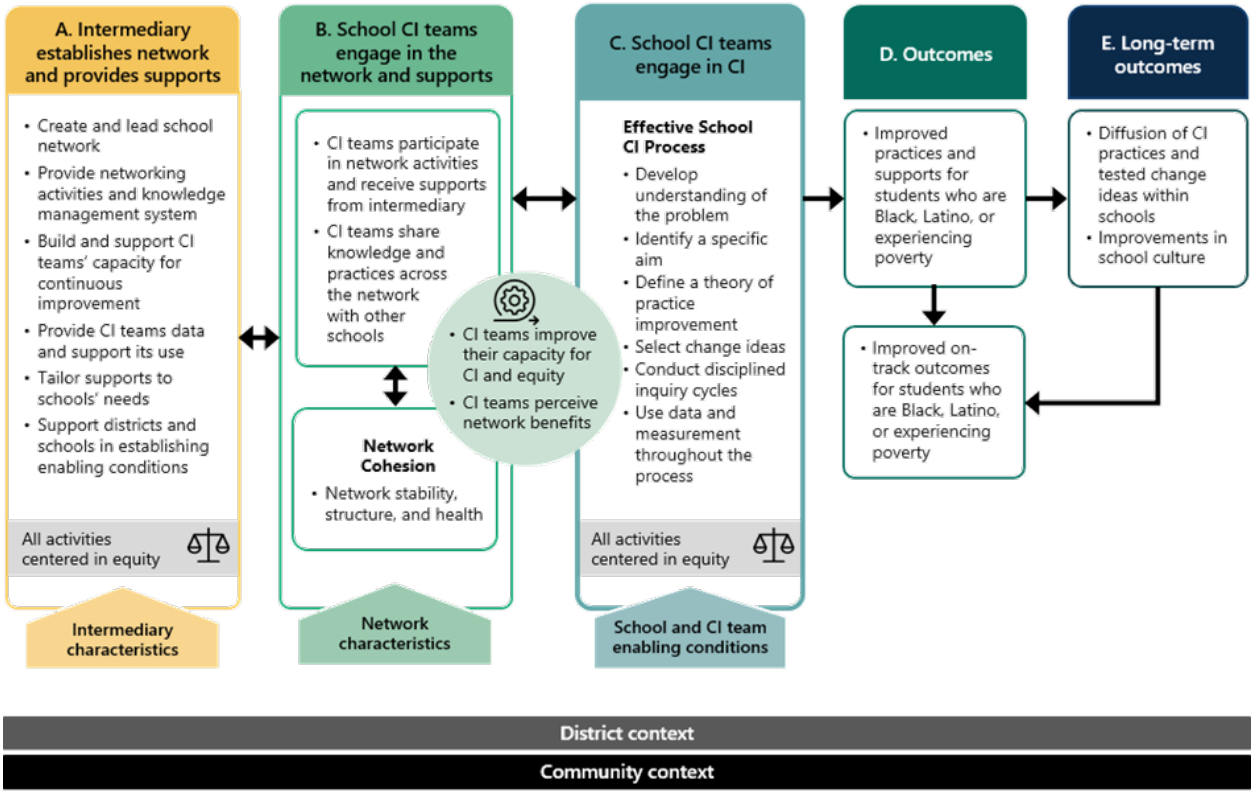
The Research Question 1 and 2 teams used systematic coding and analysis to identify patterns in network activities, roles and responsibilities, and relationships, and to describe schools' implementation of CI. The Research Question 3 team used the following methods to measure impacts on student outcomes:

- **8th- and 9th-grade on Track:** We compared outcomes for students in NSI schools to outcomes for students in similar schools in the same district using a matched comparison approach. We also used a more rigorous randomized controlled design for the Cohort 3 NSI, comparing outcomes for students in schools randomly assigned to participate in the NSI immediately to outcomes of students in schools randomly assigned to delay participation for at least three years.
- **Well-matched Postsecondary Enrollment:** We compared outcomes for students in NSI schools to students in similar schools in different districts using a matched comparison approach. We used this approach because most of these NSI worked with all or almost all schools in their partner districts, so within-district comparisons were not feasible.

The NSI Initiative's Conceptual Framework

The foundation outlined a broad structure for NSI while also providing flexibility for intermediaries to adapt their approach. The evaluation teams developed a conceptual framework to describe key features of the NSI approach and guide the evaluation (Exhibit 3).

Exhibit 3. Conceptual Framework



According to this framework, intermediaries create and support networks of schools in using CI to improve practices related to their outcome area (Box A in Exhibit 3). The NSI initiative—at the intermediary, network, and school levels—centers equity to ensure schools focus on improving outcomes for students who are Black, Latino, or experiencing poverty.[iv] Schools in the network form teams of teachers, counselors, administrators, and other staff (called CI teams) to participate in the NSI (Box B). The first research question focused on how intermediaries designed and implemented these aspects of the NSI.

