



Guidebook

Lindau Laboratory, University of Chicago

December 2015

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The contents of this document are solely the responsibility of the authors and do not necessarily represent the official views of the U.S. Department of Health and Human Services or any of its agencies.

Under the terms of the CMS funding opportunity, we were expected to develop a sustainable business model which will continue and support the model that we tested after award funding ends.

Dr. Stacy Lindau is the founder and owner of a social impact company NowPow, LLC. NowPow, LLC is not supported through CMS or other federal funding.

Neither the University nor UCM is endorsing or promoting any NowPow, LLC/MAPSCorps Entity or its business, products, or services.

1. Foreword

Welcome to MAPSCorps. The purpose of this Guidebook is to complement in-person training provided for MAPSCorps partnering communities. This inaugural guidebook has been prepared with support from the New York State Health Foundation to advance the priorities of its Healthy Neighborhoods Initiative program. From inception, the MAPSCorps program has been designed for scale and envisioned as an innovation that would generate local, asset-based solutions while creating a valuable model relevant and accessible to partner communities.

In advance of training, we hope our partners will carefully read this guidebook both to learn more about the MAPSCorps program and to help us improve this resource.

Please share your comments and suggestions to help us improve this Guidebook. You can email us your comments at jmakelarski@uchicago.edu.

For me, the MAPSCorps program is an expression of a deep personal concern that certain injustices in our society could render a young person with a great scientific mind unnoticed. MAPSCorps produces high quality data everyone can use to improve the human condition. The program generates data that create visibility for local businesses and organizations to support local economies. MAPSCorps also brings the privilege and gift of my professional training full circle, from aspiring high school social studies teacher to physician scientist with a passion for engineering solutions to injustice.

I wish to acknowledge the many (hundreds) of people, including the humanist and activist researchers in my lab, a wide diversity of colleagues at the University of Chicago, especially Dr. Daniel Johnson, the University of Chicago Urban Health Initiative, community practitioners on Chicago's South Side, After School Matters, and private supporters in addition to the Youth Mappers and leaders who are the foundation of the MAPSCorps program's strength. I also wish to disclose that MAPSCorps, a not-for-profit organization, is now part of a collective social impact business model with a for-profit social impact company called NowPow, LLC. I am the founder and a co-owner of NowPow, headquartered and employing people, including former MAPSCorps students, on Chicago's South Side. I could profit personally from NowPow's success. The University of Chicago does not endorse or promote any MAPSCorps or NowPow entity, but does have an equity interest.

This Guidebook reflects the state of MAPSCorps as an entity operating from the University of Chicago in January 2016. It will, of course, need to be updated when MAPSCorps operations shift to the new independent entity.

Thank you for your partnership and, in advance, for your contributions to MAPSCorps.

Stacy Tessler Lindau, MD, MAPP
Director, MAPSCorps
November 22, 2015

2. Overview

*Note: Glossary terms are indicated in **bold and orange**. The Glossary can be found on page 51.*

History

Since 2002, the Lindau Lab at the University of Chicago collaborates across disciplines and communities to engineer solutions to injustice. In 2008, the Lindau Lab was engaged by the University of Chicago Medicine Urban Health Initiative,¹ to conduct innovative research in partnership with the communities neighboring and served by the University of Chicago Medicine. From this partnership, three themes emerged. Community constituents stipulated that the research must: 1) engage and employ local youth, 2) produce data everyone in the community could access and use, and 3) adopt a broad definition of health that includes economic opportunity and vitality. From these imperatives emerged MAPSCorps (Meaningful, Active, Productive Science in Service to Community).

Launched in 2009, MAPSCorps is now envisioned as far-reaching infrastructure that supports partnerships between **STEM** and health-oriented scientists, local high school students, youth employment agencies, health systems, and **community-based organizations** to conduct annual censuses of community assets across all sectors. The MAPSCorps program provides meaningful work opportunities for local youth (ages 16-18, mentored by college students) that promote hands-on science learning, civic engagement, and job readiness. Youth are trained to use tools of science and mobile technology to identify all public-facing operating businesses and organizations (assets) across all sectors in a community. Youth then use these data, applying scientific method to address a question of concern to their community.

The MAPSCorps program, incubated at the University of Chicago, has grown every year since 2009; in 2015, 90 youth (mentored by 26 college students) in Chicago and 55 youth (mentored by 20 college students) in NYC mapped more than 120 square miles and more than 25,000 operating community resources, combined. As of 2015, the MAPSCorps program has provided more than 500 meaningful, paid work experiences for local high school youth and college-age mentors.

Figure 1. MAPSCorps Mission and Vision

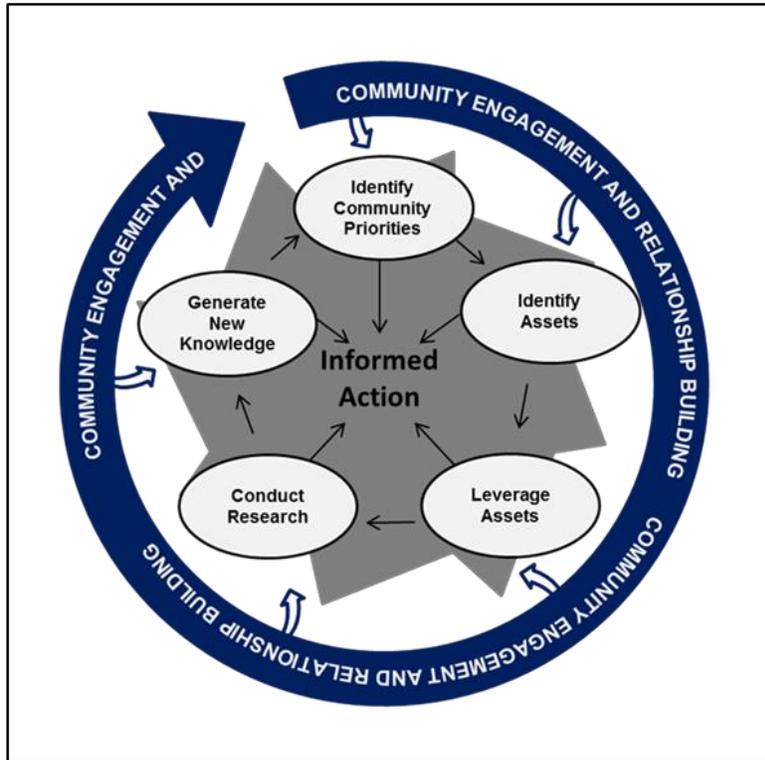
<p>MAPSCorps asks all of our partners, including the youth, to commit the vision and mission to memory to promote solidarity in the effort and consistency in our message.</p>	<p>The mission of MAPSCorps is to actively engage youth in producing meaningful scientific data about community assets that everyone can use to improve the human condition.</p> <p>The vision of MAPSCorps is to cultivate scientific minds, healthy people, and invested citizens using the assets in our community.</p>
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These strategies are essential to the MAPSCorps Mission and Vision (Figure 1):

Asset-based Community Engaged Research

The **Asset-Based Community Engaged Research (ABCER)** approach² (Figure 2) is inspired by principles common to community-based participatory research (familiar to scholars) ([Appendix A](#)) and asset-based community development (familiar to community practitioners) ([Appendix B](#)). ABCER involves ongoing investment across sectors in relationship-building and trust, identification of shared priorities, and joint production and ownership of data about community assets. This approach assumes all community assets have value until proven otherwise and is in contrast to the deficit-based view typical of research in high-poverty communities.

Figure 2. Asset-Based Community Engaged Research model



Science in Service to Community

The high quality **asset data** generated by the MAPSCorps program are shared widely with the community, ultimately to promote health and economic vitality. MAPSCorps data populate publicly available websites, www.MAPSCorps.org (English) and www.Dondeesta.org (Spanish) (Figure 3).

Data files are also provided to users via a web-based consent process that allows **MAPSCorps Central** to track data use and impact (tracking is important for sustainability). As of December 2015 nearly 150 requests for the asset data by researchers, policymakers, community development and advocacy organizations have been fulfilled (see Data Sharing, Chapter 10).

Figure 3. MAPSCorps Data Access

<p>MAPSCorps data is publicly available at these websites:</p> <p>www.MAPSCorps.org (English) www.Dondeesta.org (Spanish)</p>	<p>To request data:</p> <ol style="list-style-type: none">1. Visit http://tinyurl.com/mapsacorpsdata2. Fill out the data request form3. MAPSCorps Central will review and respond to the request within 2 weeks
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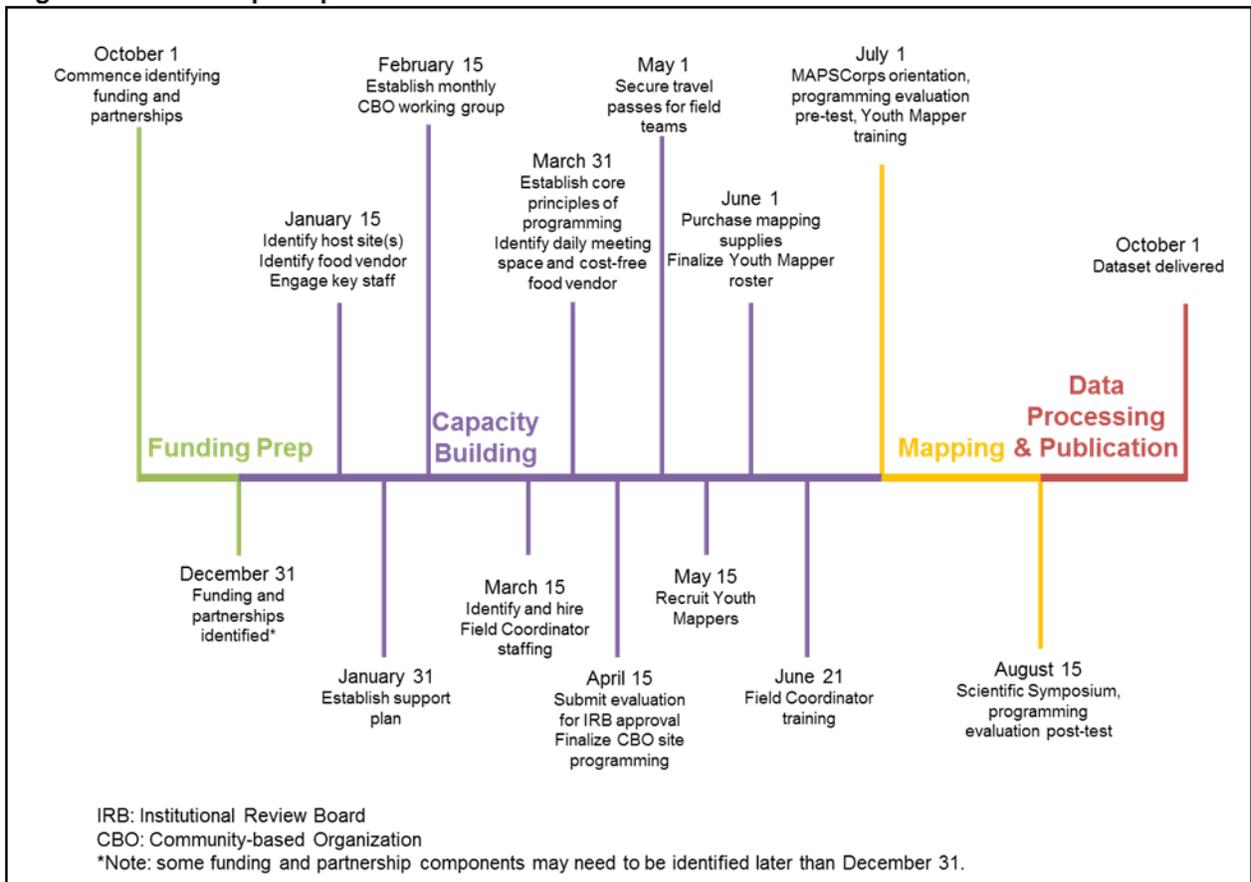
Positive Youth Development

The MAPSCorps program trains high school youth in scientific method, data collection, use of web-based applications and social media, and delivers one-to-one mentorship from science-oriented college-level peers (“**near-peers**”) known as Field Coordinators (see Positive Youth Development Curriculum, Chapter 8 and Staffing, Chapter 5).

3. Implementation Timeline and Milestones

The below timeline (Figure 4) provides an overview of key events in the initial MAPSCorps implementation. Subsequent years, after the initial launch, see gains in efficiency, but even the MAPSCorps Chicago program (entering year 8 in 2016), is a year-round activity, operating according to this timeline.

Figure 4. MAPSCorps Implementation Timeline: Year 1



Identify Funding and Partnerships: MAPSCorps operates as part of the **CommunityRx Collective Social Impact Model** (Figure 5) with NowPow, LLC to build a sustainable ecosystem of funding and partnerships. Affectionately called “potluck-style” funding, the collective social impact model approach means identifying and generating partnerships that bring together unique resources to achieve a larger and socially conscious goal.³ In this model, everyone who comes to the table contributes to achieving the goal.

Figure 5. Collective Social Impact

Collective Impact: “The commitment of a group of important actors from different sectors to a common agenda for solving a specific social problem... collective impact initiatives involve a centralized infrastructure, a dedicated staff, and a structured process that leads to a common agenda, shared measurement, continuous communication, and mutually reinforcing activities among all participants.”³

As with any endeavor, identification of stakeholders and securing funding are critical first steps. A MAPSCorps implementation is not a one-off pursuit. The MAPSCorps asset mapping model is built for sustainability because current and comprehensive data are needed on an ongoing basis to meet community information and business needs. Local economies change and grow over time. Assets come and go. The cost of implementing a MAPSCorps program depends, in part, on the size and asset density of the **target geography**. MAPSCorps **community partner sites** will create meaningful opportunities for a diversity of stakeholders to contribute to the effort (Figure 6). Note, this strategy is philosophically and spiritually different from charitable fundraising.

