EFFECTIVE DATA PRACTICES TO SUPPORT LEARNING AND SYSTEMS ALIGNMENT

REPORT 3
Networks for Social Impact in Education Series

network for Nonprofit and Social Impact

TABLE OF CONTENTS

The Network for Nonprofit and Social Impact

The Network for Nonprofit and Social Impact at Northwestern University is a research lab. We are dedicated to discovering how organizations can better work together to move the needle on social issues. We thrive on projects that produce both rigorously studied results and practical applications for the social impact sector. Our work has been funded by the National Science Foundation, the Bill & Melinda Gates Foundation, and the Army Research Office in the past eight years. Our research is featured in academic journals and venues like *Stanford Social Innovation Review and Nonprofit Quarterly.*

The Networks for Social Impact in Education Series

How do organizations across sectors work together to improve educational outcomes? During this three-year research project, the Network for Nonprofit and Social Impact at Northwestern University investigated how groups of organizations worked together to improve student achievement. Reporting the results of this mixed-method study, the Networks for Social Impact in Education Series reveals previously undiscovered insights into the secret sauce for network assembly, management, and evolution.

THE REPORTS IN THIS SERIES INCLUDE:

Report 1: Networks that create a social impact

Report 2: Equity and empowerment in education networks

Report 3: Effective data practices support learning and systems alignment

Report 4: Navigating network change

Research Funding

This research was supported by a grant from the Army Research Office (W911NF-16-1-0464) and the School of Communication, Northwestern University.

RESEARCH TEAM

Michelle Shumate, *Northwestern University, Principal Investigator*
Rong Wang, *University of Kentucky*
Katherine R. Cooper, *DePaul University*
Jack L. Harris, *SUNY at New Paltz*
Shaun Doughtery, *Vanderbilt University*
Joshua Miles, *Northwestern University*
Anne-Marie Boyer, *Northwestern University*
Zachary Gibson, *Northwestern University*
Miranda Richardson, *University of Connecticut*
Hannah Kistler, *Vanderbilt University*

NORTHWESTERN UNIVERSITY UNDERGRADUATE RESEARCH ASSISTANTS:

Will Deschler, Lola Knight, Cara Savin, Hannah Song, Grace Koplin, Sherry Xue, Tess Hamermesh, Fallon Parfaite, Ali Wilt, Alexander Furuya, Jessica Suratkal, Lindsey Pape, Emily Comstock, Michelle Lee, Hansuh Rehee, Avery Kessee, Tiara Swartz, Andrew Wayne, Alexa Bagamian, Yuling Ding, Victoria Hahm, Yerim Kim, Ren MacLean, Gloria Mao, Esther Park, Anna Petraskova, Kevin Qiu, Fathom Rahman, Sumin Woo, Hui Ling Chen, Jaliene Ochoa, Harriet Zhao, Camille Garcia-Mendoza, Caleb Young, Jessica Serody

HIGH SCHOOL INTERN

Danielle Reiser

INTRODUCTION

In Networks that Create a Social Impact (Report 1), we highlighted two network designs associated with social impact. One of those network designs combined learning and systems alignment theories of change. Learning theories of change make a social impact by improving existing programs and services. Systems alignment theories of change focus on making connections between programs and services to serve students better. Robust data infrastructure is required to support both theories of change.

This report focuses on the data practices associated with social impact, or improved student achievement. **Although we give special attention to the four networks that achieved social impact through learning and systems alignment (see Report 1), we also draw on other networks with data practices that may yield social impact in the future.**

Our previous research demonstrates that nonprofit organizations' operational capacity, or ability to set goals and measure results against those goals, is their weakest capability. However, operational capacity is also the most consistent predictor of nonprofit effectiveness. Similarly, in the networks we studied, data infrastructure was often the last addition to the network, coming after years of work. This late addition is unfortunate because robust data collection and analysis and data-driven decision-making are necessary to achieve social impact through learning and systems alignment.

In particular, this report focuses on three sets of recommendations:

1. We describe the role of evidence in choosing and expanding specific services and programs. We highlight the ways that networks have incorporated expertise into their decision-making.
2. We focus on data infrastructures' role in identifying opportunities for learning and greater systems alignment. We describe best practices that emerged from our research.
3. We describe best practices for reporting that data to communities, especially as networks seek greater accountability to community members (see Report 2 for even more community-centered evaluation practices).