The foundation expected school CI teams to engage in CI processes that included the six core parameters shown in Box C. The second research question focused on the extent to which schools implemented CI activities and the core parameters. Schools' participation in the NSI and their use of CI processes are expected to improve educators' practices and student supports

and to ultimately improve on-track outcomes for students who are Black, Latino, or experiencing poverty (Box D). The third research question focused on the impact of the NSI on student outcomes.

In the long term, effective strategies identified by CI teams can be shared with other educators in participating schools and more broadly across a district or charter network (Box E). Building educators' capacity to develop and test strategies that address ongoing challenges is expected to improve school culture.

What We Have Learned So Far

Research Question 1. How do intermediaries design and implement their NSI?

Under the NSI grants, intermediaries are responsible for helping schools build capacity to use continuous improvement processes. Consistent with effective networking strategies identified in prior research (e.g., Bush-Mecenas et al. 2020 Turrini et al. 2010), intermediaries set up the structure of the network and coordinated opportunities for school teams to learn from each other. Intermediaries also provided direct supports to build capacity, such as coaching for school CI teams. Over the first two years, connections within the network increased somewhat but there were still schools that were unconnected to the network, showing room for growth in social engagement (see Bush-Mecenas et al. 2020). Across these findings, we note that intermediaries provided schools with both structure and flexibility for implementing the NSI work and that most intermediaries shifted their approaches to supporting schools over time.

Intermediaries built networks designed to improve the capacity of school CI teams, combining centralized leadership with local adaptation. Learning to use CI is difficult and different kinds of networks require varied supports and structures to facilitate network development and school CI work (e.g., Park et al. 2013). While intermediaries varied in the specific strategies and structures used to support capacity building of school CI teams, on the whole the intermediaries balanced centralized leadership with opportunities for local adaptation.

Intermediaries created structures and activities to help their district and school participants connect, with the aim of supporting knowledge sharing. Intermediaries mainly supported network members in sharing continuous improvement strategies and change ideas through regular convenings, smaller role-alike meetings, coaches sharing ideas across CI teams, and engagement with knowledge management systems. Intermediaries used common strategies to promote sharing during these activities, such as identifying "bright spots" where schools were

outperforming their peers and facilitating discussions about how these schools achieved their results.

As discussed below, NSI are designed to help schools use CI processes such as testing change ideas through inquiry cycles. We found that intermediaries shifted towards providing less prescriptive guidance on inquiry cycles over time. They described making this shift in response to concerns from school teams about the time required to participate in and document inquiry cycles as envisioned. We also observed that, over time, more intermediaries provided pre-selected change ideas to schools to lessen the burden on school teams, identify evidence-based change ideas, and facilitate sharing across school teams. While providing less prescriptive guidance alongside pre-selected change ideas may seem contradictory, intermediaries suggested that both adaptations might lighten the burden on school teams.

One of the most common constraints to CI implementation is limited capacity or expertise in schools (Garet et al. 2020). Prior literature suggests that coaching is a primary means to support professional learning in networked continuous improvement work (e.g., Anderson and Davis 2023). Almost all intermediaries used coaching to develop school CI teams' capacity to engage in CI. Initially, coaches in most networks took an active role, directly facilitating school CI team meetings and leading CI work. Over time, intermediaries transitioned leadership from coaches to the school-level staff serving as school CI team leaders, with coaches taking on more of a support role.

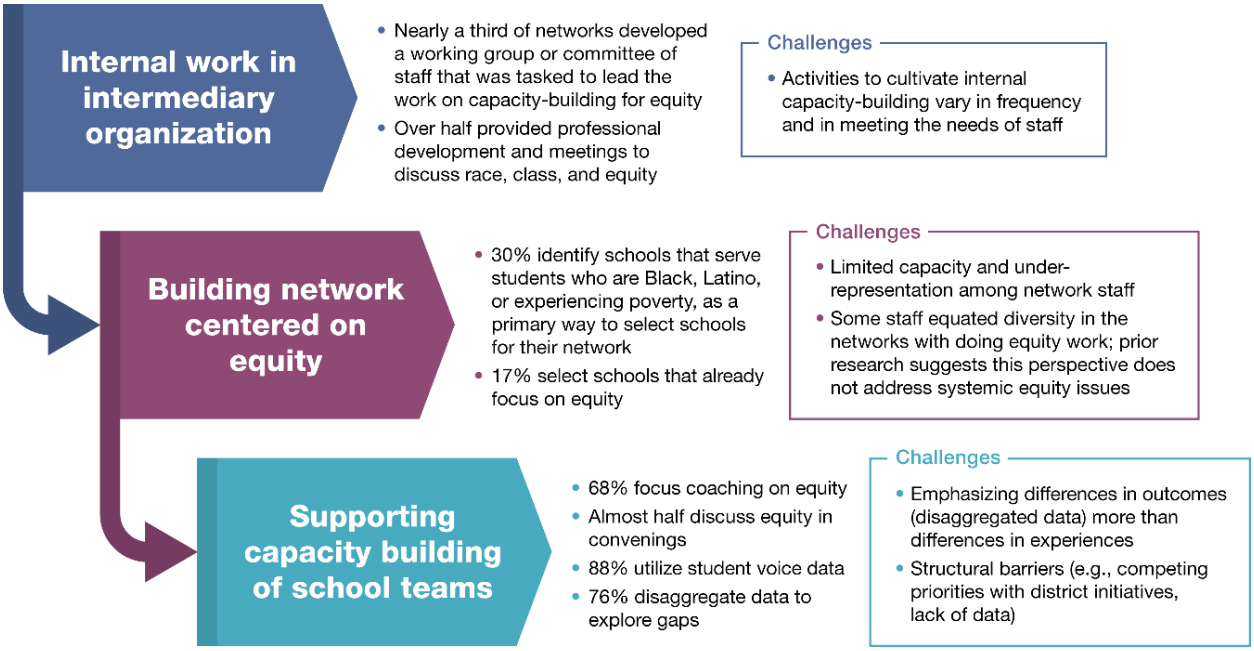
NSI used a broad range of qualitative and quantitative data, consistent with the literature (Garet et al. 2021), although there appeared to be a particularly strong focus on qualitative and student voice data. While use of all kinds of data increased over time, student voice data appeared to increase more than other forms. NSI managed and shared data using online platforms, in-person meetings, and snapshots or reports. Intermediary staff helped school CI teams make sense of their data primarily through meetings or trainings on data analysis, use of data protocols, and inquiry cycles.