Figure 6. Examples of Stakeholder Engagement Opportunities

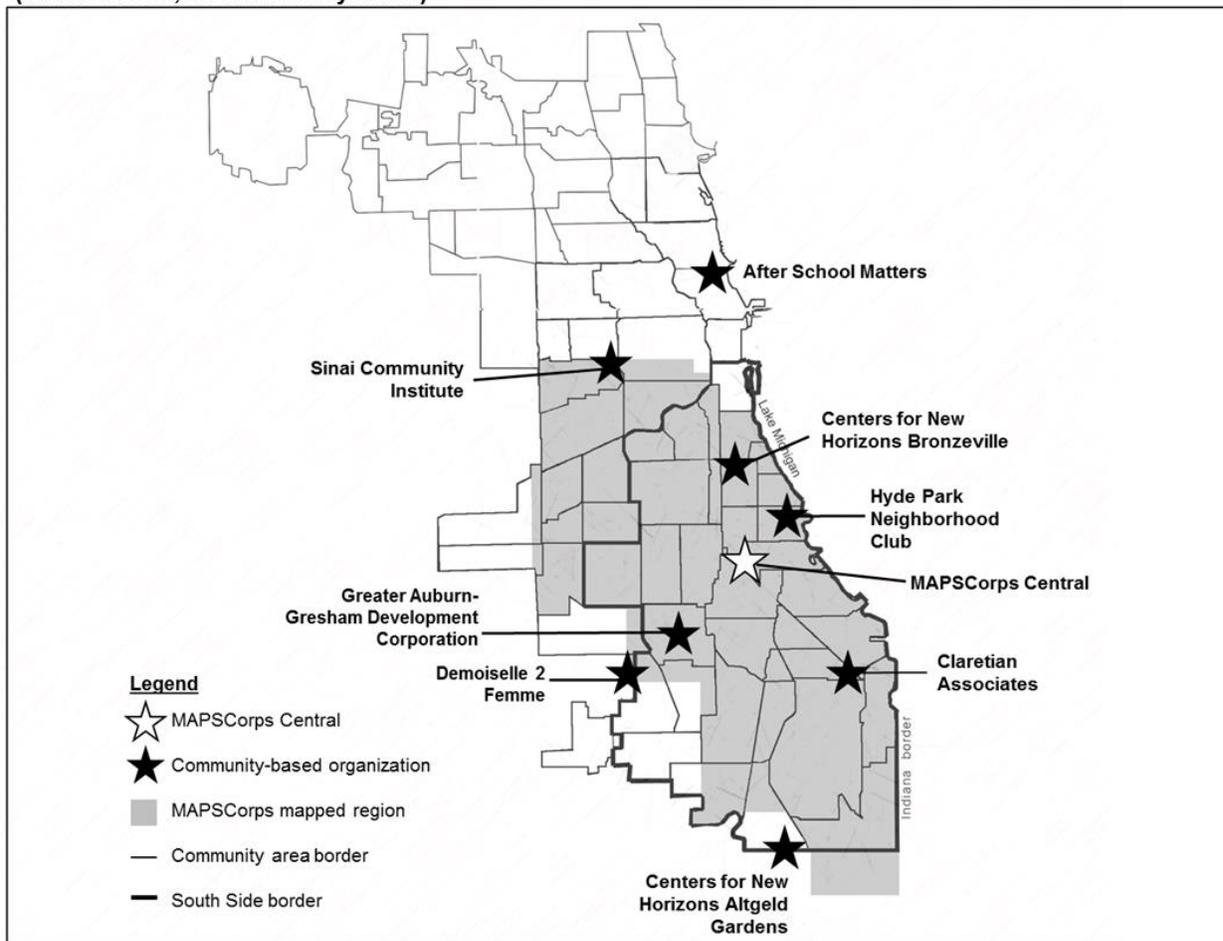
	<p>Field Coordinators may be supported by service learning coursework or endowed summer fellowships at a local university or college. Why? Because college students demand meaningful summer work and donors demand opportunities to meaningfully give back to current students and the community that launched them.</p>
	<p>Transportation may be contributed or discounted by the local transportation authority. Why? Transportation companies need high quality data about the distribution of community businesses and organizations to inform the development of their routes or to identify advertisers.</p>
	<p>A charitable food organization may want to provide hot lunches for the students because they have a mission to serve youth, even in the summer.</p>
	<p>A national mobile phone company might donate plans in exchange for a logo on the MAPSCorps t-shirts to promote its brand. The company might even be willing to donate phones (which can last for several summers) if MAPSCorps programs across a state or nationally combine forces to partner up.</p>
	<p>Local faith organizations or restaurants could offer bathrooms, drinking water, a cooling station, or even a safe haven along the mapping route. Why? Faith organizations have a mission to serve their communities charitably and to encourage the safety of youth.</p>
	<p>Restaurants need their business to be known and MAPSCorps provides free advertising!</p>

Additional detail on building a sustainable collective social impact model for MAPSCorps will be found in Chapter 4, MAPSCorps Community Partner Site Selection.

Identify the Organization(s) that will Host the Youth Mappers: In Chicago, **MAPSCorps Central** performs the coordinating and operational functions for the MAPSCorps program and partners with **community-based organizations** that host the Youth Mappers. In 2015, we affiliated with 6 community-based organizations at 7 locations distributed across the **target geography** (Figure 7). These organizations each served as a **Host Site** for the Youth Mappers and the supervising Field Coordinators. In Chicago, each of these organizations applied for summer youth employment funding to After School Matters, a large youth employment agency

in Chicago. MAPSCorps Central provided technical assistance, including boilerplate language about the MAPSCorps program, for these funding applications, but the funds flowed between After School Matters and each Host Site. Youth paychecks were issued by the youth employment agency and liabilities associated with youth employment were the responsibility of the community-based organizations and After School Matters, both of which were selected as MAPSCorps partners because of their experience and infrastructure to support youth employment. MAPSCorps Central has several years' experience working with Chicago's largest youth employment agency and maintains executive-level relationships with that organization (watch the MAPSCorps 2014 video, [Appendix C](#)). We bring this expertise to partnerships in other regions and can provide technical assistance and consultation to help forge and foster these relationships.

Figure 7. Map of the City of Chicago Showing Geography Mapped by MAPSCorps 2015 (16 ZIP codes, 38 community areas)

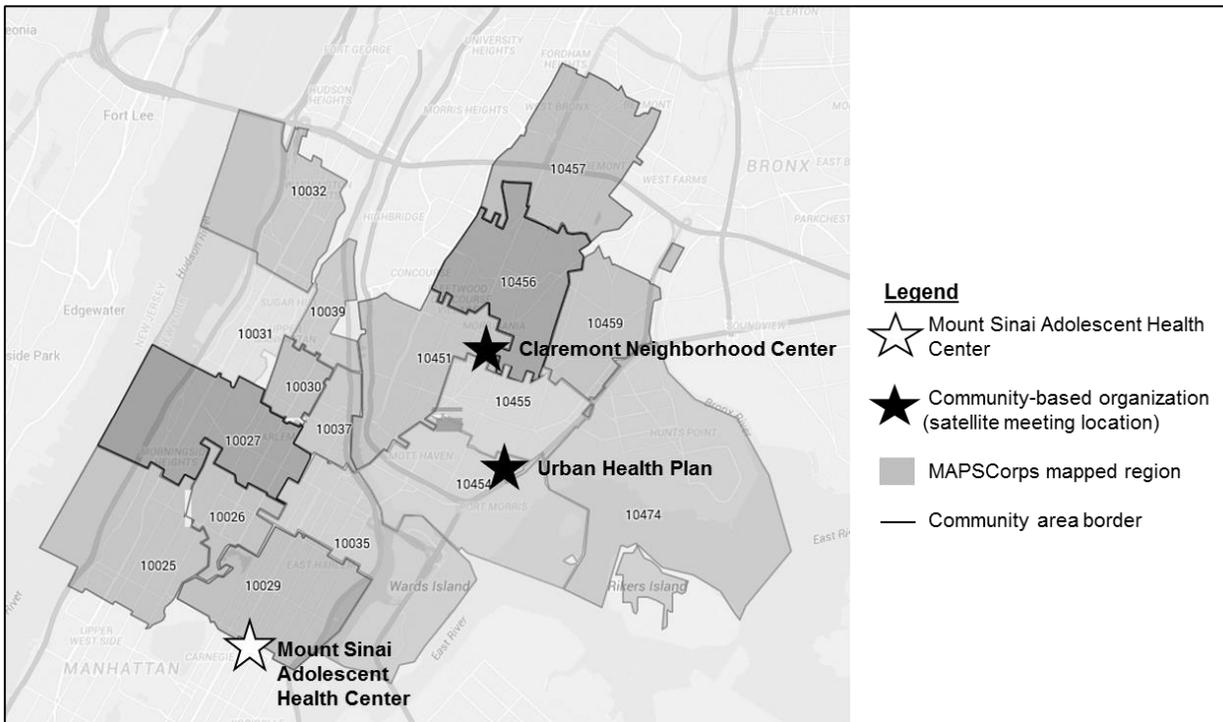


Host Sites are organizations experienced and equipped to employ Youth Mappers and to host day-to-day MAPSCorps **field team** operations. These organizations must be identified early in the implementation process to ensure alignment of mission, goals and operations. We strongly recommend, based on 7 years' experience and the expertise of our youth employment partners, no more than 20 Youth Mappers at a single Host Site. We have found 12-16 Youth Mappers at

a single Host Site to be ideal. In earlier years in Chicago, we attempted large Host Site arrangements and found diminishing marginal returns in terms of the demand on the Host Site facilities and staff, team-building among the youth, Youth Mapper and Field Coordinator satisfaction, and efficiency of moving the teams from the Host Site each day to their field assignments. These factors are all important independent end-points but likely also influence data quality.

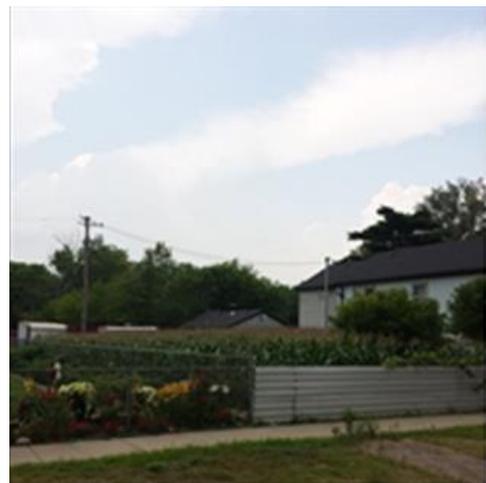
In 2015, in partnership with Mount Sinai Adolescent Health Center in New York City, the MAPSCorps program attempted a very large single **Host Site** implementation. The Adolescent Health Center (AHC), in our experience, is a very unique organization with expertise in adolescent health and medicine, **positive youth development (PYD)**, and youth employment. While AHC has very important local impact and is a respected leader in the Harlem region, the AHC service area spans several states and its leadership, affiliations, stakeholders and supporters extend globally. In 2015, AHC functioned as the **Lead Host Site** for 55 Youth Mappers and 20 Field Coordinators, utilizing a satellite meeting place for the whole group in the Bronx when the **field teams** were deployed to the Bronx ZIP codes (Figure 8). The entire team mapped the **target geography** “en bloc,” covering each ZIP code as one team. This structure was designed to meet the needs and preferences of AHC and its local partners. We are currently collaborating with AHC on analyses to understand the outcomes of this approach as compared to the delegated neighborhood model that has been the MAPSCorps Chicago program’s traditional approach.

Figure 8. MAPSCorps NYC Host Sites and Target Mapping Region



Successful **Host Sites** are typically **community-based organizations** with a mission that includes local community development, youth development, employment, and health promotion. Many MAPSCorps partners in Chicago also have a mission to advance use of information technology and to ignite civic engagement among their constituencies. MAPSCorps Host Sites play the lead role in recruitment and selection of Youth Mappers, provide direct oversight and daily meeting space for field teams, participate in **PYD programming**, and interact closely with **MAPSCorps Central** to ensure success, sustainability, and continuous quality improvement of the program. Host Sites interact with other Host Sites within and across partnering communities. In Chicago, the MAPSCorps program has helped connect and build linkages among community-based organizations that previously had little or no prior interaction. For example, one Chicago MAPSCorps Host Site now refers its constituents to another local Host Site for a cost-free tax preparation service.

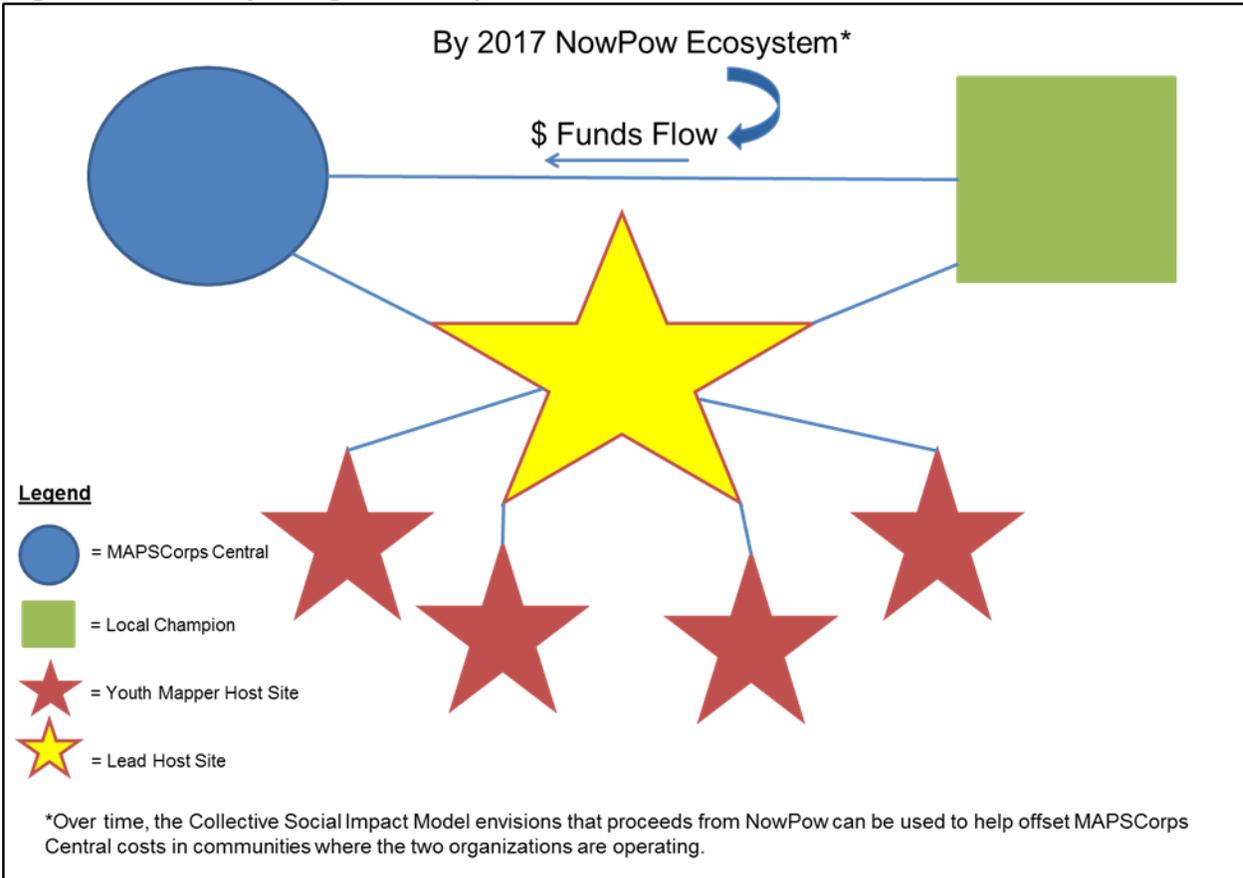
Identify Donated Food Vendor: One in 6 Chicagoans is food insecure. We found, early on, that hunger was also prevalent among our Youth Mappers. We deliberated the best response to Youth Mapper hunger and decided collectively that for the MAPSCorps program to achieve its vision and mission, we should provide nutritious meals during the **field period**. To address our local need, MAPSCorps Central engaged Catholic Charities (<http://www.catholiccharities.net/>), which has a mission in the region to mitigate hunger among all people. **MAPSCorps Central** can provide partnering communities with technical assistance in selecting a food support partner and implementing a breakfast and lunch program. In Illinois, implementation required a member of the Host Site to be trained in food handling (a 3 hour training). The U.S. Department of Agriculture sponsors a cost-free food service program in many cities and towns throughout the country (for additional resources see: <http://www.fns.usda.gov/sfsp/summer-food-service-program-sfsp>). In conversations in Chicago and elsewhere, we have discussed the idea of collaborating with urban farming or other local agricultural programs to address hunger and nutrition during the MAPSCorps program. We are very interested in partnering with communities where this idea could be explored further.