NETWORKS IN THIS STUDY

This research examined 26 networks in diverse communities in the United States. All of the networks focused, at least in part, on education reform. We used a matched sample technique to select the networks. Half of the networks in the sample adhered closely to the collective impact model. The other half were compared to these networks, based upon community similarity, and did not firmly adhere to collective impact tenets (see box).

COLLECTIVE IMPACT NETWORKS:

Thirteen networks adhered to the tenets of collective impact. They met the initial criteria established for collective impact.[1] They had:

1. completed at least a baseline data report (demonstrating data sharing),
2. a central organization performing backbone functions,
3. established a common agenda,
4. used a systems-alignment framework of action, typically cradle to career, and
5. conducted frequent meetings of high-level leaders.

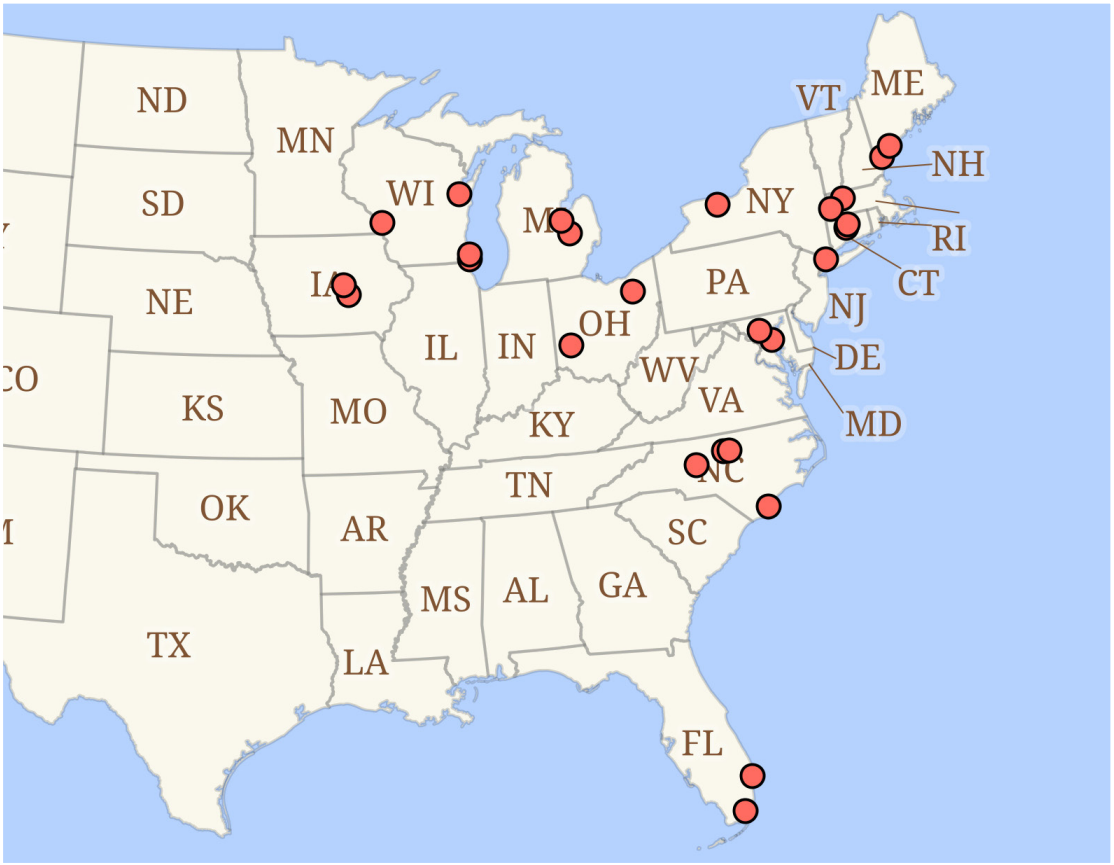
In short, they resembled the initial collective impact model.

MATCHED SAMPLE:

Thirteen networks were in similar communities as collective impact networks. We ensured comparability by matching communities with similar sizes and demographics within the same state. The matching process included geographic (e.g., population density, coverage area), demographic (e.g., race and poverty rate), and labor market factors (e.g., unemployment rate and median income). Matched sample networks were sometimes early collective impact networks or aspired to the collective impact model. However, they were missing elements of the model in comparison to their collective impact counterparts. Most commonly, these networks were missing a baseline data report and system-alignment framework of action. In one case (e.g., Ohio pair), both networks were advanced stage collective impact initiatives.