District leadership support is an important factor facilitating CI efforts (e.g., Gallagher and Cottingham 2019). In addition to supporting school CI teams directly, most intermediaries led activities for district or school leaders. These included professional learning around CI and change idea content, activities to promote community building, and provision of tools and resources.

Intermediaries sought to address equity in intermediary work, network development, and capacity building for school CI teams. Prior research has identified challenges in using CI to address equity concerns, which may require modification of traditional CI practices and approaches (e.g., Bush-Mecenas 2022; Diamond and Gomez 2023; Eddy-Spicer and Gomez

2022; Valdez et al. 2020). We found that intermediaries aimed to center equity in multiple areas, including internal capacity building in the intermediary, network recruitment, and supporting CI work (see Exhibit 4). In most NSI, efforts to center equity increased over time.

Exhibit 4. Intermediary Activities to Address Equity Concerns in Intermediary Work, Network Development, and Capacity Building for School CI Teams



First, intermediaries made substantive efforts to center equity in their own organizational work, particularly in terms of staff responsibilities and internal professional development. However, these efforts to cultivate intermediary understandings of equity varied in frequency and in the extent to which they met the needs of staff.

As they developed their NSI, intermediaries recruited schools based on whether they served a majority of Black and Latino students and students experiencing poverty, or, less frequently, on schools' existing emphasis on addressing inequity. While selecting schools based on demographics may be a necessary condition, we question whether it will prove sufficient as schools may vary in their understanding of and approaches to addressing inequity (Espinoza 2007).

Finally, intermediaries centered equity in their capacity-building supports for schools by focusing on equity in coaching and convening and encouraging the use of student voice data by school CI teams. Using student voice data to understand student needs and tailor change ideas was a growing focus for networks over time. Disaggregation of student data also remained a common strategy to understand equity. Existing research notes concerns that an overemphasis

on student outcomes, rather than the experience and opportunities provided to Black and Latino students and students experiencing poverty, may not be well suited to addressing systemic inequities (Roegman et al. 2018). Structural barriers, such as limited data accessibility and competing school priorities, also impeded some school capacity building efforts around equity.

On the whole, intermediaries made purposeful efforts to center equity in their work, especially at the level of their own organization. Integrating these efforts into operations and support of the network, and eventually into the work of school CI teams, remained more challenging.

Network cohesion increased over time; however, most NSI lacked widespread connections across their network. Finally, we examined how school CI teams engaged in their networks using social network measures. NSI with higher network cohesion (i.e., NSI in which a higher proportion of participants have connections to each other) are associated with higher teacher self-efficacy, greater trust between members, and greater enactment of school reform (Daly et al. 2010; Moolenaar and Sleegers 2010; Siciliano 2017). We examined three measures of network connectedness cohesion from our annual team connections survey: the average percent of schools within an NSI that reported connecting to their intermediary, the average percent of schools within an NSI that reported connecting to at least one other school in the NSI, and the average extent to which all NSI members were connected to all other possible members (density).

We found that 61 percent of schools connected with their intermediary in the 2022-23 school year, compared to 56 percent in the 2020-21 school year. Fifty-four percent of schools connected with another school in the 2022-23 school year, compared to 39 percent in the 2020-21 school year. Almost 40 percent of schools did not report connecting to their intermediary and almost 50 percent did not report connecting to another NSI school in the 2022-23 school year. On average, 16 percent of the possible connections among schools in an NSI were realized.

Despite these somewhat concerning indications of density, we saw improvement across all of these network cohesion measures over time. When we looked to a small number of NSI with higher than average density, we found that they used common strategies to promote sharing, including (a) hosting recurring, role-alike meetings; (b) creating cross-school small discussion groups; (c) asking specific schools to present their work to the rest of the network; and (d) facilitating cross-school site visits. While intermediaries described how COVID-19 conditions affected their work (e.g., providing virtual convenings and coaching, adjusting envisioned change packages to online teaching applications), it was unclear how these changes influenced network development. For example, while some intermediary staff speculated that in-person

interaction was more conducive to developing social engagement, others noted that virtual convenings facilitated participation for busy teachers or in NSI spread over large or rural geographies.

