Street Outreach Analytics Response (SOAR) Project Case Study

Research Report
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Photo of a SOAR meeting in North Lawndale. Photo Credit: CORNERS

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Introduction

Network science has been used to understand and stop the spread of public health crises like HIV/AIDS and the COVID-19 pandemic. When applied to gun violence, network science reveals that gunshot victimization concentrates and spreads among networks of individuals residing in materially disadvantaged neighborhoods.[1] Community violence interventions (CVIs) are local efforts to reduce gun violence by mobilizing CVI professionals to identify high-risk networks, connect members of those networks with targeted services, and mediate and monitor neighborhood and group conflicts. CVI professionals are often members of the communities they serve and have familiarity and experiences with gang involvement, exposure to violence, and prior contact with the criminal justice system. As such, they are uniquely positioned to gain the trust of those involved as victims or perpetrators and to stop the spread of gun violence.

Through the Street Outreach Analytics Response (SOAR) Project, the Center for Neighborhood Engaged Research and Science (CORNERS) partners with CVI organizations on the South and West sides of Chicago to assist outreach workers and victim advocates in their rapid, coordinated response to gun violence. The SOAR Project leverages CORNERS' expertise in network science and practitioners' expertise in local conflict dynamics and CVI strategies to collaboratively develop analytical tools that support CVI practitioners in their day-to-day work. The SOAR Process involves CORNERS researchers and CVI practitioners meeting weekly or bi-weekly to review shooting incidents, conflict dynamics, and agreements between groups and applying the SOAR Analytical Toolkit to these cases as needed. Ultimately, the SOAR Project aims to disrupt cycles of violence by amplifying ongoing outreach efforts, helping CVI organizations more efficiently and precisely engage participants that are most likely to be involved with gun violence, and modeling a collaborative and equitable approach to research and community partnership.

Making network science actionable for CVI organizations requires overcoming prior harm and mistrust caused by research institutions among CVI organizations in Chicago. Many CVI organizations and their communities have been part of extensive research projects and often felt like they had no decision-making power in guiding the research activities or how the findings were used. Additionally, in Chicago, efforts like the Chicago Police Department's gang database and the court system's pre-bond assessments have eroded trust in criminal justice data.

Based on these past experiences, some CVI practitioners and leaders concluded that research is extractive, self-serving for the researcher, and, ultimately, fails to provide meaningful benefits for the organization or its program participants. In navigating this context, CORNERS aims to establish trusting research partnerships that highlight the value of data-informed practice through an engaged research process.

In this case study, we trace the development and key features of the SOAR Project to highlight CORNERS' engaged research process. We demonstrate how stakeholders invested deeply in relationship building to facilitate a collaborative partnership that levels power imbalances between researchers and community partners. In doing so, we detail a research approach that enabled partner organizations to overcome initial skepticism and distrust to successfully co-create tools and analyses that support frontline CVI practice. The report begins with a brief overview of the community-based participatory research and participatory design frameworks that inform CORNERS' engaged research process. Next, we detail our research methods and present the results of the case study. Finally, we conclude with lessons learned that are relevant for researchers, community organizations, funders, and policymakers interested in employing an engaged research approach.

Photo of the SOAR Convening in the Loop. Image credit: CORNERS

Literature Review

The SOAR Project incorporates elements of community-based participatory research (CBPR) and participatory design (PD), frameworks which center collaborative, iterative research design and engagement as integral to the research process. These frameworks have been used in other CVI research projects in Chicago to support street outreach workers and the delivery of service for CVI participants, and such innovative models have since been replicated in other cities.[2-4] The section below explores the origins, principles, strengths, and limitations of each framework.

Community Based Participatory Research

Community based participatory research (CBPR) emphasizes equitable research partnerships rooted in the co-production and co-creation of knowledge at each phase of the research process.[5-7] CBPR follows a set of principles historically applied in public health research, but increasingly used in the social sciences and beyond. Rather than a distinct methodology, scholars distinguish CBPR as an approach or orientation to research that disrupts the traditional, imbalanced power dynamics between researchers and research subjects.[6-8] CBPR draws on community strengths and perspectives and "seeks to translate knowledge into action" through shared leadership, shared power, and mutual respect.[6,7,9,10] CBPR partnerships engage a diverse set of stakeholders depending on the context and goals of the project and require considerable time and energy to develop.[9,10]The approach directly confronts the "historic research abuse" that many communities have endured, where community voices were silenced, data was not shared back, or the research did not directly benefit the community, leaving a sense of mistrust and skepticism.[9,12] The paternalistic nature of traditional research frameworks renders "people as objects of research," rather than active participants in the process.[12] Instead, CBPR orients researchers to reshape power dynamics in research.