Engage Key Staff: The local Program Champion identifies key staff and makes introductions to the **MAPSCorps Central** team. In larger implementations (e.g. two or more **Host Sites** in a region), the Program Champion is at a **Local Champion** organization separate from the Host Sites (see Figure 9). In this scenario, the local Program Champion is responsible for convening stakeholders across sectors, securing and delegating funding, and ensuring overall success of

the program. The local Program Champion delegates field operations to a **Lead Host Site** which will have operational responsibility for coordinating field and curricular efforts across local Host Sites. The Operations Director at MAPSCorps Central liaises with the local Program Champion. The Community Manager at MAPSCorps Central liaises with the Lead Host Site Program Manager. Chapter 5, Staffing, provides more detail on staff roles and responsibilities.

Figure 9. MAPSCorps Large-Scale Implementation Model



Establish a Support Plan: **MAPSCorps Central** provides support throughout the preparation, implementation and data publishing process. After Year 1, as **community partner sites** develop capacity for the mapping activities and a plan for youth development, we expect that less MAPSCorps Central support will be needed. While the nature of support is similar across partners, the degree of needed support varies according to local conditions, capacity, growth, and experience. A key component of the support plan is to agree on and stick to a communication plan with MAPSCorps Central for the summer **field period**.

Establish Regular Meetings and Invite Key Stakeholders to form a MAPSCorps Work Group: We recommend that the Program Champion create a local MAPSCorps Work Group that meets monthly during the planning period. Subgroups may form and meet more regularly to support the intensive summer effort. In Chicago, our Work Group is open to the public, but we require participation from all **Host Sites**, staff, and youth when possible. We also invite other stakeholders including funders, our university partners, and people who use the MAPSCorps

data. The **collective social impact** approach requires all partners to share in the responsibility of executing the MAPSCorps program. These regular Work Group meetings convene all constituents on a regular basis to build relationships, plan, troubleshoot, and continuously improve the overall effort.

Identify and Hire Field Coordinators: Field Coordinators are a critical component of the MAPSCorps implementation. Field Coordinators are college students seeking meaningful summer work. Many are looking for teaching, health-focused, and service-learning opportunities and are eager to learn more and form lasting relationships with people in the broader community where they are doing their college studies. Field Coordinators train, supervise and mentor the Youth Mappers, manage data collection in the field, oversee data entry to optimize data quality, and implement the **PYD** curriculum. The Field Coordinator position is funded through university summer internships or stipends, service learning credits, and grant funding. Field Coordinators are recruited, interviewed and hired by the **Lead Host Site** in smaller implementations and the **Local Champion** organization in larger implementations. In Chicago, MAPSCorps Central hires Field Coordinators and assigns them to **Host Sites**, taking into consideration the unique mission and needs of Host Sites and the unique skill sets, learning objectives, and needs of the college students. Recruitment activities begin late winter/early spring and are widely promoted through community networks, college and university job boards and websites, and social media. MAPSCorps Youth Mapper alumni are also encouraged to apply in order to “connect the dots” and reengage with the program from a different perspective. The Field Coordinator job description is also promoted to MAPSCorps stakeholders. In Chicago, InterPark is a longstanding corporate supporter of the MAPSCorps program. This company sees value in partnership because many of their employees live in the MAPSCorps communities and have children seeking meaningful summer employment. InterPark helps recruit high school and Youth Mappers by identifying viable candidates, providing resume writing and interviewing support, and guiding candidates on the application process.

Establish Positive Youth Development (PYD) Curriculum Objectives: **MAPSCorps Central** will provide materials and a toolkit for developing locally-relevant curricular objectives that advance both the local mission and the overall mission and vision of the MAPSCorps program. As a general starting point for developing measurable PYD objectives, we suggest referencing a well-known guide developed by researchers at Cork College called, “Writing and Using Learning Outcomes: a Practical Guide”([Appendix D](#)). For more detail on the PYD curriculum, see Chapter 8.

Prepare for MAPSCorps Evaluation: **MAPSCorps Central** provides the evaluation tools and protocol. MAPSCorps Central works with **community partner sites** to align with local learning objectives. Evaluation is an essential component for continuous quality improvement of the MAPSCorps program. If your site wishes to use the evaluation data for research purposes – meaning to publish or publicly present your evaluation findings – the data must be collected under the purview of an Institutional Review Board (IRB). MAPSCorps Central works with its partners to enable research and evaluation activities. Youth recruitment, employment and orientation processes should inform participants about the evaluation plan and any planned research activities.

Make a Transportation Plan for Youth Mappers: The need for and type of transportation depends on the size of the **target geography**. The MAPSCorps Chicago program uses public transportation and purchases market-rate passes (we keep trying to secure discounts!) that the youth can use at any time during their employment period. The transportation pass is a valuable component of summer compensation and enables youth transport to the optional **Focus Friday** activities and other cultural, social and work events during the summer. If private vehicles will be used for work purposes, organizations should ensure appropriate protection measures, such as driver background checks and evidence of insurance.

Recruit Youth Mappers: Because Youth Mappers will report to and be supervised by the **Host Site**, we recommend that the Host Site lead recruitment activities. In some settings, we recognize that a third party youth employment agency may be responsible for recruiting and assigning youth to summer work sites. In this case, we recommend engaging the youth employment agency leadership early in the planning period to come to mutual understanding about the unique place-based aspects of the MAPSCorps program and to determine an optimal strategy for assigning youth to the program. Roles, responsibilities, and a job description for the Youth Mappers can be found in Chapter 5, Staffing.

Purchase Secondary Data: **MAPSCorps Central** will purchase best available market data for each **target geography** and will preload these data into the **MapApp™** application in advance of field training. Purchase of these data is included in the MAPSCorps Central engagement. MAPSCorps Central costs and data management activities depend on the number of places expected to be mapped. The MapApp™ application will be loaded with an agreed-upon “overage” of places to accommodate teams that cover the planned field work faster than projected. However, for a ZIP code to be complete, every **case** in the region must be **touched**. Partial ZIP codes are not posted to the public-facing website.

Field Coordinator Training: The MAPSCorps program uses a **train-the-trainer model**. Ideally, Field Coordinators are hired by early May to start work mid-June (one week before the Youth Mappers begin). We recommend inviting Field Coordinators to your local MAPSCorps Work Group meeting as soon as they are hired. Intensive Field Coordinator training is a full-time effort during the first week of their employment. The primary objective of the training is to enable Field Coordinators’ mastery of MAPSCorps mission, vision and protocols so they can deliver training to the Youth Mappers beginning the following week. Field Coordinators are also trained during this period to function as effective **near-peer mentors** for the Youth Mappers.



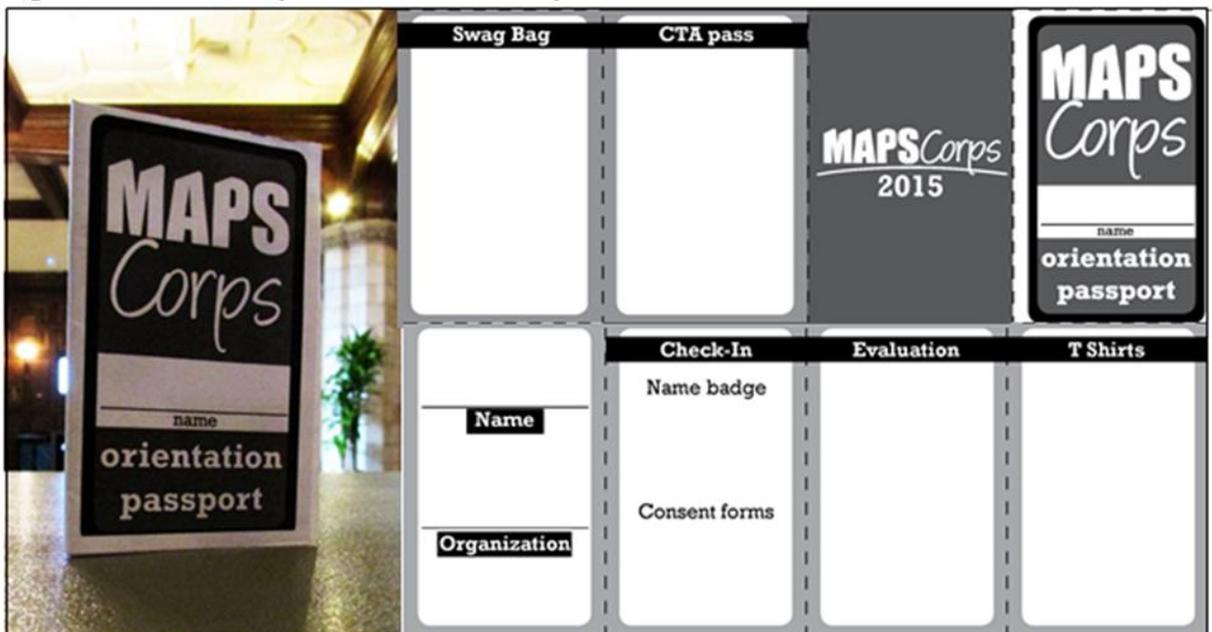
MAPSCorps Orientation: MAPSCorps orientation is held for Youth Mappers and their families on Day 1 of the MAPSCorps **field period**. The main objectives of orientation (Table 1) are to build family understanding of expectations for youth, communicate about responsibility and safety of the Youth Mappers, and to conduct the baseline evaluation. We use a “passport” (Figure 10) to ensure the Youth Mappers complete the full range of orientation activities. Supplies, including t-shirts, water bottles, bags, and Day 2 assignments are also distributed. Youth Mappers and their families meet the Program Champion, **Host Site** and MAPSCorps Central leadership, other community stakeholders, their Field Coordinators, and their **field team**.

Table 1. Objectives of MAPSCorps Orientation

Main Objectives of Orientation:
<ul style="list-style-type: none"> • Build family understanding of expectations for youth • Communicate about responsibility and safety of Youth Mappers • Conduct baseline evaluation

Families are encouraged to practice the transportation route to the **Host Site** to ensure an on-time and safe arrival the following day. This event is typically held in a larger community space equipped with A/V, a projection screen, and Wi-Fi. We have been fortunate to be able to provide a healthy breakfast at this event and some time at the beginning of the session for mingling. In Chicago, the University of Chicago provides the orientation venue, setting a good tone for the scientific and educational aspects of the program. In many cases, MAPSCorps orientation is the first opportunity for families and youth to visit the university campus. We have considered, but have not yet implemented, hosting a campus tour for family members to occupy and engage them while the Youth Mappers participate in getting to know their **field team**.

Figure 10. MAPSCorps Orientation Passport



Scientific Symposium: The Scientific Symposium is the grand finale to the Youth Mapper field experience and the culmination of their scientific inquiry. Typically held on the last day of the 6 week program, Youth Mappers and Field Coordinators report out about their summer mapping experience to community organizations, civic leaders, family members, MAPSCorps funders, and other community stakeholders. This event is the crown jewel of the MAPSCorps program and is hosted by the **Local Champion**. We use a traditional scientific meeting format with selected podium presentations, expert commentators, moderated poster presentations, and panel discussion. In Chicago, youth research addresses questions of salience to the community they map. Field Coordinators help Youth Mappers articulate these questions in the form of a hypothesis and use the **asset data** to test the hypothesis. The MAPSCorps post-evaluation is completed at the Symposium and is a pre-requisite for student completion of the program. At the end of the Symposium, Youth Mappers are presented with a description of the work they completed that they can use to add to their resume (Figure 11).



Figure 11. MAPSCorps Description for Youth Mapper Resume

Jane Smith
5500 Drexel Avenue, Chicago, IL 60615
555-456-7899

EDUCATION

Hyde Park High School
High School Diploma Expected 2016

WORK EXPERIENCE

MAPSCorps, Greater Auburn Gresham Development Corporation Chicago, IL
Role: Asset mapper 7/2015 – 8/2015

I was selected from among my peers for summer employment with the MAPSCorps Program (Meaningful, Active, Productive Science in Service to Community). My role was to work cooperatively with a team of peers, led by a college/graduate student mentor, to gather the highest quality data about all the businesses and organizations in my community. I demonstrated public speaking skills by explaining our work and the MAPSCorps program to community members. I was responsible for data collection using a mobile research application, dissemination of findings from the field using social media tools, and ensuring the integrity of my and my peers' work. I used the data I collected to address a question of importance to the community-based organization where I worked. I presented findings in a moderated poster/podium session to community leaders, physicians and researchers at the 2015 MAPSCorps Scientific Symposium. The data I helped collect are being used by businesses and organizations across all sectors to improve the human condition.

Data Remediation and Publication: During a two-week period after the Youth Mappers graduate, **community partner sites** work together with **MAPSCorps Central** to complete mapping and field checks in the **target geography**. Once data collection is final, MAPSCorps Central completes data processing to ensure quality and then publishes the data to the MAPSCorps website under a Creative Commons⁴ license (Figure 12). The data set is also delivered to the **Local Champion** in spreadsheet form. The Local Champion organization that contracts with MAPSCorps Central has a data use agreement. Other organizations seeking to use the data must complete a brief data request (see MAPSCorps Data Request Form, [Appendix E](#)). Data requests are fulfilled by MAPSCorps Central and, with permission from the requester, the Local Champion organization is informed of requests for data from their region. MAPSCorps Central tracks all data requests and fulfillment and periodically surveys data requesters to analyze use cases.