Research Question 2. How do school CI teams engage in CI?

By design, intermediaries implemented systems and structures to support participating schools in engaging in school-level CI. According to interviews with intermediary and school staff, school leader surveys, and artifacts documenting school-level work, most schools took up the supports provided by their intermediary and actively engaged in at least some elements of the CI process. Despite the challenges and repercussions of the COVID-19 pandemic, school staff worked to implement CI in their schools. Still, the CI activities in which schools engaged were not universal within or across NSI, raising questions about the depth and consistency of CI implementation at the school level.

The majority of schools laid the groundwork for CI by working to understand the problem that needed to be addressed, developing a clear and specific aim statement, creating a theory of practice improvement, and selecting change ideas to test. CI teams were expected to focus their work on a clearly defined problem and test change ideas, guided by an explicit theory regarding the causes of the problem and what might lead to improvement. Building an understanding of the problem is viewed as an essential first step in CI, enabling schools to focus their improvement efforts productively. Nearly three-quarters of schools (72 percent) conducted a "root cause analysis" to develop an understanding of the problem, either on their own or with guidance from the intermediary. In addition, most schools developed a clear and specific aim statement articulating what, specifically, team members planned to accomplish through their CI work. In about half of the NSI, all schools developed a theory of practice improvement to articulate how changes in practice would lead to changes in student outcomes. Almost all of the schools in these NSI developed a driver diagram—a visual representation of the theory of practice improvement—clearly related to the aim. In most of the remaining NSI, at least some schools developed a theory of practice improvement or driver diagram.

Although we might have expected teams to select change ideas explicitly related to their theory of practice improvement, as represented in their driver diagram, fewer than two-thirds of schools (58 percent) chose change ideas in this way. In some cases, change ideas appear to have been chosen based on ideas suggested by individual CI team members. This is consistent with results from a formative evaluation of the first two years of NSI implementation (Kinlaw et al. 2020), which showed that five of the nine NSI studied did not connect cycle results to the NSI's theory of improvement.

Many participating schools conducted inquiry cycles—a key activity that helps distinguish CI from other related evaluation or improvement activities—though schools completed only about half of the cycles they initiated. According to Bryk et al. (2015), CI is anchored in "disciplined inquiry"; teams "engage in rapid cycles of plan, do, study, act (PDSA) to learn fast, fail fast, and improve quickly." Based on artifact data, 20 of the 25 NSI (80 percent) implemented inquiry cycles in at least some of their schools. Across NSI, about 61 percent of schools engaged in cycles. We do not know whether the NSI that did not engage in cycles postponed the start of cycle work until later years, or whether they did not provide artifacts showing evidence of inquiry cycle work. We do know that of the initiated cycles for which we received artifacts, on average 50 percent were complete—that is, there was documented evidence that teams conducted activities related to the plan, do, study, and act phases. In principle, completing all four phases is necessary to learn from a cycle, with teams drawing on data from the study phase to reach a conclusion during the act phase. In practice, however, events may have disrupted cycle work, or the team may have faced challenges implementing a cycle and moved on to a new idea without documenting what occurred. Among cycles with evidence of an act phase, CI teams most commonly tested change ideas again with slight modifications; abandoning an idea completely was quite rare.

The average number of initiated cycles per year was 3.2 for those CI teams that engaged in cycle activities, which is consistent with prior research about inquiry cycles. For example, Garet et al., in a 2021 research synthesis, found an average of about two cycles per year for schools engaging in CI, though the studies reviewed a far smaller number of schools. These results align with results from other studies of CI, which show that despite growing interest, implementation of CI in schools, by this measure, remains challenging (Kinlaw et al. 2020; Gallagher et al. 2022).

A substantial majority of teams in NSI schools used data in their CI work, including data collected as part of cycle work on the implementation of change ideas and outcome data. Data took various forms, such as data on student absences, completion of assignments, and perceptions.

The majority of teams attended to equity as they engaged in CI, chiefly by focusing on improving student achievement. Teams gave less attention to other dimensions of equity: increasing student access to resources, centering student identity, or supporting student agency (voice). Most schools showed evidence of attention to equity in their aim statements or root cause analyses, with more evidence in aim statements than in root cause analyses. Root cause analyses reflecting attention to equity typically did so as part of a general focus on improved outcomes for students, while aim statements typically showed attention to equity by referring specifically to underserved student groups. There is limited