[1] *The collective impact framework continues to evolve. Notably, the Collective Impact Principles of Practice extend beyond these five criteria to embrace greater priorities on equity, community involvement, data use, coalition culture, and customizing to the local context (https://www.collectiveimpactforum.org/resources/collective-impact-principles-practice)*

The 26 networks are in 11 states. We chose networks that differed in various ways. They varied in size, ranging from 8 to 102 organizations, with the average network having 35 organizations participate. They serve rural, suburban, and urban communities; some networks spanned multiple types of areas. The average founding date is 2012 — all but four networks are at least three years old. In 20 of the networks, the founder went on to manage the network. Networks have different lead agency or "backbone" types: 12 have a philanthropic or federated organization, 6 have a government agency, 6 have a community-based nonprofit, and 2 have a post-secondary institution. The research reports data collected from 2017-2020.



Data Collection Measures and Analysis

We used a mixed-method design, incorporating qualitative interviews, archival data analysis, organizational surveys, and community-level education outcomes. Networks received $1500 as compensation for their participation over three years.

We conducted two semi-structured interviews with the network leads of all 26 communities two years apart. We asked questions about both strategies and data, including questions like:

- What strategies do you use to align partner organizations (i.e., making sure the programs work together to enhance one another and achieve a common goal)?
- How does the network collect data on educational outcomes? What are the metrics you use?
- What leading indicators are you capturing for outcomes variables?
- Do the partner organizations in the network share data? If so, how?
- What changes have there been in reporting on outcomes? Developing shared metrics? Strategies to increase data use and sharing in the network?
- How has your network used data to address and achieve its education goals?
- Has data been used to assist and change the trajectories of underserved populations?

From these questions, we developed profiles of typical and exemplary data-use practices. We found that most networks used data derived from state or district-level reports, not raw data. In addition, many networks developed programs independent of expert advice derived from education research (see What Works in Education Clearinghouse for examples of research-based practice). However, a few networks had exemplary practices in three areas:

1. promoting evidence-based practices derived from research,
2. using data to encourage learning and systems alignment, and
3. using data to promote community accountability.

We describe these three areas of study, highlighting networks from the research.

Promoting evidence-based models derived from research

One way that networks made a social impact is by implementing research-informed practices across member organizations. The operating logic is that if these organizations get better at what they do as a group, then student outcomes will improve at the community level. Two vehicles allow networks to accomplish this goal. They can **use a model that incorporates research evidence to drive their efforts,** and **networks can use data to identify professional development needs across education and youth services providers.** Both strategies aim at aligning organizational operations with evidence-based practices.

THROUGH IMPLEMENTING PROVEN MODELS

For many networks in our research, the primary way they improved programs was by aligning themselves with a model. For example, the Hartford Partnership for Student Success (HPSS) aligned itself with the community schools model. Research demonstrates notable outcomes for students in the Community School Model over time.[2] HPSS worked with a technical assistance organization, the Children's Aid Society, which attended their regular meetings and supported the model's implementation. Communities that Care of Franklin County/ North Quabbin was among the first communities to adopt the Communities that Care model to prevent risky youth behavior. The model has been shown to be effective in a randomized control trial.[3] Finally, several networks we studied were part of the Campaign for Grade-Level Reading. The Campaign for Grade-Level Reading promotes evidence-based practices designed to improve third-grade reading. When we interviewed networks, they referenced both the pillars of the approach and the research that supported it.

What separates these models from other technical assistance organizations is that they help develop evidence-based programs. Although other organizations offer assistance in managing network processes or conducting evaluation, the models identify programs and approaches for improving student outcomes backed by research evidence. For example, the Communities That Care helps communities select and implement evidence-based prevention programs to communities. In contrast, many management technical

[2] *Stephen J. Caldas, Diane W. Gómez, and JoAnne Ferrara, "A Comparative Analysis of the Impact of a Full-Service Community School on Student Achievement," Journal of Education for Students Placed at Risk (JESPAR) 24, no. 3 (July 3, 2019): 197–217, https://doi.org/10.1080/10824669.2019.1615921.*