Figure 12. Creative Commons Licensing

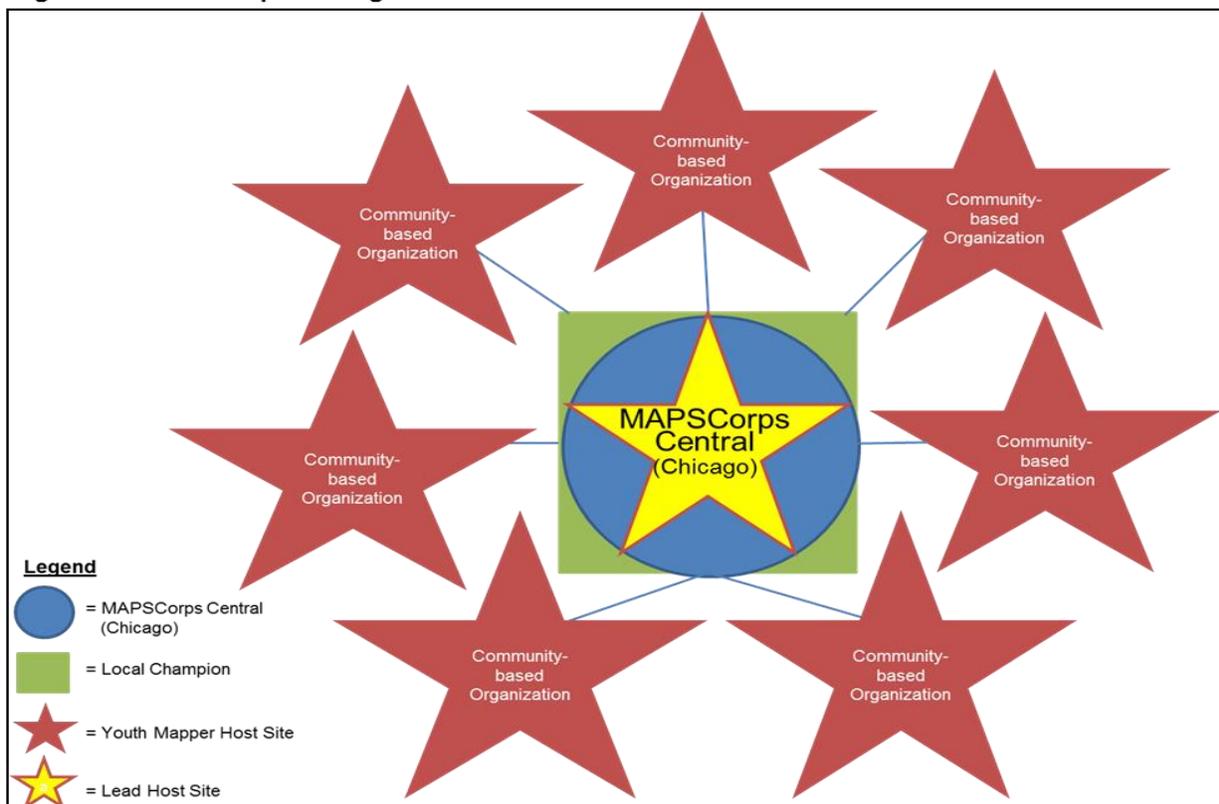
“Creative Commons is a standardized set of copyright licenses containing terms and conditions that creators and other owners of copyrighted materials can associate with works they want to share with the public, without requiring users of that content to ask them for specific permission in advance. As with every “public license,” the creator who chooses to release a work under a CC copyright license is choosing to allow any user (or licensee), without discrimination, to take advantage of the offer to use the work.”⁴

4. MAPSCorps Community Partner Site Selection

This chapter describes, based on 7 years' experience and partnerships with 7 unique implementation sites in 7 communities, the factors we consider in selecting **Local Champion** organizations and **Host Sites** and the characteristics of successful sites. We also illustrate the hub-and-spoke model and how it looks in smaller and larger MAPSCorps implementations.

Our first priority has been to deploy and sustain the MAPSCorps program in the 34 communities that comprise Chicago's South Side. Between 2009 and 2015, the MAPSCorps Chicago program grew from a 6 community (11 square miles) to a 38 community (~110 square miles) deployment. **MAPSCorps Central** both supports partnering communities and operates the largest MAPSCorps implementation in the country. In Chicago, we use a large hub-and-spoke model (Figure 13). Through 2015, the Lindau Lab at the University of Chicago has served as the Local Champion and MAPSCorps Central site, generating critical data for the South Side Health and Vitality Studies program of research. Beginning in 2016, as a result of a technology transfer from the University of Chicago, the MAPSCorps program will operate from an independent not-for-profit organization based in the Hyde Park community of Chicago's South Side. When we use the term "MAPSCorps Central," it is important to understand that, as of this writing in January 2016, our organization is in transition from the University of Chicago to independence. Sustainability of MAPSCorps, 501c3 will be tested as part of the **CommunityRx Collective Social Impact Model**, in partnership with NowPow, LLC.

Figure 13. MAPSCorps Chicago Model



In the Chicago implementation, MAPSCorps Central selects **Host Sites**, coordinates with the youth employment agency (After School Matters), and fundraises to cover most of the costs of the program. In 2015, the implementation partnered with 6 **community-based organizations** located in 7 distinct geographies in Chicago. Each of these sites received funding from After School Matters to employ 12-16 youth (90 total) and 0.5 FTE support for six weeks for a local site youth employment supervisor. We have found, over time, that the optimal team size at a given Host Site is 12-16 youth (3-4 **field teams** of 4 Youth Mappers + 1 Field Coordinator per team). In 2015, MAPSCorps Central raised funds and hired 26 Field Coordinators who were delegated to each of the 7 field sites, taking into consideration the “fit” between site and Field Coordinator characteristics.

In addition, in 2015, MAPSCorps Central collaborated with the Mount Sinai Adolescent Health Center (AHC) in New York City (Figure 14). In this very large and unique implementation, the **Local Champion** organization employed 55 Youth Mappers and 20 Field Coordinators. This effort was funded by AHC itself, an organization with experience employing youth. AHC did not partner with an external youth employment agency and chose to use a single site as the hub for all of the mapping teams. To date, AHC was the largest single-site deployment of the MAPSCorps program. Pros and cons of a very large, single site model are shown in Table 2.

Figure 14: Mount Sinai Adolescent Health Center MAPSCorps Model

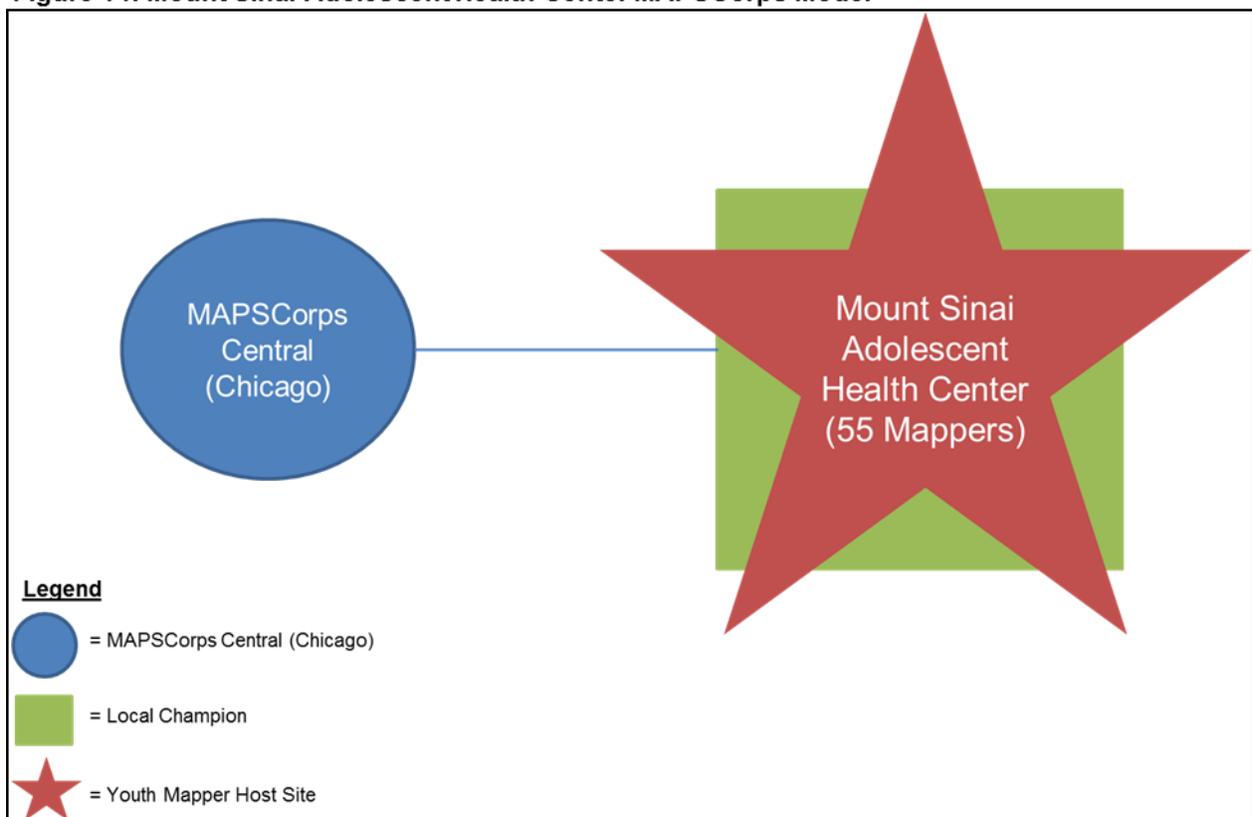


Table 2: Pros and Cons: A Large, Single Site Model

Pros	Cons
<ul style="list-style-type: none"> • Strong relationship building among the entire group of Mappers and Field Coordinator • Streamlined communication among project champion site leadership • Programming development requires accounting for the Positive Youth Development priorities of only one CBO 	<ul style="list-style-type: none"> • Inefficiencies in mapping because of extended travel to daily target mapping areas • Difficult to reconvene at a set time following daily field period due to teams various travel distance • Challenges with space and organization in delivering programming due to high volume of youth at one site • Decreased daily supervision resources because only one organization’s staff is responsible for entire cohort of mapping

As the MAPSCorps program expands to other communities, and **MAPSCorps Central** operations move to an independent not-for-profit organization, we are envisioning a network model, building on the hub-and-spoke, as pictured in Figure 9 (Chapter 3). In this model, MAPSCorps Central continues to operate MAPSCorps Chicago while supporting remote sites. As we replicate MAPSCorps in large, concentrated geographies outside Chicago (e.g. New York or Los Angeles), we are looking to delegate local field operations to oversight by a **Lead Host Site**. By moving MAPSCorps Central out of the university setting and into the community, we see opportunity to reduce overhead costs and generate new sources of sustainable funding.

To date, selection of **community partner sites** in Chicago has been driven by our capacity for expansion, expressed interest from regional stakeholders, the strength and commitment of champions to the MAPSCorps mission and vision, and the opportunity for impact. We typically assess the opportunity for impact in terms of the density and size of the population in or served by the geography and economic indicators such as number of people aging in place, public housing, poverty and uninsured/Medicaid rates in the region. We also look for partnerships that enable meaningful iteration of the MAPSCorps model, or an opportunity to work with a national or international leader in scientific fields that relate to the MAPSCorps mission and vision. For example, in 2016, MAPSCorps will deploy its first rural implementation in Rocky Mount, North Carolina in collaboration with Professor Giselle Corbie-Smith, a world-known health equity and community-based researcher at the University of North Carolina. The North Carolina team will be working to implement the MAPSCorps program with Program Momentum, an experienced **community-based organization** in Rocky Mount.

Every implementation is a new learning experience, and we have carefully studied and learned what features bode well for a successful MAPSCorps partnership. Based on this experience, Table 3 summarizes positive indicators for success. Risk factors include deployment with an insufficient planning period, organizational distress, weak alignment of mission, lack of physical space and insufficient staff capacity. The annual MAPSCorps evaluation aims to inform **MAPSCorps Central** and its partners (including funders) about youth outcomes, overall

program performance, comparative performance across sites, opportunities for improvement, and the viability of continued collaboration.

Table 3. Positive Indicators for Successful MAPSCorps Deployment

Organizational Experience/Ability
<ul style="list-style-type: none"> • Experience working safely and constructively with youth aged 16-19 years old • Ability to recruit and hire Youth Mappers in a manner that is consistent with equal opportunity employment guidelines • Assistance in implementation of Youth Mapper evaluation
Physical Capacity
<ul style="list-style-type: none"> • Daily meeting space for Youth Mappers and Field Coordinators (including space for lunch) • Open and operating at a minimum Monday through Thursday from 8:30am through 5:00pm • Access to public transit or access to nearby parking for vans/buses • Wi-Fi connectivity with desktop or laptop computing capabilities
MAPSCorps Commitment
<ul style="list-style-type: none"> • Willingness to attend regular monthly meeting with the MAPSCorps Local Champion site • Willingness to seek funding to pay Youth Mappers (e.g., submit application to a funder identified by Implementation Site) • Compliance with MAPSCorps safety guidelines (see Training, Chapter 7) • Participation in MAPSCorps Positive Youth Development activities, including iteration of curriculum and implementation of curriculum

5. Staffing

“MAPSCorps leadership and staff have reached out and involved CBOs. CBOs have responded. This interchange has benefited our communities and enhanced the MAPSCorps program.”

Roger M. Huff, Member, Chicago Hyde Park Village, Chicago, IL

This section provides an overview of the staff roles that have been fundamental to successful MAPSCorps implementations. Staffing recommendations are based on 7 years’ experience and iteration using a Plan/Do/Study/Act approach ([Appendix F](#)). While the staffing model is somewhat flexible, we strongly recommend age 16 as a minimum age for Youth Mappers based on accumulated evidence regarding attendance, stamina, and maturity needed to competently achieve the objectives of the program. The **near-peer mentorship** model has worked very well for us. This mentorship structure has unique advantages because it often inspires a peer-like trust unlike that of conventional intergeneration mentorship structures. For safety reasons, it is imperative that young adults are both competent and supervised in their interactions with the Youth Mappers. Local **community partner sites** are responsible for recruitment and hiring of Youth Mappers and Field Coordinators. We strongly recommend partnership with an established youth employment agency (in Chicago, we partner with [After School Matters](#)) to manage the administrative aspects of youth employment.

Below, we describe the core functions of each position as well as their relationship to one another. The staffing model involves a partnership between the **Host Site** and **MAPSCorps Central** (based in Chicago). This section is organized accordingly. This overview paints a general picture of the staffing structure; larger implementations typically require additional staff and smaller implementations are able to successfully implement with fewer staff. In most cases, **community partner sites** allocate existing staff to the program, rather than hiring new staff (Figure 15).

Local Champion Organization and Lead Host Site Staff

This section provides an overview of roles at the **Local Champion** and **Lead Host Site** in a partnering community.