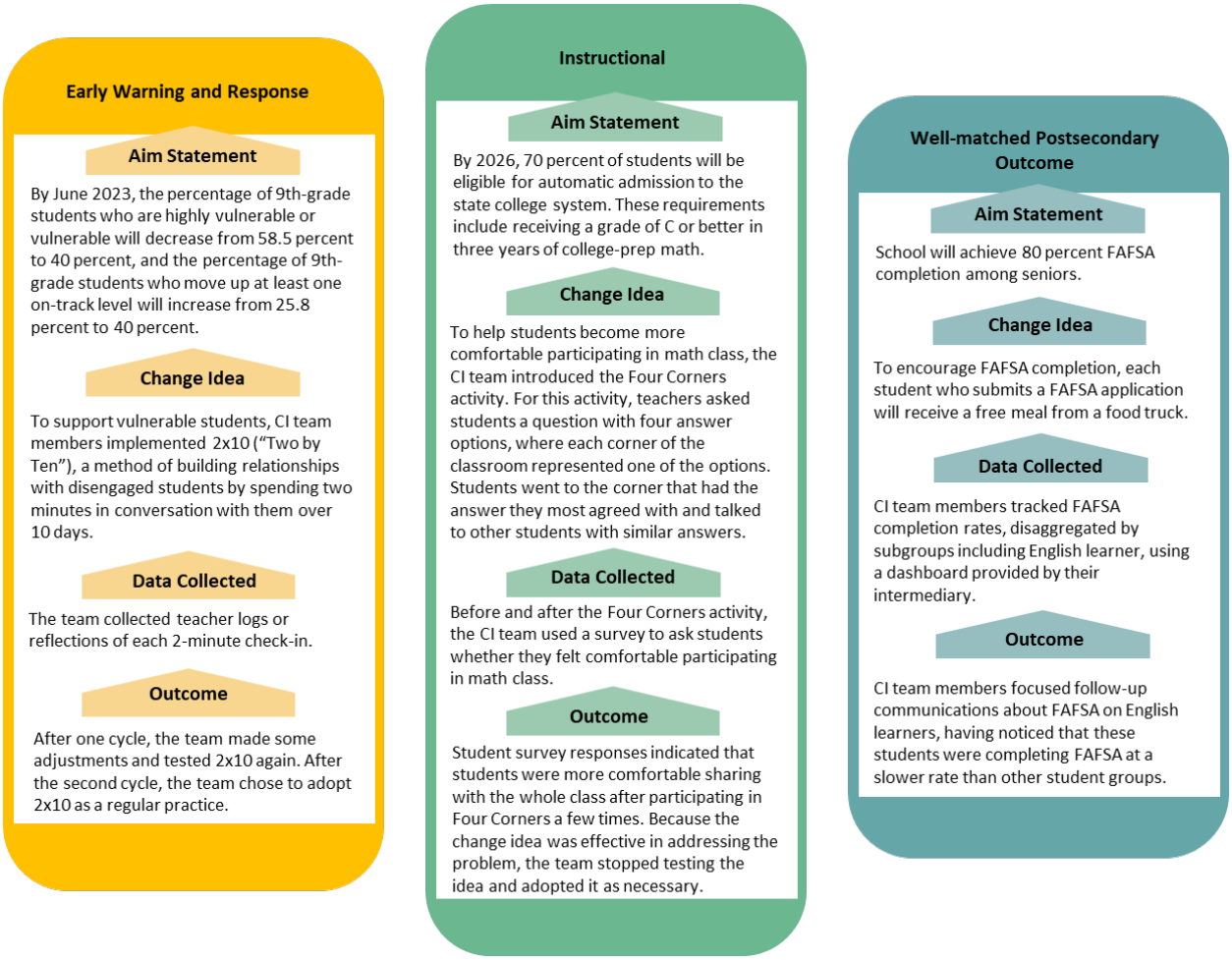
evidence that CI teams explicitly selected Black students, Latino students, or students experiencing poverty as the focus of their change ideas. However, many participating schools predominantly serve students who are Black, Latino, or experiencing poverty. It is possible that CI teams may have assumed that explicitly focusing on these students was not necessary, because an equity emphasis was inherent or implied.

CI implementation varied both across NSI and across schools within NSI. One factor that appeared to be related to implementation was entry point—that is, whether NSI focused on instruction, early warning and response systems, or well-matched postsecondary outcomes. Schools in instructional and early warning and response NSI initiated more cycles (3.8 cycles and 2.7 cycles, respectively) than schools in well-matched postsecondary NSI (2.2 cycles). This pattern may reflect the nature of the change ideas on which schools tended to focus. Schools in instructional NSI often focused their change efforts on instructional routines, which could be implemented in a few class sessions or a single class. This may have facilitated their ability to conduct more cycles. On average, schools in instructional NSI also completed more of the cycles they initiated.

Although many schools had conditions in place to facilitate the implementation of CI, some did not. Regular planning time and support from school leaders are commonly viewed as necessary to enable CI work. About half of the schools offered teachers at least five hours of individual planning time a week, and about a quarter of the schools freed up time for teams to meet. In a little less than half of the schools, the principal was very involved with the school CI team. These results align with the literature, which shows inconsistent availability of protected collaboration time and leadership support (Myung et al. 2020).

Exhibit 5 illustrates common CI activities for three NSI schools, each from a different NSI, from each of the three entry points.

Exhibit 5. Examples of CI Activities in NSI Schools, By Entry Point



Research Question 3. What is the impact of the NSI on student outcomes?