Relationship building is essential to fostering trust and encouraging sharing of expertise over time.[7,12] Best practices for building trust include participating in community events, allowing community members to choose meeting locations, identifying community members to lead program efforts, and objectively listening without an agenda. Further, when community partners are empowered to co-lead the research, it creates space for equal exchange and disrupts the traditional hierarchy within research-community partnerships.[10,13] Once trust is established it has a "ripple effect," wherein trust of a research partner by one community group can lead to a sense of "trust by proxy" amongst other community groups.[12] The strength of CBPR may lie in the trust built through interpersonal connection, but such complex relationships can pose ethical risks. CBPR partnerships can lead to relationships that feel "blurred," "muddled," or existing in a "grey zone" due to the iterative and nonlinear nature of relationship-building.[7,10]

The ambiguous boundaries of these relationships raise broader ethical concerns that must not be overlooked but that can be overcome with transparency.[10,12,13] Research partners must take care in responsibly navigating CBPR relationships.

Participatory Design

Participatory design (PD) is a set of methods that involves active engagement between researchers and end users of a design.[14,15] While PD is primarily used in human-computer interaction work, PD has diverse applications in community-based research practice. PD is distinct in that it centers, from conception to deployment, users as co-designers who possess valuable expertise in their tools and processes; in this way, PD is design "with", rather than "for" users.[14] Many practitioners insist that PD is best understood not as a set of practices, but rather as a methodology or process defined by key elements including shared decision-making power, mutual learning, and respect for the expertise of users.[14, 15]

Participatory action research and the work of Paulo Freire influenced this approach through their focus on mutual learning, reciprocity, and organizational change. PD often involves multiple methods throughout different stages of research, including but not limited to ethnographic observation, design workshops and collaborative discussions, co-operative prototyping of the design, and development of long-term infrastructure. In practice, PD orients researchers towards an epistemic framework that highly values participants' practical and tacit knowledge of their work processes, treating users as the experts in their own lives and work.[14, 18,19] By including users' knowledge from the start, outcomes are more effective and efficient.[18] Mutual learning between researchers and users is another key tenet of PD, which entails the development of a shared language between researchers and users, situation adaptation, and mutual respect between both parties.[14, 19-22] Despite its adaptability and applicability to many different contexts, design goals, timelines, and partners, PD is nonetheless consistently defined by its commitments to democracy and empowerment.[15,18, 23]

Successful implementation of PD is not without challenges. Many scholars point to the problem of "pseudo-participation," where users are nominally considered collaborators but not fully involved co-designers.[24,25] At the same time, the extent of commitment that PD entails can become burdensome on users.[25] Practitioners of PD have found that the approach has particular challenges being implemented in regions with different concepts of participation or when there are social and cultural barriers between researchers and users.[26-28] PD has also been critiqued for not sufficiently confronting the unequal power dynamics between researchers and users.[22, 29]

Moreover, in the context of systemically marginalized populations, PD faces additional challenges. These include skepticism of researchers arising from historical and contemporary research injustice, personal and safety barriers in sharing personal information relevant to the design process, potential for reifying extractive research and data collection practices, and differences in capacity. In turn, scholars have called for increased focus on community capacity building, an equity approach to participation, and sustained, long-term engagement with user communities. [22, 28]

Methods

This case study highlights the experiences of all stakeholders involved in the SOAR Project from January 2021 through March 2023, including frontline staff and leadership at four community gun violence prevention organizations and the research and leadership teams at CORNERS. In addition to conducting over 75 hours of participant observation at weekly or bi-weekly SOAR meetings, the research team led semi-structured interviews with 33 individuals over the phone or video call from March 2022 – March 2023.* These 33 participants include all CORNERS researchers who work on the project and all stakeholders who were involved in the first six months of project development at each partner organization. Internal analysis sessions were conducted with the CORNERS research team to identify emerging themes in interviews and field notes, which were distilled into 18 codes in 5 categories.§ All data were uploaded to NVivo, coded, exported, and further analyzed by the research team. Due to capacity limitations, community partners were not involved in the analysis sessions, but the research team did solicit feedback from partners at routine SOAR Meetings and at a quarterly SOAR Community of Practice meeting.

Photo of a SOAR meeting in West Garfield Park. Photo Credit: CORNERS

* The interview guides can be found in Appendix 1.
§ A full list and description of codes can be found in Appendix 2.

Results

Results

Photo of a SOAR meeting in West Garfield Park. Image credit: CORNERS

The five primary themes that emerged are: (1) Relationship Building, (2) Research Design, (3) Understanding Impact, (4) Sustainability, and (5) Ethics. Because the Sustainability and Ethics themes touched on concepts discussed in the first three themes, their data have been integrated in each of those sections.