Program Champion

The Program Champion is a high-level decision maker in the partnering community who has a leadership role with the **Local Champion** organization. This individual is typically the visionary who recruited the MAPSCorps program to the community, who understands the local value and potential impact of the program, and who advocates for program success. Responsibilities include:

- Collaborate with the MAPSCorps Central Director and Operations Director to ensure a high-fidelity implementation, including a thorough evaluation
- Ensure alignment of the program with local mission and vision as well as with the broader needs and interests of the community served

- Engage and convene community partners, funders, and key stakeholders to develop and sustain MAPSCorps over time as part of the larger **CommunityRx Collective Social Impact Model**
- Master of ceremonies at the MAPSCorps **orientation** and **Scientific Symposium**
- Principal investigator on local Institutional Review Board (IRB) protocol for evaluation and research activities (see Evaluation of MAPSCorps Youth Mappers, Chapter 9)

Program Manager

The Program Manager is an individual with a strong fund of knowledge of the partnering community, able to manage a large team, confident in interacting with diverse stakeholders and youth, and who brings experience working with data. This person oversees day-to-day operations for the MAPSCorps implementation. Responsibilities include:

- Oversee and coordinate, ensuring milestones (including program evaluation) are met with fidelity to the MAPSCorps protocols
- Collaborate with the MAPSCorps Central Community Manager, including brief daily huddles during the summer **field period**, to coordinate field operations, curriculum, and evaluation activities.
- Manage relationships with **community partner sites**, funders, and key local stakeholders
- Oversee event planning logistics for large events including Youth Mapper orientation and the culminating **Scientific Symposium**
- Oversee Field Coordinator and Youth Mapper training, performance, and adherence to safety protocols
- Continuous quality improvement and iteration of processes and procedures

Program Coordinator

The Program Coordinator is an individual experienced with the partnering community who provides logistical and operational support to the Program Manager and, in cases where the **Positive Youth Development (PYD)** curriculum is adopted, works capably with youth and field coordinators to support the PYD curriculum. Responsibilities include:

- Oversee Field Coordinator hiring, delegation of Field Coordinators to local host sites, and coordination with local **Host Sites**
- Support Program Manager with Field Coordinator and Youth Mapper training and field operations
- Prepare materials for and support Field Coordinators to deliver meaningful PYD activities (e.g. locate space, acquire supplies, copy handouts, ensure access to computers/Wi-Fi)
- Serve as a substitute Field Coordinator (e.g. if a Field Coordinator is out sick)
- Coordinate and support Youth Mapper social media engagement (e.g., set-up Twitter and Instagram accounts, interact daily with the Youth Mappers via social media, encourage social media interactions with other MAPSCorps partnering communities)

Field Coordinators

Field Coordinators are science- and health-oriented college students with a keen interest in the local community, experience working with scientific data, and background that lends well to the **near-peer mentorship** responsibilities. These individuals provide daily oversight and mentorship for Youth Mappers. Responsibilities include:

- Train and supervise Youth Mappers in **asset data** collection
- Oversee day-to-day data collection in the field to ensure accuracy
- Interpret daily field plan provided by MAPSCorps Central to optimize efficiency, productivity and safety of the **field team**
- Implement daily **PYD** curriculum with support from Program Coordinator
- Mentor and serve as an excellent role model for Youth Mappers on basic job performance skills (e.g. attendance, punctuality, attire, attitude, teamwork, critical thinking) and broader learning objectives
- Guide development and execution of the MAPSCorps research program for presentation at **Scientific Symposium**
- Coach Youth Mappers on presentation and public speaking skills

Youth Mappers

Youth Mappers are high school students (typically ages 16-18) with enthusiasm for and expressed commitment to participation in all aspects of the MAPSCorps mission and vision. Responsibilities include:

- Excellent attendance, punctuality, adherence to safety protocols, and positive team-focused attitude
- Ask for help as needed to fulfill responsibilities
- Carefully and thoroughly map all assets in the **target geography** with supervision and mentorship from Field Coordinators
- Raise awareness about the MAPSCorps program among community members through direct communication
- Actively participate in and contribute original ideas to the **PYD** curriculum, including planning, creating, and executing the culminating MAPSCorps research program

MAPSCorps Central

This section provides an overview of key **MAPSCorps Central** roles.

Director

The Director interacts directly and regularly with the Program Champion. Responsibilities include:

- Engage potential implementation sites and assess alignment of potential implementation site mission and vision with MAPSCorps program values
- Collaborate with MAPSCorps Program Champion to ensure fidelity to overall implementation, including evaluation
- Provide high-level strategic guidance and consultation to Program Champion for fundraising and sustainability efforts

- Oversee MAPSCorps Central operations, fundraising and sustainability

Operations Director

The Operations Director interacts directly with Local Champion site staff on issues pertaining to contracts, grants and deliverables. Responsibilities include:

- Draft **Lead Host Site/Host Site** budgets with analysis of potential funders/stakeholders
- Ensure technology performance and iteration in concert with the IT Programmer
- Oversee data processing and data publishing in tandem with the Community Manager
- Deliver final report and data set
- Develop MAPSCorps Central contracts and data use agreements for **community partner sites**
- Oversee budgets, ensuring local implementation stays within scope and meets milestones
- Oversee day-to-day operations for MAPSCorps Central

Community Manager

The Community Manager oversees the day-to-day data collection, fieldwork, and training. Responsibilities include:

- Prepare **Lead Host Site** for all aspects of implementation
- Execute **train-the-trainer model** to prepare Lead Host Site team for field work and the PYD curriculum
- Huddle daily with Lead Host Site Program Manager during **field period**
- Develop and communicate field plan to coordinate the efforts of the **field teams**, including daily mapping assignments and materials, and strategic adjustments in partnership with Lead Host Site Program Manager to optimize efficiency, productivity and safety, as needed
- Report proactively to leadership on strategy to ensure progress and management of challenges encountered in the field.
- Oversee data processing including monitoring incoming data to provide real-time feedback and guidance to field teams

Positive Youth Development (PYD) Specialist

The **Positive Youth Development (PYD)** Specialist provides guidance and consultation, as requested by **community partner sites**, for development and implementation of the PYD curriculum. Responsibilities include:

- Facilitate creation of locally-relevant learning objectives that align with MAPSCorps mission and vision
- Develop syllabus to fulfill learning objectives, including methods and activities for each day/week
- Work with Evaluation Analyst to ensure evaluation aligns with learning objectives
- Deploy **train-the-trainer** curriculum for community partner site leadership and Field Coordinators to ensure best practices for delivery of PYD curriculum
- Troubleshoot barriers/challenges with Program Coordinator

- Consult to Program Coordinator in developing additional youth enrichment opportunities (e.g. Friday programming) to complement daily PYD curriculum

Operations Coordinator

The Operations Coordinator manages logistics between MAPSCorps Central and **community partner sites**. This individual primarily interacts with and supports the **Lead Host Site** Program Coordinator and MAPSCorps Central Community Manager. Responsibilities include:

- Coordinate communication, meetings, data sharing, social media tracking, and travel

Evaluation Analyst

The Evaluation Analyst oversees MAPSCorps program evaluation and data analysis. This individual interacts primarily with the **Lead Host Site** Program Manager. Responsibilities include:

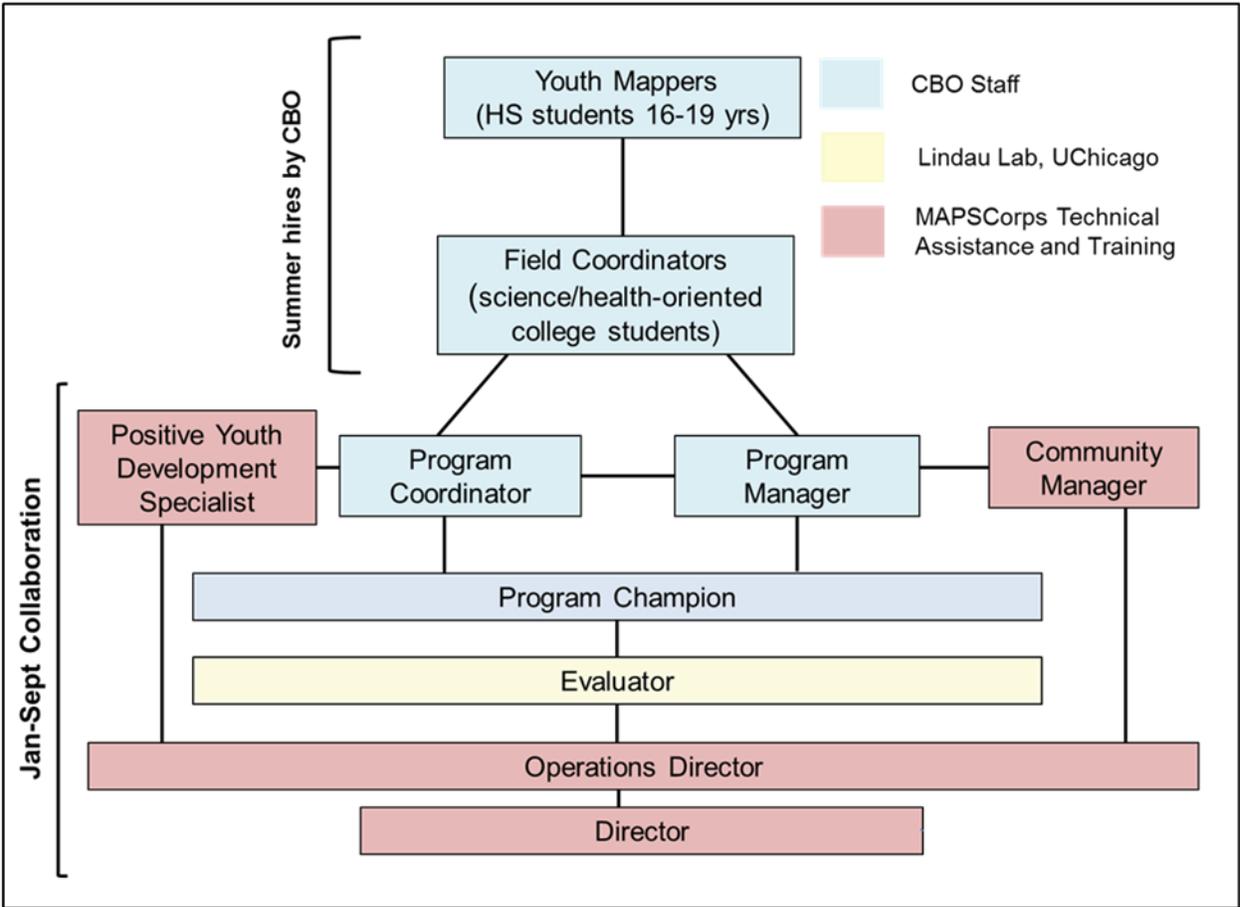
- Oversee IRB submissions (as needed) in compliance with Program Champion and Program Manager and ensure human subjects protections standards
- Develop and implement research protocols, consent forms, study questionnaires and related materials
- Ensure evaluation measures align with Lead Host Site PYD learning objectives
- Oversee data management, analysis, reporting, and dissemination activities
- Apply data to evaluate and optimize program fidelity and productivity

IT Programmer

The Programmer provides software development and technical support for the **MapApp™** application and MAPSCorps websites. This individual has limited direct contact to **community partner sites**, but could be engaged on special partner site programs relating to the MapApp application or the websites.

- Update and maintain the MapApp™ application and websites to support existing and new geographies and protocols
- Troubleshoot and fix bugs in the MapApp™ application
- Upload **secondary data** to the MapApp™ application in advance of field work
- Monitor data quality and communicate real-time with field operations team
- Upload final database of assets to websites

Figure 15. Team Structures and Roles for MAPSCorps Partnership



6. Data Collection Overview

This section provides an overview of the steps necessary for high quality **asset data** collection.

Preparing for Data Collection

Step 1. MAPSCorps Central and the **Lead Host Site**: Complete partnership, data use and other agreements, as appropriate for the engagement.

Step 2. Local Champion: Determine **target geography** to map. We strongly recommend a contiguous geographic area. “Holes” are logistically costly and create confusion for data users.

Step 3. MAPSCorps Central: Iterate the **MapApp™** application, the MAPSCorps data collection tool, to local address, street and language conventions.

Step 4. MAPSCorps Central: Purchase **secondary data** for target geography and upload to the MapApp™ application. Although best-available commercial data have been found to have limited sensitivity (61%)⁵ for community assets, these data are used as a starting point the first time a geography is mapped. Having some data to start with improves efficiency.

Step 5. Lead Host Site and **Host Sites**: Hire or allocate staff and hire Field Coordinators and Youth Mappers (see Staffing, Chapter 5). MAPSCorps Central will provide recommendations for team size, job descriptions, and hiring tips.

Step 6. Lead Host Site: Administer Youth Mappers pre-employment evaluation survey provided by MAPSCorps Central (see Evaluation of MAPSCorps Youth Mappers, Chapter 9).

Step 7. Lead Host Site with MAPSCorps Central: Train Field Coordinators and Youth Mappers (see Training, Chapter 7).

Data Collection

Step 8. Lead Host Site: Field Coordinators receive daily mapping geography assignments. Field Coordinators and Youth Mappers take public transit or other means of transportation to the designated geography.

Step 9. Lead Host Site: **Field teams** supervised by Field Coordinators walk the community, block by block, and verify data from the purchased **secondary data** and add new data if needed for each asset. Data entered into the MapApp™ application include name, address, primary function and disposition (whether or not the place is operating). Sustainability of the MAPSCorps program depends on the production of high-quality asset data. MAPSCorps Central supports partners throughout the **field period** to monitor and ensure fidelity to the data collection protocol.

Step 10 (optional). Lead Host Site: Youth Mappers participate in daily **Positive Youth Development (PYD)** curriculum activities (see Positive Youth Development, Chapter 8).

Step 11. Data are processed by MAPSCorps Central. Data processing, which includes real-time monitoring of data entered daily, ensures accuracy of data entry and coding and productivity and informs field work planning.

Step 12. Lead Host Site: Follow-up checks, including web-based searches, telephone calls and, if needed, in person field checks are conducted to resolve any issues and ensure data quality. Follow-up checks are most frequently completed by Field Coordinators. MAPSCorps Central will use data processing activities to advise Lead Host Site on any areas appearing to need a re-visit.

Data Sharing

Step 13. Local Champion: Youth Mappers present study findings to peers, family, community leaders, researchers and other stakeholders at a culminating event, **Scientific Symposium**, as part of the PYD Curriculum (See Positive Youth Development Curriculum, Chapter 8). Ideally, partners would coordinate the date and time of the Scientific Symposium to enable real-time interaction between sites via social media and teleconferencing.

Step 14. Local Champion: Youth Mappers complete post-employment evaluation survey provided by MAPSCorps Central (See Youth Mapper Evaluation, Chapter 9).

Step 15. MAPSCorps Central: Processed data are published on the MAPSCorps websites and delivered in database form to Local Champion for Local Champion use. Any individual or organization other than the Local Champion wishing to procure data should request it via the online data request form ([Appendix E](#)).

7. Training

“Engaging high-risk youth in the work we do is an important piece of our mission and the overall development of youth in the community. Many of these students face tough barriers that can hinder their ability to grow into leaders within our neighborhood. As a community-based organization, we feel that such students should not only have access to enriching opportunities, like MAPSCorps, but they should also be able to learn about their community, while engaging in physical activity to promote their health. MAPSCorps is such a great program because it allows them to do just that.”

Angela Hurlock, Claretian Associates, South Chicago Community, Chicago, IL

In this section we detail the key elements of the training process for Field Coordinators and Youth Mappers. Field Coordinators and Youth Mappers receive extensive classroom and field-based training prior to beginning the **field period** to ensure that they have the necessary skill set and knowledge to be successful data collectors and community liaisons.

Train-the-Trainer Model

The MAPSCorps program employs a **“train-the-trainer” model**. In a train-the-trainer model, an experienced team member trains a less experienced team member, who in turn trains other less experienced team members. Staff from **MAPSCorps Central** work with implementation site Program Managers to train the Field Coordinators. Then, the Field Coordinators train the Youth Mappers. Advantages of adopting a train-the-trainer model include saving time and costs for the implementation site, increasing comprehension for the Field Coordinators and supporting the development of the **near-peer mentoring** relationships between the Field Coordinators and Youth Mappers. All of the classroom and field training components below will employ the train-the-trainer model.