The NSI initiative aimed to increase the number of middle and high school students on track to graduate high school and enroll in college. The foundation focused the NSI in each outcome area (8th-grade on track, 9th-grade on track, college-ready on track, and well-matched postsecondary enrollment) on a different set of outcomes that prior research suggests are strong predictors of high school graduation and college enrollment. The evaluation measured the impact of the NSI on the targeted outcomes for each outcome area. These findings fill an important gap in the evidence as this is one of the first large-scale studies to measure the impact of supporting networks of schools in using continuous improvement (Feygin et al. 2020; Garet et al. 2021). As noted previously, the findings reported here are interim because they are based on schools' second year of participation in the NSI and focused on school years that were heavily affected by the COVID-19 pandemic (the 2020-21 and 2021-22 school years).

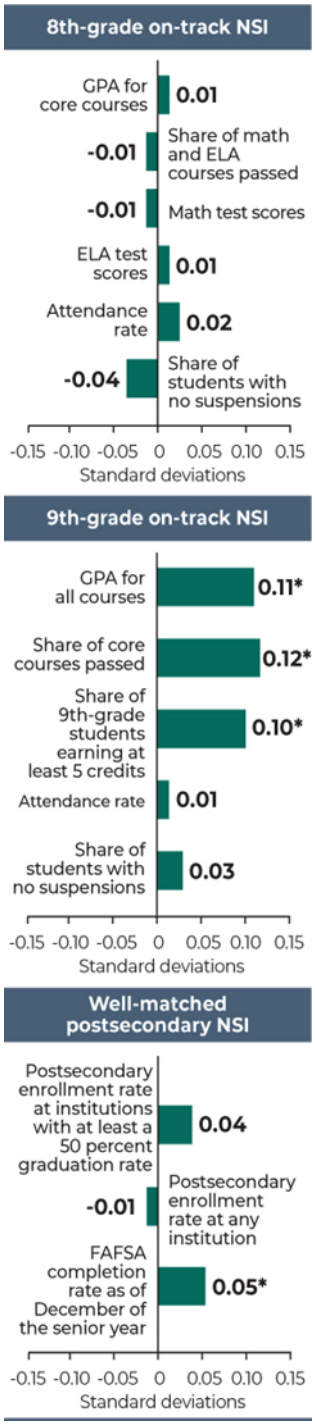
After schools' second year of participation in the NSI, the 8th-grade on-track NSI did not have an impact on the targeted outcomes. The 8th-grade on-track NSI—which

primarily focused on improving teachers' math or English language arts instruction—did not impact the academic or behavioral outcomes targeted by the initiative at the end of the second year of participation (Exhibit 6).v Exhibit 6 shows differences in outcomes for students in NSI schools and comparison schools. Although there were small differences between NSI schools and comparison schools for the 8th-grade on-track NSI, these differences were not statistically significant.

The 9th-grade on-track NSI had a positive effect on three of the five outcomes targeted by the initiative: GPA, core course pass rate, and credit completion (Exhibit 6). These NSI focused on a mix of strategies such as identifying students in need of academic support, developing relationships with students, and providing academic advising or tutoring. The effects of the 9th-grade on-track NSI were equivalent to a 0.13 point increase in GPA (from 2.34 to 2.47 on a 4.0 scale), a 4 percentage point increase in the share of core courses passed (from 65 percent to 69 percent), and a 4 percentage point increase in the share of 9th-grade students earning at least five credits (from 83 percent to 87 percent).

The COVID-19 pandemic potentially played a role in the diverging results for the 8th-grade on-track NSI and 9th-grade on-track NSI. The second year of participation for most NSI schools occurred during school years affected by the pandemic (2020-21 or 2021-22 school years). The 8th-grade on-track NSI focused on change ideas related to classroom instruction, which may have been difficult in the context of the COVID-19 pandemic as teachers adjusted to virtual instruction and responded to students' social and emotional needs. In contrast, the 9th-grade on-track NSI focused on promoting supportive school environments and connecting students to adults and the broader school community, which may have better addressed the needs of students as schools closed.

Exhibit 6. Impacts of the NSI on Students in Schools' Second Year of Participation



*Difference between NSI schools and comparison schools is statistically significant at the 0.05 level, two-tailed test.

The findings for the 8th- and 9th-grade on-track NSI are based on the matched comparison analysis but are similar in magnitude to the impacts measured through the more rigorous random assignment study for the Cohort 3 NSI. One difference is that the 9th-grade on-track NSI in the random assignment study had a moderate impact on attendance rates (equivalent to a 2 percentage point increase in the attendance rate, from 79 percent to 81 percent), while the 9th-grade on-track NSI in the matched comparison analysis did not.