[3] *M. Lee Van Horn et al., "Effects of the Communities That Care System on Cross-Sectional Profiles of Adolescent Substance Use and Delinquency," American Journal of Preventive Medicine 47, no. 2 (August 1, 2014): 188–97, https://doi.org/10.1016/j.amepre.2014.04.004; Valerie B. Shapiro, Sabrina Oesterle, and J. David Hawkins, "Relating Coalition Capacity to the Adoption of Science-Based Prevention in Communities: Evidence from a Randomized Trial of Communities That Care," American Journal of Community Psychology 55, no. 1 (March 1, 2015): 1–12, https://doi.org/10.1007/s10464-014-9684-9.*

assistance organizations focus primarily on network governance or community engagement strategies. Each evidence-based model addresses a slightly different need (e.g., preventing risky behavior, third-grade reading achievement). Still, all draw from extensive external evaluations and peer-reviewed research to make their claims.

THROUGH PROFESSIONAL DEVELOPMENT

Several networks that we studied, including those who improved student outcomes across the community, focused on improving organizational practices by hosting learning opportunities. These learning opportunities improved the quality of programs and services that organizations in the network already offered. Many of these trainings enhanced the skills of those delivering the service.

Learn to Earn Dayton, for example, provided training to preschool teachers to improve instruction and better manage children's behavior. They established continuous improvement plans for preschools in Dayton, Ohio, and assigned coaches to help teachers get students ready for school. Through their professional development efforts, more children in Montgomery County entered kindergarten ready to learn.

Pittsfield Promise also focused much of its early professional development work on early childhood providers. However, their professional development plans evolved as they became aware of additional issues. They moved from professional development focused primarily on academic outcomes (e.g., kindergarten readiness) to programs that addressed the whole child. Recently, they began more significant professional development around trauma-informed practices. Karen Vogel, Berkshire United Way, explained, "we're always in a state of evolving because we are looking at the data and listening to community needs."

What sets successful networks apart is their intentionality in professional development. Successful communities use data on student outcomes to identify areas where professional development is most needed. Then they conduct professional development with cohorts across organizations to improve student outcomes.

Using Data to Encourage Learning and Systems Alignment

Beyond the importance of evidence-based practices in selecting and expanding network services and programs, our research also focused on data infrastructure. We identify some best practices for collecting data that can be applied across networks for more effective systems alignment and learning.

PROMOTE CONSISTENCY AMONG ORGANIZATIONAL PARTNERS

In their book Networks for Social Impact (expected October 2021 Oxford University Press), Michelle Shumate and Katherine Cooper recommend that networks ensure organizations collect data using the same metrics, what the collective impact literature sometimes refers to as shared measurement. Although it is often time-consuming at the onset, networks should push for organizational partners to develop standard data collection practices. Standardizing metrics and measures are crucial at the beginning when the partnership is forming. These conversations add value to the network process as well as focus the discussion on network outcomes. For example, Voyage reported working over six months to get organizational partners to use a specific process that allowed the network to track common indicators over time. The Hartford Partnership for Student Success suggested that these conversations allowed them to focus on specific measures and renew the network's focus on particular issues relevant to all organizational partners, like student attendance.

In addition to having these conversations, the tools for collecting data must be consistent across organizational partners. In Howard County, for example, the network uses two data management systems, one of which is increasingly used to coordinate and report on county-wide efforts. It can be challenging to get all agencies to use the same technology if partners are accustomed to using their own data management software. So, Shumate and Cooper recommend that networks create systems for data entry that are easy to use or compatible with the systems that organizations are already using. For example, some health and human services networks utilize customer relationship management software with open API protocols to port data from other systems. Although not a common tactic among this sample, networks might also make an effort (or secure funding) to incentivize organizations to participate in data collection and use the same data management software.

DISAGGREGATE THE DATA

Network leaders acknowledged that it is easy to get overwhelmed in setting data-driven goals. However, disaggregating the data proved to be a winning strategy for networks looking to target specific improvement areas. Some networks disaggregated data to focus on particular schools. Others focused on

student demographics, such as race or gender, as practiced by Learn to Earn Dayton, or English language learners, as in the Westbrook Children's Project. The network could then focus on setting goals and targeting initiatives specific to these groups.

Disaggregating data is designed to assess biases in systems, not characteristics of students. Diversity, equity, and inclusion training is essential. Such training sensitizes leaders to see inequities as systems problems, not individual or demographic problems.