Classroom and Field Training Components

This section describes the key components of the training including the component objectives, teaching strategies, and example exercises. Think of each component as a teaching unit that requires instruction, critical thinking, discussion, and, in some cases, activities. Remember, **MAPSCorps Central** aids in the development and execution of each implementation site’s training and materials and is available for troubleshooting and support along the way. The listed components are simply meant to be a high-level overview of the key concepts.

1) Overview of MAPSCorps, the Social Determinants of Health and Scientific Methods

The first component of training is intended to orient the trainee to the MAPSCorps program and includes a description of the MAPSCorps mission and vision. In addition, this component of the training includes a description of health, broadly defined, and the concept of the social determinants of health. Finally, the trainees are introduced to basic principles of scientific data collection, including the importance of data collection protocols and data quality.

2) *Understanding the Community to Be Mapped*

Although the trainees may live in the MAPSCorps **target geography**, or the community to be mapped, the MAPSCorps program may require the trainee to travel a part of the community she/he has not previously visited or travel about the community in an unfamiliar way (e.g., public transit). This component includes a general overview of the target geography.

This portion of the training also includes a technical component that describes basic rules for the unique layout of your target geography. For example, many cities utilize a grid system with predictable patterns (e.g., avenues run north-south and streets run east-west, there is a point of origin in which moving further away increases address numbers, while moving closer decreases address numbers). We also include other basics of navigation (e.g., cardinal directions, the sun rises in the east and sets in the west and use of well-known landmarks that may be helpful). For example, in Chicago, we use Lake Michigan as a landmark, reminding trainees it is always east of a given location.

3) *Defining a “case” and the data points to be collected for each case*

In this component of the training, trainees learn what constitutes a MAPSCorps “case.” In the MAPSCorps program, a “case” is a single operating business or organization at a single place. Each business or organization is entered as one case in the MAPSCorps database. We also describe the required data points for each case: name, address, disposition and **taxonomy** (see below). Defining a case is fundamental to data collection proficiency.

4) *Case Disposition*

Case disposition refers to the operating status of a case. Training includes instruction on how to properly code a case’s disposition. Dispositions include:

- **Untouched** – This includes cases that have not yet been checked by anyone during **field period**.
- **Okay** – All information has been newly entered or newly checked and confirmed as correct and the case is an operating business or organization.
- **Unsure** – At least one of the required points of information (name, address, disposition or **taxonomy**) is unknown or unverified.
- **Gone** – An organization or business in the system is not at the listed address or is out of business. This disposition applies to vacant lots, empty buildings, or new or different establishments occupying the listed address.
- **Duplicate** – A case that duplicates another. In this situation, only one of the cases should have a working disposition (i.e, Okay or Gone), while the any others should be labeled “duplicate.”
- **Out-of-scope** – A case that represents something that does not meet the MAPSCorps definition of a case, such as a self-managing condo association or a private resident who hires a cleaning person.

5) MAPSCorps taxonomy

There are many different types of businesses and organizations for which MAPSCorps collects data, from health clinics and churches to police stations and home childcare centers. An important part of the data collection process is categorizing what types of businesses and organizations are being mapped.

Trainees are taught how to classify each case by its primary function using the MAPSCorps **taxonomy**. Although an establishment might offer many types of goods or services, we must determine the one function that best describes the type of place it is. Because the MAPSCorps program produces a census, and includes all operating establishments that provide goods and services to the public, the taxonomy is quite large and complex with 16 primary categories, each with 4-26 sub-categories (e.g. Dining Establishment - Fast food, Dining Establishment – Restaurant, etc). Correctly categorizing places into the taxonomy is important and, in our experience, one of the more difficult components of data collection process for the Youth Mappers. As such, a relatively large amount of time is spent describing the taxonomy and practicing applying it (using photographs of real establishments).

6) Using the MapApp™ application to collect data

As described previously, MAPSCorps data are collected using mobile phones and **MapApp™**, a mobile application (available in iOS and Android) that allows users to enter and edit data for each case. The MapApp™ application allows the user to look up existing cases by address or name and enter new cases. Training includes classroom time walking through the functions of the MapApp™ application and practicing data entry (in training mode, so as to not impact the accuracy of real data).

7) Community Engagement

Field Coordinators and Youth Mappers often need to ask for information from store owners, managers, and other community members while in the field. Also, the teams wear matching t-shirts and travel in groups which may draw attention to them. As such, a portion of training is spent on how to interact with people they might encounter while in the field. This training component includes basic information on fundamental communication skills such as how to approach individuals, introducing one's self, and making eye contact (See [Appendix G](#), Interacting with the Public). In addition, time is spent to ensure that all trainees have the ability to quickly and accurately summarize the purpose of the data collection.

8) Safety

MAPSCorps training emphasizes the importance of safety, safety rules and how the **field team** should react in various situations. Safety is considered the highest priority and safety rules are firmly established. These rules constitute a safety plan, such as always traveling in teams and carrying a working cellphone, and may need to be tailored for a given community. The safety

plan is shared with all supervisors and mappers. Additionally, this component of the training includes to whom and how to report any violations of the safety rules or incidents.

9) Practicing data collection

Following the classroom training, the Field Coordinators and Youth Mappers complete a field-based training. During this training, they practice collecting data with direct oversight (from **MAPSCorps Central** for the Field Coordinators and from the Field Coordinators for the Youth Mappers). This field training attempts to expose the trainees to a variety of types of **cases**. Also, field training includes regular debriefs to provide the opportunity to ask questions.

10) Additional Field Coordinator Training

The Field Coordinator training includes several additional elements.

- Exposure to the MAPSCorps staffing structure.
- Interpreting the daily field assignments (describes where team should be mapping each day; provided by MAPSCorps Central)
- Diversity/sensitivity training
- Best practices for training the Youth Mappers

8. Positive Youth Development Curriculum

“Because of this unique partnership with the University and other community based organizations, today we are creating a community-friendly framework where people can participate in their own well-being. We are creating mentoring avenues where youth have direct access to University of Chicago associates and assets that continue to foster their personal and professional development. We are empowering Chicago youth to become leaders — not followers.”

Ernest Sanders, Founder and Managing Partner at COMEUNITY Based Solutions

To maximize the impact of the MAPSCorps program, the hands-on research experience is complemented by a **Positive Youth Development (PYD)** curriculum. The PYD curriculum encompasses intentional activities designed to help Youth Mappers contextualize and reflect on their day-to-day MAPSCorps experiences. Field Coordinators function as PYD facilitators and are trained to encourage active engagement in the PYD activities. The PYD component of the MAPSCorps program is optional. The **asset data** can be collected without the PYD component; however, we believe the PYD is fundamental to achieving the MAPSCorps mission and vision.

Below, we generally describe the PYD outcomes, core practices, models and strategies for implementation, and example activities. It is expected that the PYD curriculum is adaptive and can be tailored by a given implementation site in order to meet the needs of the Youth Mappers as well as to support the mission and vision of the implementation site. The PYD curriculum will be shaped by a number of factors including:

- Desired learning outcomes
- The relative priority of learning outcomes
- The nature and size of the community to be mapped
- The number of Youth Mappers to be employed
- The pre-existing knowledge of Youth Mappers, Field Coordinators, and **Host Site** staff regarding **target geography**
- The amount of time and resources available for implementation
- The level of investment from community partners or program collaborators
- How the community intends to use the data

Structure of PYD Component

PYD programming is comprised of three major components: daily curriculum, **Focus Fridays**, and the culminating experience. Throughout the **field period**, the daily curriculum and Focus Friday activities build toward the culminating experience.

Daily Curriculum: Engaging Youth Mappers in daily curriculum is the primary method to achieve learning outcomes. In the MAPSCorps Chicago program, we encourage **Host Sites** to begin each mapping day with a learning prompt in the morning before the day’s mapping period begins. The prompts for each day should broadly map onto the week’s learning objectives and stimulate critical thinking and discussion with Field Coordinators throughout the day. Upon returning for the day’s mapping period, Field Coordinators and Youth Mappers have an opportunity to dig deeper into the day’s learning prompt with a group activity and/or discussion.

Weekly Optional Enrichment Opportunities: Weekly enrichment opportunities include guest speakers, collaborative programs, and field trips to further explore the week’s learning objectives. In the MAPSCorps Chicago program, Youth Mappers are employed only Monday-Thursday. We implemented “**Focus Fridays**,” as our optional enrichment programming. Focus Fridays have included guest speakers or field trips. The most well-attended Focus Fridays involved personally-focused workshops run by Field Coordinators on relevant topics for which they have personal passion. Workshop topics have included sexual health and pregnancy/STI prevention, college admissions processes, personal money management and self-expression through spoken word poetry.

Culminating Event: The culminating event occurs at the conclusion of the **field period** and is an opportunity for the Youth Mappers to share their experience with stakeholders and other collaborators. In the MAPSCorps Chicago program, the culminating event takes the form of a **Scientific Symposium**. Youth Mappers publicly present to peers, family members, and stakeholders the results of their scientific endeavors in the form of poster and oral presentations. The Symposium provides an opportunity for the youth to develop their public speaking skills and gain experience in giving a scientific presentation.

Youth Mapper Learning Outcomes

The practices employed in the PYD component of the MAPSCorps Chicago iteration are best described as “service learning” practices. In service learning, learners critically reflect on the experience of doing something good in their communities so as to make meaning from that experience, usually aiming at one or more specific learning goals or outcomes. Service learning experiences typically include three interrelated kinds of learning outcomes: academic outcomes, personal (and interpersonal) outcomes, and civic (or community-building) outcomes.⁶ Table 4 includes example MAPSCorps Youth Mapper learning outcomes.

Table 4. MAPSCorps Youth Mapper Outcomes

Domain	Outcomes
Academic	<ul style="list-style-type: none"> • Awareness of community assets, current and historical • Ability to apply the scientific method to answer research questions • Ability to use research methodologies to gather and analyze data • Awareness of the value and applications of the community asset data • Improved understanding of social issues that impact their communities
Personal/Interpersonal	<ul style="list-style-type: none"> • Ability to articulate their identity as researchers, both now and in considering future careers • Engagement with persons who are different from themselves to share information and complete common tasks • Improved college- and career-readiness skills • Sense of pride in their diverse identities and in their membership in the communities to which they belong
Civic	<ul style="list-style-type: none"> • Motivation to contribute to positive changes that are occurring in their communities • Understanding of their own assets for responding to the social issues that impact their communities • Recognition of the value of collaborating with persons who are different than themselves to accomplish civic goals

Core Practices

To maximize the service learning experience, we apply a set of core practices drawn from the MAPSCorps Chicago work and from the service learning literature. We recommend using these practices to guide the development and iteration of PYD activities.

1) *Build a sense of team unity among all MAPSCorps Youth Mappers, especially at Host Sites*

- Refer to mapping groups as “research teams.”
- Establish common goals.
- Encourage the sharing of group responsibilities among all members of the team.
- Look for opportunities to acknowledge the expertise and assets of all team members.

2) *Link as many learning activities as possible to the actual work and products of mapping*

- Create opportunities for Youth Mappers to analyze data they have gathered and apply it to questions or issues discussed during programming.
- Select guest speakers or presenters who are able to talk about the importance of the MAPSCorps data set for their work or research.

3) *Frame potentially meaningful activities with reflection*

- Before a learning activity begins, ask Youth Mappers what they hope to learn from the activity.
- During a learning activity, have Youth Mappers take a photo of something they find meaningful or symbolic.
- After the learning activity, have Youth Mappers summarize what they learned.

4) *Liberate conversation structures to ensure all voices are heard ([Appendix H](#))*

- Design programming activities to appeal to multiple learning styles.
- Use a pass-around object and/or 2 minute timer to focus conversation on a single speaker, to limit response length, and to de-center the facilitator’s role by allowing speakers to pick the next speaker.
- Begin consideration of questions with a few moments for individual writing (perhaps on an index card or small sticky note). This allows introverted Youth Mappers to gather their thoughts so that they feel more comfortable contributing to group discussions.

5) *Aggregate and celebrate learning across the entire team and program*

- Use social media to share the products of learning within and between teams.
- Conclude programming with a culminating event in which Youth Mappers report their individual and/or team-based learning outcomes to parents, community members, friends, and other invited guests.

Models for MAPSCorps PYD

The following three models are examples of how the PYD component is tailored and implemented to meet the needs of a given community.

Model 1: Intensive Place-Based Curriculum

We recommend this model for an implementation site where some or all of the following are true:

- The highest priority learning outcomes are to build deep Youth Mapper knowledge of and/or pride in a specific community, and/or to empower the Youth Mappers to get involved in positive social change within their community
- The Youth Mappers have been recruited from the specific community they will be mapping
- The area being mapped is relatively small and the program timeline is short
- A number of important local leaders (e.g. local elected officials, faith community leaders, nonprofit or education leaders) are interested in and actively supportive of the MAPSCorps program and are interested in its findings

In this model, Youth Mappers are able to gather a rich set of data about the community in order to acquire deep knowledge of its many assets. Data collection efforts may extend beyond the community's physical assets to include:

- Semi-structured interviews with community representatives/leaders
- Documentation of less tangible assets (e.g. associations, social networks, job availability, individual skillset/experience mapping)
- Historic information regarding the evolution of the neighborhood and its key assets
- Oral history gathering with community residents regarding specific aspects of life in the neighborhood
- Other forms of social or ethnographic data, based either on student interest/"insider knowledge" or in response to community-generated questions

The data produced by this research could be used to support ongoing asset-based community development efforts; to answer Youth Mappers' or other community residents' questions about their community (past/present/future); or to ground the development of an action plan/social intervention in response to one or more neighborhood issues.

In this model, effective reflective programming could include more time spent interviewing (or being interviewed by) community leaders/informants; discussion of qualitative research methodologies, including ethnographic observation and oral history gathering; and the development of individual and/or group plans for sustained civic action on the part of the Youth Mappers in their neighborhood.

Culminating event design, in this model, would invite as many residents and leaders from the community studied as possible, and would seek to integrate the Youth Mappers more deeply into the community via strengthened social networks as a principal goal. Youth Mappers might present narrative or artistic evidence of what they learned about the community to enhance community pride or document an aspect of its history. They could also propose one or more action plans as a way of mobilizing with their neighbors for the good of the community in response to the data that they gathered.

Model 2: Content-Focused Curriculum

We recommend this model for an implementation site where some or all of the following are true:

- The highest priority learning outcomes are those related to building content knowledge about a particular field related to the data being gathered (e.g. public health) and/or career readiness in a field related to the data (e.g. **STEM** careers)
- The Youth Mappers do not have an explicit connection to the communities being mapped
- The region being mapped is relatively large or the pace of mapping in particular communities is fast, limiting Youth Mappers' exposure to any single community
- The program timeline is relatively long (e.g., 6 weeks) and mapping is intensive (e.g. 4-5 days/week), allowing for ongoing discussions of topics across programming days
- There is limited buy-in or active engagement in the program from **community-based organizations** and community members
- The implementation is being done in connection with an introductory- or mid-level survey-style academic course

In this model, Youth Mappers are challenged to relate the data they are gathering about the mapping region to broader issues or academic subjects. The information gathered about the mapped geography can often represent a microcosm of those broader issues. For example, in MAPSCorps Chicago 2014, the conversation was framed as a broader study of the state of contemporary South Side Chicago.