After schools' second year of participation, the well-matched postsecondary enrollment NSI had a positive impact on FAFSA completion. The well-matched postsecondary enrollment NSI focused their work on helping students navigate the college application and financial aid process. These NSI had a small, positive effect on FAFSA completion after schools' second year of participation but did not have a statistically significant impact on postsecondary enrollment (Exhibit 6). This suggests that although FAFSA completion is an important step in college enrollment, students face additional barriers. The impact on FAFSA completion is equivalent to a 3 percentage point increase (from 32 percent to 35 percent) in the proportion of 12th-grade students completing the FAFSA by December of their senior year. We also examined impacts of the NSI on FAFSA completion rates by June and found a slightly larger impact, equivalent to a 4 percentage point increase in FAFSA completion (from 54 percent to 58 percent).

For all three NSI outcome areas, the impacts for Black students, Latino students, and students experiencing poverty were similar to the impacts on students overall. The foundation focused the NSI initiative on improving college readiness and enrollment for students who are Black, Latino, or experiencing poverty. As a result, these student groups make up a large portion of students in the overall sample for this analysis. It is therefore not surprising that the impacts for Black students, Latino students, and students experiencing poverty are consistent with the overall impacts.

NSI in all three outcome areas had positive impacts on some of the targeted outcomes in schools' first year of participation. The study focused on impacts after schools' second year of participation because the foundation expected the impact of the NSI to increase over time. However, in schools' first year of participation, the 8th-grade on-track NSI had a positive impact on GPA, math and English language arts course pass rates, and attendance rates. These impacts were comparable in size to the impacts of the 9th-grade on-track NSI but they did not persist over time; the impacts after two years of participation were close to zero and not statistically significant for any outcome (as noted earlier). The COVID-19 pandemic may have been a factor in these declining impacts over time. The year 1 impacts appear to have been driven by schools that joined the NSI before the COVID-19 pandemic in the 2019-20 school year

(outcomes for this school year were measured prior to the start of the pandemic in spring 2020).

The 9th-grade on-track NSI also had a positive impact on GPA in schools' first year of participation but did not have a significant impact on the core course pass rate or credit completion in year 1. The impacts on these three outcomes appeared to increase in schools' second year of participation. The well-matched postsecondary enrollment NSI had a positive impact on overall college enrollment rates in year 1 (2019-20 school year for most schools) but not in year 2. One potential explanation for this change over time is that the NSI helped students maintain their college enrollment plans amidst the challenges of the pandemic in fall 2020 but did not have an impact as the national decline in college enrollment leveled off in fall 2021 (National Student Clearinghouse 2020, 2021). The well-matched postsecondary enrollment NSI had a small, positive impact on FAFSA completion in schools' first two years of participation.

Key Themes

This report provides a snapshot of NSI while the initiative and evaluation are still ongoing. Although the grant-funded work of the first cohort of NSI has ended or will end in spring 2024, the grant-funded work of the remaining cohorts continues and will end in the next two years. As a result, the work of the evaluation team is still underway. While the interim findings summarized in this report only represent what we have learned thus far, a few key themes have already emerged.

- **Intermediaries provided schools with both structure and flexibility for implementing NSI work and most intermediaries shifted their approaches to supporting schools over time**. Our findings illuminated some potentially contradictory aspects of intermediary support for school CI teams. Intermediaries helped schools structure their CI processes by providing change packages, common agendas for coaching sessions, and template slide decks for documenting activities, with the provision of supports of this kind increasing over time. At the same time, intermediaries provided less prescriptive guidance on some aspects of CI and transitioned leadership of the CI process to school CI teams. These shifts toward greater structure and less prescriptive guidance may have been used to support ongoing implementation of the work. That is, providing structures for engagement may have made it easier for school CI teams to identify change ideas or document their work. Providing flexibility in the approach to conducting disciplined, iterative inquiry cycles may also have lessened the workload of school CI teams, enabling them to redistribute their focus and effort. While intermediaries provided both structure and flexibility with the intent of supporting school-level implementation, the changes may have limited full implementation of continuous improvement methods.

- **Despite the structure and supports provided through the NSI, the depth of implementation varied across schools and NSI. In particular, some schools had limited network connections or limited implementation of CI.** For example, although the NSI initiative is designed to connect intermediaries with schools, and schools with each other, through purposeful networks, many schools reported no connection to the intermediary or few connections to other NSI schools. Further, some schools did not provide evidence of implementing CI cycles, which is foundational to CI. Although many intermediaries strengthened the focus on equity in their NSI activities, artifacts indicate that root cause analyses and change ideas tended to focus on all students rather than specific underserved groups. In addition, while some of the change ideas that CI teams tested had strong rationales and were aligned with a guiding theory of practice improvement, others were more idiosyncratic. One explanation for this variation in implementation may be that some schools did not have the conditions in place to support CI work, even though intermediaries were purposeful in their approach to selecting schools for participation in their NSI.
- **Differences in schools' network connections, implementation of CI, and impact on students provide an opportunity to examine which aspects of implementation are related to impacts.** The study found substantial variation in schools' implementation of CI, both across and within NSI. For example, the average number of inquiry cycles NSI initiated per year ranged from one to more than six. The study also found variation in the impact of the NSI initiative on student outcomes after schools' second year of participation. On average, there was no impact for schools participating in the 8th-grade on-track NSI and a positive impact on some outcomes for schools participating in the 9th-grade on-track NSI. There also appeared to be substantial variation in the impacts of the NSI schools on student outcomes. Given the observed variation in both CI implementation and the impacts of NSI schools, there is an opportunity to examine which aspects of implementation are related to impacts on student outcomes.