Relationship Building

Several interviews and field notes stressed the importance of relationships in CVI work, and the same holds for research. Creating an environment where everyone feels safe and empowered to fully participate requires mutual trusting relationships between the research and CVI teams. This theme highlights the foundational importance of relationship building to the SOAR Project, from early encounters to the work of maintaining existing relationships.

The SOAR Project is just one of many research projects in CORNERS' CVI portfolio, and some practitioners reported feeling excited about working on the SOAR Project after having been involved in the center's other projects. Organizational leadership also felt optimistic about the strengths that different stakeholders would bring to the table. As one leader put it: "we're [CVI organizations are] strong in human intelligence, but to back it up and see where the gaps are with data is an important complement."

However, previous negative experiences with research did influence relationship building on the SOAR Project, especially early on. One outreach leader reflected on the general reluctance they feel with research in Black and Latino communities: "a lot of times, I feel we are being researched for the sake of research and it never benefits us in the way that I think research is meant to be." Another CVI leader added that frontline practitioners are often suspicious of universities and research institutions and may have an attitude of "you're just here to research us, you don't really care." In addition, one CVI leader pointed out that CVI workers fail to receive credit for the work they do to facilitate

research in their communities: "[we are] never getting the credit on the ground." Several members of the group felt that the engaged SOAR process helped overcome some of the criticisms of past researchers and research institutions that often seemed more extractive than generative.

Similarly, CORNERS researchers were acutely aware of the historic tension between the research and CVI communities. One researcher reflected on working at a predominantly white institution. "We have been aware of our positionality, and our partners are aware of it too. We have to be constantly reflecting on that... We are not coming in as a neutral presence."

While some members of the research team have previous direct service experience working with the communities represented on the project, none have lived experience as residents. The research team recognizes where their training, skills, and perspectives are valuable, but maintains intellectual humility around the embodied experiences of gun violence and the day-to-day challenges of CVI work.

Based on previous experiences, CVI practitioners expressed feeling exploited by researchers who were neither forthcoming about the purpose of the study nor shared findings from the study with the organizations that could benefit their work. For instance, one outreach worker mentioned feeling frustrated when "they say they want to talk about one thing, and they end up asking about something else." Other outreach practitioners shared experiences where researchers may have wanted to ride along with frontline staff once or twice to "see us at work", but then pointed out that these relationships were short-term and one-sided; organizations received little in return and did not receive any follow up insights. Members of the research team also expressed skepticism about the potential value of the project early on: "There is a lot of talk about being data driven and I'm like, what does that mean? ...I thought data is a hassle from an evaluation perspective, thought maybe we can do something but it's not going to be that useful. It was an assumption I got wrong."

CORNERS made a concerted effort to communicate the purpose of the SOAR Project and how the project would benefit CVI organizations and frontline staff in the short and long term. Once CVI practitioners and researchers became more familiar with the process and continued to develop the project together, they recognized that the SOAR Project is different than other research experiences.

"I thought data is a hassle...thought maybe we can do something but it's not going to be that useful. It was an assumption I got wrong"

Photo of a SOAR meeting in Roseland. Photo Credit: CORNERS

One CVI practitioner shared that "getting a clear understanding of what it was and who you guys [the research team] were" was top of mind early on. For some CVI practitioners, working through a few incidents together and realizing that the research team was not interested in extracting specific details on shooting incidents, but rather learning how the SOAR Toolkit may or may not be useful in their response, helped them better understand the project. According to one CVI leader, the research team "did more sharing information than trying to obtain information." This asymmetrical flow of information towards CVI practitioners stands in direct contrast to the extractive nature of many stakeholders' previous research experiences.

In addition to skepticism of research, many CVI practitioners were initially suspicious of the SOAR Toolkit itself. One outreach supervisor mentioned that street outreach workers always have a "healthy amount of skepticism and concern when it comes to anything that can be potentially incriminating data." Even though researchers had a strict one-way data use agreement with the Chicago Police Department, some outreach workers worried that information might be shared back with law enforcement.

One leader talked about the possibility of data being misused, which could "jeopardize our credibility" and make it unsafe for the research team to come to the neighborhood and for frontline staff to conduct their work. Researchers had several conversations with partners, both collectively and individually, to address specific concerns, demonstrating a commitment to "making people feel comfortable" as noted by one CVI leader. CVI leaders also helped their team navigate the thin line between using the information to support their work and seeming "police-y."

† CORNERS has a unidirectional data use agreement with the Chicago Police Department (CPD), wherein it receives the arrest and victimization data used in the SOAR Toolkit. No data from CVI partners is ever shared with CPD.