The deeper knowledge of one or more academic fields gained through this kind of programming serves as a foundation for Youth Mappers interested in pursuing traditionally academic-intensive careers. For this reason, this approach is also well-suited to frame a service-learning survey course. Analysis of gathered data, especially contextualized by other **secondary data** sources, can also yield excellent background content for grant proposals, policy briefs, etc.

Effective reflective programming, in this model, could include more time spent interviewing content-area experts; discussion of relevant articles or books in the field; or discussion of careers and career prep in the content area.

Culminating event design, in this model, would invite professionals from the field, as well as college and career counselors with expertise in the content area. Youth Mappers might present summative or applied research studies, perhaps integrating or comparing the data gathered with pre-existing data sets that are relevant to the content area. Counselors could respond by guiding Youth Mappers to fields of study or career paths that would make use of their new content expertise.

Model 3: Research Program-Focused Curriculum

We recommend this model for an implementation site where some or all of the following are true:

- The highest priority learning outcomes are those related to building applied knowledge in a particular field (e.g. quantitative research methodology and data analysis skills) and/or responding to concrete questions or issues that are present in community area(s) mapped through application of the data gathered
- Youth Mappers need not have an explicit connection to the communities being mapped—although deep knowledge of the communities needs to be present somewhere in the program team

- The program timeline is longer (at least 3 weeks) but mapping need not be intensive—this model is well-suited to intermittent mapping (e.g. weekend-only mapping)
- Community members, particularly local leaders or those with **community-based organizations**, actively participate and exhibit significant interest in the program and its findings
- The program is being done in connection with a mid- to upper-level academic course that emphasizes more specific applications of a content area.

In this model, Youth Mappers’ reflections on the data they are gathering are framed by the work of analyzing that data, synthesizing it with other sources of information, and applying it to answer one or more research questions. This experience can be especially compelling for Youth Mappers who have significant connections to or prior experience in the communities in which they are working, and who are able to generate community-relevant research questions of their own. However, this model can also be realized by encouraging program partners (such as **community-based organizations** or local school/government offices) to pose real-world questions to the teams. The need to answer the research question immediately establishes the relevance of the data gathering, while also encouraging higher-order critical thinking about that data. Youth Mappers and **community partner sites** frequently need guidance in crafting research questions that are both relevant and realistic. Once such questions have been developed, teams often need expert assistance in choosing appropriate methods, data sets, and analytics through which to investigate them.

Anchoring the PYD component in concrete, applied research programs can invite more active participation from community partner organizations, reinforce Youth Mappers’ sense of agency and recognition of themselves as budding scientists, and inspire potential funders with a sense of what young people can accomplish on behalf of their communities.

The culminating event can take the form of a **Scientific Symposium**, in which Youth Mappers present their research programs and findings in academic poster sessions and oral presentations. Community and university experts are invited to respond to the findings, offering the Youth Mappers the chance to see how their work integrates with broader currents of scholarship and activism. Youth Mappers may have the opportunity to participate in panel discussions with these experts, while others explain their studies’ methodologies, findings, and implications to parents and other invited community residents and guests.

Example Activities for Learning Outcomes

Personal/Interpersonal Skills – Career-readiness (e.g., punctuality, appropriate attire, respect for authority, teamwork, perseverance, and flexibility)

Example activities:

- Get teams to brainstorm a list of basic job skills during MAPSCorps **orientation**, and then ask each member to set goals for themselves in improving on their own job skills during the mapping period. Check in on their progress towards their goals several times throughout the mapping period, inviting them to evaluate themselves in reference to those goals.
- Offer teams the National Association of Colleges and Employers’ list ([Appendix I](#)) of desirable qualities/skills in new college hires, and ask them to identify concrete

instances that they or other members of their teams have demonstrated the items on the list as part of their MAPSCorps experience.

- Ask a college or career counselor to facilitate a large group conversation in which team members collectively author descriptions of the MAPSCorps program (and the skills they learned in it) for inclusion on a resume, in a college essay, or in a job/scholarship interview.
- Invite alumni of your program to speak to current MAPSCorps Youth Mappers about the ways in which they have built upon or made use of their MAPSCorps experiences.

Civic Skills –Social “Response-Ability” (e.g., understanding how assets can be mobilized in response to issues of social concern and for the sake of community development, deepening Youth Mappers appreciation for their own ability to contribute to the growth of their communities)

Example activities:

- Ask Youth Mappers to identify “cornerstone” assets in the community area(s) in relation to an issue or topic of concern in that community (e.g. youth, job-skills training, healthy food availability).
- During a field day, have Youth Mappers take photos of everything “new” in the areas they are mapping. Ask them classify these examples of development on a continuum between “Progress” and “Regress” for those communities, then use their classification to open a conversation about what those terms mean (in general and for their specific communities).
- As Youth Mappers find organizations addressing social issues and ask them to rank these places in terms of where they would be most interested in volunteering or where they might be most able to contribute.
- Invite Youth Mappers to engage in an affirmation activity in which they talk about the gifts, talents, and abilities that they have witnessed in each other. As a follow-up, invite each Youth Mapper to respond by identifying particular strengths they have discovered in themselves as a result of participating in the MAPSCorps program.
- If resources are available, have Youth Mappers complete a strengths assessment such as StrengthsQuest (<http://www.strengthsquest.com>), then discuss their results in terms of how they have seen their own strengths at work on their teams and throughout the MAPSCorps program. Conclude the activity with a discussion of how each of them could use their strengths to make a difference in their own community.

Other Considerations

The below describes three strategies employed by the MAPSCorps Chicago program to help Youth Mappers attain more significant personal growth from their MAPSCorps experience.

Field Coordinators as “near-peer” mentors

Field Coordinators are purposefully selected to be close in age to Youth Mappers. This “**near-peer**” design supports development of mentor-mentee relationships between Field Coordinators and Youth Mappers. We believe this structure inspires a peer-like trust unlike that of conventional intergeneration mentorship structures. Through the near-peer structure Field

Coordinators serve as reliable guides for navigating the academic and personal transitions that are ahead of our high school-aged Youth Mappers (e.g., applying for college, moving into dorms).

Diversity/sensitivity training

Field Coordinators take part in an intensive training on recognizing and engaging with issues of identity, power and privilege, race, and class. The aim of this training is to equip Field Coordinators with the skills needed to engage in questions of difference likely to manifest among Youth Mappers. Field Coordinators are also encouraged to bring questions or concerns related to these issues to the regularly Field Coordinator team meetings. Sensitively engaging diversity has proven valuable for team cohesion and unity.

Liberating Structures and Rotation of Responsibilities

It is important to expose Youth Mappers to multiple aspects of their job and encourage them to work outside of their comfort zones. This can in part be accomplished by intentionally employing strategies like those from Liberating Structures ([Appendix H](#)) and other discussion formats that make it hard for any single member of the team to dominate conversation during reflection time. We also try to rotate duties while mapping, both among the Field Coordinator team and among the Youth Mappers. Finally, Field Coordinators are encouraged to show leadership by personally engaging in all the behaviors they're asking of their team members.

9. Evaluation of MAPSCorps Youth Mappers

Youth employment programs provide an opportunity to gain and enhance job and interpersonal skills. Youth employment programs have been shown to successfully reduce violent crime arrests⁷ and improve school attendance.⁸ In order to understand the impact of youth employment programs, program evaluation is necessary ([Appendix J](#)). Collecting information from MAPSCorps Youth Mappers pre- and post-employment provides insights to the MAPSCorps program's effectiveness and supports continuous quality improvement.

Implementation of Youth Mapper Evaluation

Youth Mappers are asked to participate in a pre- and post-employment evaluation survey. The first evaluation (pre-employment) is completed prior to training and the second evaluation (post-employment) is completed during the final week of the program.

A standard protocol for implementing the **Youth Mapper evaluation** has been designed and implemented; however, this protocol may require iteration based on a given site's needs. Generally, evaluations have been self-administered using a web-based survey (powered by REDCapTM, a secure, web-based application designed to support data collection and management for research studies; see [Appendix K](#)) and take approximately 15 minutes to complete.

The following should be considered when implementing an evaluation of MAPSCorps Youth Mappers:

1. Survey tool iteration – The survey tool should be designed to assess the program goals. Some goals, like learning college and job readiness skills, are likely consistent among MAPSCorps implementations whereas other goals, especially those related to the **Positive Youth Development (PYD)** component, may vary. Literature searches are useful to identify validated survey tools to assess outcomes.
2. Institutional Review Board (IRB) approval – Youth Mappers can complete evaluation surveys as a requirement of their employment. However, if the implementation site intends to use the data for research purposes, namely to generate generalizable knowledge, then an IRB should be engaged. IRBs, common to academic institutions and health care organizations, are committees that review and approve research that involves human subjects from an ethical perspective to protect the rights of the subjects participating in the research study.
3. Consent – Parental consent, especially if evaluation is conducted as a research study, may be warranted for Youth Mappers under the age of 18 years. Written parental consent can be collected via mail. In addition, each participant under the age of 18 years should be asked to provide assent to participate in the evaluation. Participants 18 years and older would be asked to provide oral consent to participate in the evaluation.
4. Confidentiality – Precautions should be taken to minimize risk of loss of confidentiality. Electronic data should be stored on secure, password protected servers only accessible to those who need access to the data. Data should be de-identified when possible. For

example, given the longitudinal nature of the evaluation, it is important to be able to link pre- and post-employment survey using some unique identifier, but Youth Mapper names should not be shared outside the research team. Rather, the research team should use the identifier to generate a unique identifier that cannot be linked to the Youth Mapper's name.

5. Data dissemination – Although individual data may not be shared, partners will likely be interested in the results of the Youth Mapper evaluation. Creating tables and figures and disseminating those to funders and partners is key to obtaining ongoing support for the MAPSCorps program.

Example Outcomes Measured

The MAPSCorps Youth Mapper evaluation has focused on outcomes related to the scientific training the youth receive (see Chapter 7) as well as the PYD curriculum (see Chapter 8). The vast majority of survey items are categorical although participants are also asked to complete several open-ended qualitative questions. In addition to demographics, the standard MAPSCorps evaluation survey includes the survey items in the following domains:

1. Connection to community – Assess attitudes related to connection to the community, awareness and sense of involvement in identifying and addressing community needs and ability to promote change in the community
2. Awareness of community resources to help maintain health – Assess understanding of availability of health-related resources within the community
3. Job and college readiness skills – Assess changes in self-efficacy related to fundamental job and academic skills including public speaking and leadership
4. Self-reported health – Assess changes in self-reported health and health-related behaviors such as physical activity and consumption of water

Lessons Learned:

- Using a “passport” system (Figure 10) during **orientation** day is useful to ensuring high completion rates for the evaluation survey. In the passport system, Youth Mappers receive a stamp in their “passport” for completing each step of orientation (e.g. submit consent form, complete evaluation survey).
- Paper surveys can result in high missingness, especially if a survey is two-sided or lengthy. An electronic survey, especially if a response is required for each question before the survey can be submitted, minimizes missingness.
- In order to successfully link the pre- and post-employment surveys, it is important to use an identifier the youth are certain to remember, such as their name. Attempts to use a unique numeric code proved to be challenging (youth did not recall their code and opted to codes assigned to others).

10. Data Sharing

“MAPSCorps data can be a very powerful tool when it comes to community planning. The detail of the data collected offers a lot of insight into how the economics of a neighborhood works over time and how accessible resources are for residents.”

Todd Schuble, Committee on Geographical Studies, University of Chicago

Sharing knowledge, specifically in the form of data, is a key infrastructure-building activity in operationalizing the **asset-based community-engaged research** strategy (described in Chapter 1). Sharing data builds goodwill with individuals and **community-based organizations** and benefits the community at large. We refer to the data products generated and shared as “GOURDs,” or Gifts of Usable Research Data.²

A guiding principle for the research team is sharing data with efficiency and transparency.² In concert with this principle, we broadly and rapidly share the data gathered by the MAPSCorps Youth Mappers using several methods. A multi-pronged data sharing strategy helps to ensure that the data are available to individuals and organizations with a wide range of skills and interests. The availability of the data is made clear via websites, public presentations, regular public meetings and personal communication.

How are MAPSCorps data shared?

MAPSCorps GOURDs are primarily shared three ways including:

1. Public-facing, web-based mapping platform - At the conclusion of mapping a geography, all data on operating assets are made available online at www.mapscorps.org and www.dondeesta.org (in Spanish) via an interactive mapping platform. This platform allows users to select assets by type and geography and view those assets on a map. For example, a user could map all grocers and fast food restaurants in two communities to generate a visual comparison.
2. Aggregated data tables and graphics - The MAPSCorps research team conducts basic descriptive analyses to generate tables and figures to share data. These kinds of GOURDs are frequently created to be shared during initial meetings with community organizations or at community events. For example, GOURDs were created for Community Grand Rounds, health-focused gatherings hosted by University of Chicago faculty in community-based settings. For one Community Grand Rounds, a play focused on teen depression resulting from violence was performed. After the play, we shared a GOURD that included a map of the violence prevention and social service agencies in the community.
3. Flat data files by request - MAPSCorps data are also available as flat files (e.g., .xls, .dta, .txt) by request. These files include a row of data for each asset. Requesters may request all mapped assets or a subset of mapped assets. Assets can be subset by region or by **taxonomy**. For example, a requester may only need assets in one ZIP code or may only be interested in assets classified as churches.

To efficiently receive and track data requests, data are requested via a web-based survey. The current survey is powered by REDCap, a secure, web-based application designed to support data collection and management for research studies. Links to the data request form ([Appendix E](#)) are available online (www.mapscorps.org, www.dondeesta.org) and are emailed to individuals who inquire about the data.

Through the data request form, requesters are able to specify which data they would like to request and the purpose of their request. Requesters are also asked if they are willing to support the Lindau Lab in future data collection efforts and to share back materials created using the data. Additionally, requesters must agree to acknowledge the Lindau Lab in any products or forums in which the data are used, and to agree to not distribute or sell the raw data to other organizations. Data have been shared freely, provided the requester does not intend to use the data to profit. Organizations who intend to use the data to profit are charged a fee.

Once a request is received, if there are any questions about what data the requester needs, the team contacts the data requester to clarify what data they are interested in before their data files are prepared. Requests have always been filled within two weeks of request receipt, typically within a few days. The data are sent to the requester along with a general description of the data, an explanation of the taxonomy definitions and a research paper explaining how the data are collected. Requesters are told that they can reach out to the research team if they need help working with the data; the team provides support through in-person meetings, phone calls or emails.

Who is requesting the data?

Community-based organizations, faith-based groups, politicians and municipal departments, academic researchers, and private companies have all requested the data to further their work in the community.

How are the data being used?

Requesters have used the data to write grants, inform community planning and programming, create resource guides, identify community collaborators, and for academic research.

Based on the results of a qualitative study of requesters (unpublished data), the feedback on the data has been overwhelmingly positive.