Implications

Based on the analyses reported in this summary and the three accompanying reports, initial implications have emerged for school system leaders, intermediaries, support providers, policymakers, and funders who are considering networked continuous improvement in schools. These implications focus on how networks and intermediaries might increase the depth of their CI work, within a context that balances flexibility and structure.

First, although intermediaries often used application processes to recruit and select schools for NSI, some schools did not have the necessary enabling conditions to support the work. Intermediaries may consider using a capacity inventory process prior to teams joining the network (and periodically thereafter) to understand the situation prior to and during implementation. In addition to supporting school CI teams, information about various school

capacities may help intermediaries focus their capacity-building efforts, particularly in engaging school and district leaders.

Second, supporting deep implementation of CI is challenging. We have identified several strategies that may help support implementation. For example, intermediaries used multiple support strategies, including coaching grounded in a gradual release of responsibility to promote ownership of CI work at the school site. Networks also facilitated productive collaboration and learning in multiple ways, including convenings, role-alike meetings, spotlight protocols, and engagement with knowledge management systems. Support from school leaders and the provision of time and resources may also be important in enabling CI work. Furthermore, our work suggests that CI may take multiple forms and that different supports may be required depending on the specific approaches used. Our future research will explore what strategies, structures, and approaches support implementation and improved outcomes.

Third, intermediaries may take various actions to center equity, including internal intermediary trainings, trainings for coaches, trainings for participants, integration into tools and protocols, integration into school-level procedures, and changes to how CI is used. At the school level, using student voice—especially in root cause analyses and as a data source in disciplined inquiry cycles—may be a promising way of gaining insights into students' assets, needs, and context. Nonetheless, challenges remain in centering equity at the intermediary, network, and school levels.

Finally, sustainability is a major concern and has implications for how an NSI is set up and how it evolves over time. As NSI mature, it may be crucial to more purposefully consider how networks will look, what success looks like over time, and what ongoing supports are needed to continue network activities. As NSI prepare for sustainability, they may consider appropriate capacity-building supports that promote local ownership, as well as ways to promote ongoing knowledge sharing. For school systems, it may be useful to ensure that team planning time and principal support are provided, as well as routines to appoint new team members and provide them with professional learning opportunities, given inevitable staff turnover.

Next Steps

This interim report provides information about how intermediaries have commonly structured networks, the challenges in implementing CI at the school level, and the potential for impact on student outcomes. Though our work thus far has provided new insights about how networks and schools implement CI, as well as promising findings about the impact of CI on student outcomes, these initial findings also raise important questions.

In our remaining data collection and analysis, the evaluation team will strive to extend and deepen what we have learned to date and will examine the following questions:

- What strategies, structures, and approaches used by intermediaries and networks appear to be associated with better CI implementation at the school level?
- What strategies, structures, and approaches for intermediaries, networks, and schools appear to support a deep focus on equity that pushes schools and districts to challenge inequitable systems and practices?
- What are the impacts of NSI on student outcomes after schools' third and fourth years of participation? Which aspects of the network and CI work are related to impacts on students?
- How do intermediaries, networks, and schools conceptualize and build the sustainability of their networks and CI work, so that the work becomes embedded and persists beyond the period of foundation funding?

To examine these questions, our team will collect additional data from intermediaries and participating schools about their NSI work in the 2023-24 and 2024-25 school years, including information from a sample of intermediaries and schools whose formal engagement in the NSI initiative has concluded. In addition, our team will collect administrative data from the 2022-23 and 2023-24 school years to measure impacts on student outcomes after schools' third and fourth years of participation. We will conduct additional analyses to understand which activities and enabling conditions are related to impacts on student outcomes.

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[i] We use the term Latino to refer to peoples of Latin American descent. While we acknowledge the use of “Latinx” to indicate gender inclusivity, we also understand that Latinx and other iterations (e.g., Latin@, Latine) may not be accepted by those from Latin American communities (Salinas 2020). Given this context, we use Latino because it is generally embraced by the communities that are reflected in this work without violating their sociolinguistic norms.

[ii] The foundation awarded 31 grants to intermediary organizations that funded 34 individual networks. One intermediary received a single grant that funded four networks.

[iii] The RAND Corporation (RAND) leads work on Research Question 1, the American Institutes for Research (AIR) leads work on Research Question 2, and Mathematica leads work on Research Question 3.

[iv] The evaluation team views educational equity as providing students with resources, experiences, and environments—allocated based on circumstances and needs—so that students have equal access to opportunities for success (Thompson and Thompson 2018).

[v] Exhibit 6 shows impacts in standard deviation units to make it easier to compare the magnitude of impacts across outcomes. We define impacts smaller than 0.05 standard deviations as small, impacts between 0.05 and 0.20 as moderate, and impacts above 0.2 as large, based on the effects of prior education interventions synthesized in Kraft (2020).