CONSIDER THE NETWORK'S GOALS AND INDICATORS

Beyond the importance of evidence-based practices in selecting and expanding network services and programs, our research also focused on data infrastructure. We identify some best practices for collecting data that can be applied across networks for more effective systems alignment and learning.

Some networks testified to the importance of setting indicators to help participants determine whether they are moving towards their goals. Building Our Future Kenosha noted that many of their network's objectives would take years before being realized. So, rather than getting overly focused on falling short of the initially set goals, network participants monitored and occasionally revised their indicators. Networks can share these indicators (e.g., reduction in chronic absenteeism, attendance in summer bridge programs) in interim reports to help build community confidence in the network.

Using Data to Promote Community Accountability

The final set of recommendations focus on reporting data to communities. In addition to the power of data to improve network effectiveness and strengthen organizations' operational capacity, reporting data can act as a tool for networks to increase community-level trust and accountability. Networks that authentically engage community members, using involvement and systems change approaches, will do more than report data; they encourage accountability by empowering community members to evaluate the network (see Report 2). We identify best practices for networks' data reporting.

ANTICIPATE AND ADDRESS CONTROVERSIES IN DATA COLLECTION AND REPORTING

Network leaders challenged the idea that data reporting was objective. Moreover, network leaders raised specific concerns with the nature of the data they collected and reported. While disaggregating data according to race and gender, Learn to Earn Dayton acknowledged painful conversations in the community about race. Members of the community were outraged at survey questions that they felt targeted their children. Sparks! realized that reporting on kindergarten readiness data was difficult because partners "don't want to label kids" as problems. Many networks reported increased sensitivity to equity, or they developed advisory groups to address these challenges. Reporting disaggregated data requires appropriate framing that focuses on biases in how well systems serve different populations of students.

REPORT DATA REGULARLY

Data collection challenges can result in delays in data reporting. However, networks that produce regular reports demonstrate to member organizations and the community that they prioritize data collection and accountability. The United Way of Saginaw, for example, generates quarterly data reports. For networks that don't receive updated data frequently, it's still a good idea to hold regular meetings to debrief organizational and community partners so that the expectation exists for data to be shared and utilized. Pittsfield Promise noted that some of the data they receive is updated yearly, but they continually refer to this data in the quarterly meetings that they hold.

USE DATA AS A RESOURCE FOR PARTNERS AND THE COMMUNITY

Shumate and Cooper argue that networks with a central data management system become trusted resources for others and promote community empowerment through data sharing. Grinnell Campaign for Grade-Level Reading hosted information sessions so that the community could explore how they might use the data-sharing platform. Communities that Care of Franklin County reported that partners regularly asked them to extract or write on data that they could use. Higher Expectations for Racine County developed robust data dashboards. Their community dashboards are interactive, allowing community members to explore the data and hold partners accountable.

Data systems are vital components for social impact networks. This report exemplified evidence-based practices in choosing and developing specific services and programs and detailed the importance of data collection and reporting. These systems often come late in network development, but they are essential to supporting system-alignment and learning theories of change.

APPLIED IMPLICATIONS

NETWORK LEADERS

- **Promoting evidence-based practice derived from research**
  - Use models developed by technical assistance organizations that are supported by peer-reviewed evidence of their success.
  - Use data to identify opportunities for professional development across organizations.
  - Identify existing programs which have already included evidence-based components.

- **Data collection**
  - Push for data sharing and collection agreements among network organizations. Collect data using the same metrics and technological tools; have a central data management system that is straightforward and compatible with network goals.
  - Use data to establish specific goals and initiatives and monitor and track network goals and indicators. Leading indicators will help network participants to see how they are moving towards their long-term goals. Continuously revisit your data and your goals.
  - Assess your community. Collect and disaggregate community-level data and adjust programs and network structures accordingly. Disaggregating data will help target specific areas of focus and improvement.

- **Data reporting**
  - Regularly report data. Use data to display network accountability and as a communication tool for partners and community members. Data should drive conversations. Anticipate and address controversies in data collection and reporting. Ensure sensitivity to equity.

FUNDERS

- Support community-level data collection by funding positions or consultants with the training to set up data infrastructures and perform appropriate analyses.
- Support networks with community-level data collection and application to their network activities and governance. Ask networks about their data collection practices, specifically regarding shared metrics and collection processes.
- Seek data and information on network indicators and their progress.