In addition, the MAPSCorps Chicago program generates community resource data used by CommunityRx*, a program funded in the first round of Health Care Innovation Awards from the Center for Medicare & Medicaid Innovation (2012-15, CMS 1C1CMS330997-03-00, Lindau ST, PI). CommunityRx uses data generated by MAPSCorps to operate an e-prescribing system

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(“HealthRx”) that integrates with EMR platforms and enables health care providers to prescribe community resources (programs and services) for wellness and self-care. Community Health Information Specialists (a specialized type of community health worker) use the data MAPSCorps generated about businesses and organizations to create a continuously updated inventory of every program and service in the community and to support community residents who need assistance accessing resources. As of November 2015, CommunityRx has generated more than 300,000 HealthRxs using MAPSCorps data. NowPow, LLC (www.nowpow.com) is a social impact venture founded and owned by Stacy Lindau, MD as part of a public-private **collective social impact model** designed to sustain the CommunityRx innovation.

Lessons Learned:

- Formally tracking data requests and understanding the variety of uses of the data is important to the sustainability of the MAPSCorps program. Data about the use of these data have been useful in funding applications.
- Clarifying data and analytic needs prior to sharing the data has helped the research staff better support requesters.
- Sharing the taxonomy and data collection strategy has helped give requesters greater context and information to support their work.
- If you make data available for everyone to use, diverse stakeholders will request and use data for a variety of purposes.

11. MAPSCorps Implementation Costs

This section provides an overview of the cost of implementing a MAPSCorps program as well as strategies for off-setting implementation costs.

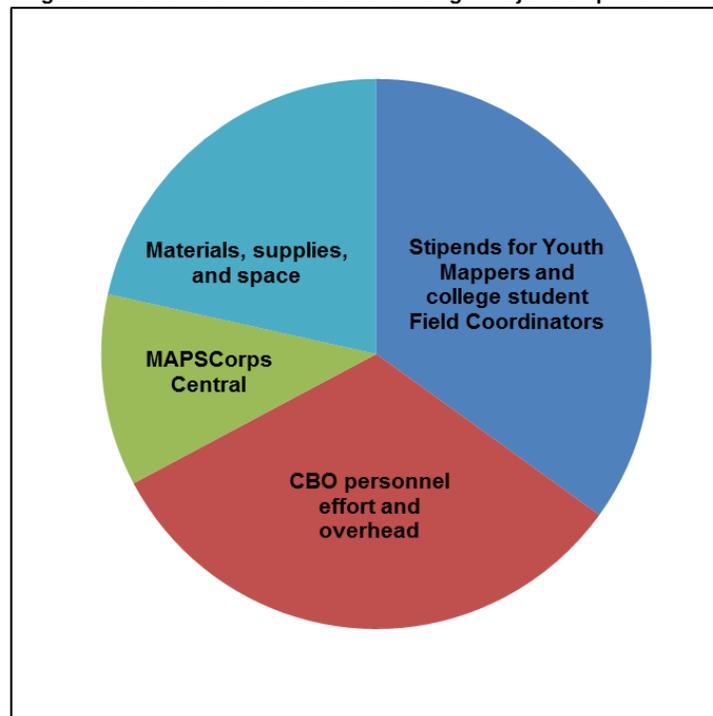
MAPSCorps implementation costs vary depending on several inter-related factors including the number of Youth Mappers that will be employed, whether or not the implementation site has previously implemented a MAPSCorps program, and whether or not the site opts to include the **Positive Youth Development (PYD)** component of the MAPSCorps program. In addition, the size of the **target geography** and the density of assets within that geography are key drivers of costs. More assets, especially if spread over a larger geography, take more effort, and therefore cost more, to map. Generally, there are economies of scale for implementation costs. For example, for Youth Mapper training, the average cost per Youth Mapper will be lower for 20 Mappers as compared to 10 Mappers.

MAPSCorps Implementation Site Costs

There are four main components to the MAPSCorps implementation site costs (Figure 16):

1. Stipends for Youth Mappers and Field Coordinators
2. **Local Champion** and **Host Site** personnel effort and overhead
3. Contract to **MAPSCorps Central** and **secondary data purchase**
4. Materials, supplies, transportation and space

Figure 16. Distribution of total cost among 4 major components



Stipends for Youth Mappers and Field Coordinators

Youth Mappers and Field Coordinators are employees and receive payment time. The stipend is dependent on average local wages. As a guideline, in Chicago Youth Mappers are paid minimum wage, while Field Coordinators are paid roughly double the minimum wage. Youth Mappers are generally employed for 6 weeks, 20 hours per week. Field Coordinators are generally employed full-time, 40 hours per week, for 9 weeks (1 week before and 2 weeks after the Youth Mappers). The number of Field Coordinators employed depends on the number of Youth Mappers employed—there are 2 Field Coordinators for every 4 Youth Mappers employed.

Champion, Lead Host and Host Site Personnel Effort and Overhead

The **Lead Host Site** and **Host Site** staff manage the day-to-day MAPSCorps operations. The roles of these individuals are described in detail in Staffing (Chapter 5). The Program Manager role typical begins 6 months prior to the **field period**. Effort estimates for the Program Manager role are ~25% FTE; (2 hrs/week Jan-March, 5 hours/week April-May, 40 hours/week June-August, 2 hrs/week Sept-December). The Program Coordinator role typical begins 3 months prior to the field period. Effort estimates for the Program Coordinator are ~25% FTE; (3 hours/week April-May, 40 hours/week June-August).

Materials, Supplies, and Space

Materials and supplies include water bottles, t-shirts, cinch sacks, paper, pens, and miscellaneous office supplies for each Youth Mapper and Field Coordinator. Each day, every team of two students is assigned a phone for data collection. Nutritious breakfast and lunch are provided for the Youth Mappers and Field Coordinators. Space to meet in the morning prior to mapping, eat lunch, and conduct the PYD component is also included in this cost.

Cost related to MAPSCorps Central

Contract to MAPSCorps Central

A contract between the **Local Champion** and **MAPSCorps Central** covers all of the technical, data management, and training aspects of the program. Over time, the Collective Social Impact Model envisions that proceeds from NowPow can be used to help offset MAPSCorps Central costs in communities where the two organizations are operating.

Collective Social Impact: All Stakeholders Contribute

Here we provide several examples of how costs to the implementation site can be off-set by stakeholder participation. MAPSCorps Central assists its partners with fundraising activities.

- In Chicago, stipends for Youth Mappers have been paid for by a local youth employment agency called After School Matters. After School Matters partners with local **community-based organizations**, providing funds to these organizations to employ youth during the summer. After School Matters solicits applications for organizations

able to offer youth meaningful work experience. Similar youth employment agencies may partner with implementation sites in other geographies. Some youth employment agencies also provide funds for youth oversight. These funds can be used to support the Program Manager and Program Coordinator activities

- As college students, Field Coordinators are often eligible for paid fellowship or service learning credit programs. Implementation sites can partner with colleges to provide the college student with meaningful work experience.
- In previous iterations of the MAPSCorps program, breakfast and lunches have been donated by a local charity that provides summer meals for youth. In addition, space and materials, including water bottles, cinch sacks, and phones can be donated or sponsored through local academic institutions, **community-based organizations** or corporations.

12. Glossary

Asset-Based Community-Engaged Research (ABCER)²: investment across sectors in relationship-building and trust, identification of shared priorities, and joint production of data about community assets

Asset Data: data collected about public-facing business and organizations that are open and operating to serve the public in a target geography

Case: a research term for the unit of data collection. For MAPSCorps, a case is a single establishment at a single address

CommunityRx Collective Social Impact Model: a cadre of partnerships that share investment and resources to achieve a larger and socially conscious goal.

Community-based Organization⁹: public or private not-for-profit organization that is representative of a community or a significant segment of a community, and is engaged in meeting local community needs

Community Partner Site: an organization in a partnering community, including Local Champion and Youth Mapper Host Sites

Dondeesta.org: website where MAPSCorps data are published in Spanish

Field Period: typically a six week summer period during which Youth Mappers and Field Coordinators participate in field training and collect asset data in the target geography

Field Team: a group comprised of four Youth Mappers and one Field Coordinator working together to map community assets

Focus Fridays: learning opportunities, typically led by Field Coordinators, where Youth Mappers learn from guest speakers, participate in collaborative programs, and attend field trips to further explore the week's positive youth development learning objectives.

Host Site: a community-based organization that serves as a daily meeting space for Youth Mappers and Field Coordinators and that offers high-level program supervision

Lead Host Site: a community-based organization that has operational responsibility in coordinating field and curricular efforts across local Host Sites

Local Champion: in a large implementation, a community-based organization that serves as liaison between MAPSCorps Central, Host Sites and stakeholders in the partnering community; the Program Champion has a leadership role in this organization

MapAppTM: a custom smartphone application (Droid, iOS) developed by MAPSCorps for field data collection

MAPSCorps Central: the central administrative and support hub of MAPSCorps located in Chicago, Illinois. MAPSCorps Central aids in the implementation and maintenance of all local site implantations.

MAPSCorps.org: website where MAPSCorps data are published in English

Near-Peer Mentorship: mentor-mentee relationship between a young adult (typically a college student) and an adolescent (typically a high school or pre-college student).

Orientation: Youth Mappers, their families, and program contributors are provided an overview of MAPSCorps at the beginning of the field period and set high-level goals. Youth participate in pre-program evaluation

Positive Youth Development (PYD) Programming: Youth Mapper programming that accompanies data collection to meet pre-determined positive youth development learning outcomes. Positive youth development programming is comprised of three major programmatic components: daily walking and classroom curriculum, Focus Fridays, and the Scientific Symposium.

Secondary Data: an existing commercial asset data set purchased by MAPSCorps to pre-populate MapApp™

Scientific Symposium: the culminating event for MAPSCorps. Youth Mappers present study findings, using asset mapping data, to peers, family members, community leaders and stakeholders

STEM: Science, technology, engineering, and mathematic fields of study

Target Geography: the community or communities to be mapped

Taxonomy: a categorization system to code establishments as a single type of place based on the primary function of the place

Touched: A case that has been checked during the field period.

Train-the-Trainer Model: a capacity-building training model where an experienced MAPSCorps team member trains community partner site leaders, who in turn train Field Coordinators who in turn train Youth Mappers

Youth Mapper Evaluation: a pre- and post-MAPSCorps evaluation survey intended to inform iteration of the program to achieve data quality and youth development outcomes

13. Media coverage and work by others that highlight CommunityRx and MAPSCorps

Accountable Health Communities—Addressing Social Needs through Medicare and Medicaid. Perspective by Alley, D.E. et al. New England Journal of Medicine. 2016; 374:8-11.

<http://www.ncbi.nlm.nih.gov/pubmed/26731305>

Mapping program pushes students to consider neighborhood's potential. Radio story by Susie An for National Public Radio 91.5. WBEZ, Chicago, IL; August 2015.

<http://www.wbez.org/news/mapping-program-pushes-students-consider-neighborhoods-potential-112640>

Clinic–Community Linkages for High-Value Care. Perspective by Thomas D. Sequist and Elsie M. Taveras. New England Journal of Medicine. December 2014; 371:2148-2150.

<http://www.ncbi.nlm.nih.gov/pubmed/25470692>

Clinical–Community Linkages: A Step towards Better Health. Blog posts by Anand Parekh, MD, Deputy Assistant Secretary for Health (science and medicine), Office of the National Coordinator for Health Information Technology, Department of Health and Human Services, Health IT Buzz. November 2014. <http://www.healthit.gov/buzz-blog/electronic-health-and-medical-records/clinicalcommunity-linkages/>

Dr. Long Uses Health IT to Connect Patients to Community Resources. Timothy Long, MD, Chief Clinical Officer, Alliance of Chicago Community Health Services, Health IT Success Stories. November 2014. <https://www.healthit.gov/providers-professionals/dr-long-uses-health-it-connect-patients-community-resources>

14. References

1. University of Chicago Medicine Urban Health Initiative. <http://uhi.uchospitals.edu/>.
2. Lindau ST, Makelarski JA, Chin MH, et al. [Building community-engaged health research and discovery infrastructure on the South Side of Chicago: science in service to community priorities](#). *Prev Med*. 2011; 52(3-4):200-207.
3. Kania J, Kramer M. [Collective Impact](#). *Stanford Social Innovation Review*. 2011:36-41.
4. Creative Commons. [Defining 'noncommercial': a study of how the online population understands 'noncommercial use'](#).
5. Makelarski JA, Lindau ST, Fabbre VD, et al. [Are your asset data as good as you think? Conducting a comprehensive census of built assets to improve urban population health](#). *J Urban Health*. 2013; 90(4):586-601.
6. Conway JM, Amel EL, Gerwien DP. [Teaching and learning in the social context: A meta-analysis of service learning's effects on academic, personal, social, and citizenship outcomes](#). *Teaching of Psychology*. 2009; 36(4):233-245.
7. Heller SB. [Summer jobs reduce violence among disadvantaged youth](#). *Science*. 2014;346(6214):1219-1223.
8. Leos-Urbel J. [What Is a Summer Job Worth? The Impact of Summer Youth Employment on Academic Outcomes](#). *J Pol Analysis and Management*. 2014; 33(4):891-911.
9. Community Based Organization Defined. <https://nmlm.gov/sea/funding/cbodef.html>.

15. Appendices: Additional Resources

- A. Minkler M, and Wallerstein N, eds. *Community-based participatory research for health: From process to outcomes*. John Wiley & Sons, 201
- B. Kretzmann JP, McKnight JL. *Building communities from the inside out: a path toward finding and mobilizing a community's assets*. Chicago, Illinois: ACTA Publications, 1993.
- C. [MAPSCorps 2014 video](#)
- D. Kennedy D. [Writing and Using Learning Outcomes: A Practical Guide](#). Cork, University College Cork. 2006.
- E. [MAPSCorps Data Request Form](#)
- F. [PDSA: Plan-Do-Study-Act. Minnesota Department of Health QI Toolbox](#).
- G. Interacting with the Public

Appendix M. Interacting with the Public

1. **Be sensitive to concerns about the project:**
 - Listen.
 - Make it clear that you care.
 - Be appreciative of someone trying to help, even if they're not helpful.
 - Provide information about what the goals of the project.
2. **Be sincere and genuine in what you say.**
3. **Talk about the importance of the project:**
 - We are helping to create a valuable resource for the community.
 - Our work will help people find local services and products.
 - Businesses and organizations get a free online listing.
 - Community leaders can use the information to help the community develop.
 - People from the community and your organization are working together.
 - Give examples!
4. **Do NOT ask children directly for telephone numbers, names or other specific identifying information. You CAN:**
 - Tell them you need to speak to a parent and/or adult and ask when you are more likely to find a parent at home.
 - Leave printed materials with them.
 - You can use any information they volunteer.
5. **Do NOT leave materials in mailboxes. It is a federal offense for anybody but postal carriers to leave anything in a mailbox.**

- H. [Liberating Structures](#)
- I. [Job Outlook: The Candidate Skills/Qualities Employers Want, the Influence of Attributes](#): National Association of Colleges and Employers'
- J. Sabatelli RM, Anderson SA. [Assessing Outcomes in Child and Youth Programs: A Practical Handbook](#). 2005.
- K. [REDCap](#) (Research Electronic Data Capture)