Just as CVI practitioners are seen as credible messengers in their work – trusted individuals with lived experience that facilitates relationship-building and resources sharing – organizational leadership played this important role in gaining buy-in for the project. Credible messengers can better anticipate the questions and concerns that their teams will have and can work to address some of them before the initial encounter with researchers. One outreach worker shared that before they became familiar with the SOAR Project, they thought it "was just more added to our plate." According to one CVI leader, credible messengers knew to prepare for the "oh this again?" reactions from their teams and tailored their initial conversations accordingly. This leader talked about having to practice describing the SOAR Project so that he could effectively communicate its potential to his outreach team. His credibility is demonstrated in their response: "They were like 'Who? What? Northwestern? University? Research? If you're cool with it, I'm cool with it." Involving organizational leadership that frontline staff trust early on "helped bring legitimacy to the project," according to several partners.

The research team identified multiple credible messengers at each site with whom they built relationships that would last beyond the SOAR Project. This was especially important given the high turnover of CVI staff. At one site, challenges arose when a credible messenger left the organization and another changed positions. However, because those relationships were not solely built for the project, those original credible messengers were able to facilitate relationship building with their replacements that helped with the transition. While this caused a delay in launching the SOAR Project at that site, the nature of the relationships kept the project viable.

Building trust took time, as CVI practitioners need to protect the integrity of their organization and keep the people they work with safe. A member of the leadership team at CORNERS shared that it took 5-7 years to find the right funders and staff members to launch the SOAR Project and another "12 months just to build trust" with community partners. An outreach worker estimated that it took at least 3 months of regular meetings before they fully trusted the SOAR Process and the research team. Several practitioners trusted their ability to judge the researchers' characters with one CVI leader noting: "Once we met you the first time, the weariness went away... I'm a good judge of character." Over time, one CVI supervisor shared that they "fell in love with what y'all do, the way you put people with people," which allowed them to realize, "oh, I definitely want to be a part of that."

Community partners recognized that the research team was committed to spending time with them in the neighborhood they worked. Meeting consistently in-person at community partners' offices offered regular opportunities for connection and demonstrated the research team's commitment to integrating the project as much as possible into the organization's existing practices. One outreach leader expressed

appreciation that "the team comes right to us." Reflecting on the trust-building process, another outreach leader shared: "[the research team has] done a great job of building the relationships and the confidence with the outreach team to really go deeper." Because of the strong relationships and trust developed through the SOAR Project, new research staff and CVI practitioners have been able to build relationships quickly, and institutional relationships have been strengthened.

These strong interpersonal relationships are essential to building trust but can create unique tensions in challenging moments. One researcher reflected: "And in some ways maybe I messed up in how accessible I was initially. **I think in some ways that sets up expectations down the line that aren't always sustainable."** The researcher added that "many service providers who work in frontline trauma stuff get really close, and I have developed this [closeness] with my own teams."

Having research team members with direct service experience is a strength of the project, but it can also contribute to an increased tolerance for exposure to second-hand trauma and reinforce unhealthy codependent relationships. Another researcher compared their experience working in a more traditional lab setting to working in the field on the SOAR Project: "I have to be a lot more mindful of my own mental health, but the team is really supportive. It has taken time to figure out."

The work of relationship building often goes undervalued and unfunded in research, but the SOAR Project was funded to fully support these activities as integral to the work of the project itself. Relationship building is an ongoing process that happens in big and small moments inside and outside of SOAR meetings. Before, after, and in between the typical agenda items, field notes are full of candid conversations about local restaurants, weekend plans, high school history curriculum, milestones in children's lives, personal tragedy, growth, and holiday cookies. Together, the research team and community partners celebrate birthdays, draft resumes, and volunteer at community events to produce and re-produce a space where it is safe to be vulnerable and to learn from one another. On the SOAR Project, the "humanistic element is just as important as the scientific element," according to a research team leader. Because the research team recognizes "that these are real people and real lives" impacted by violence, one outreach leader mentioned that "the concern and the respect for life has been present in the CORNERS dealings" in ways that they have not often experienced with other researchers. Still, CVI practitioners hold a healthy skepticism for future phases of the project and as noted by one CVI leader: "down the line, how will CORNERS position themselves with their research that they have done alongside us."

Research Design

The SOAR Project was intentionally designed to be different from research practices that negatively characterized many community partners' previous research experiences. This theme discusses the process of designing the SOAR Project, including its focus on collaboration and engagement, iteration, and the centering of practitioner knowledge using network science.

Sustained collaboration between the research and CVI teams is a foundational component of the SOAR Project's design. Reflecting on their previous research experiences, one CVI leader explained that researchers tend to access practitioners, take data, and try to tell an accurate story. While there may be some opportunity to weigh in, there is often not a chance to change directions or go deeper with the partnership. According to a CVI leader, some researchers think, "let's just stay true to the scientific method, let's collect the data and we will produce it back to you." By contrast, CORNERS's engaged approach through the SOAR Project prioritizes collaboration, flexibility, and transparency while maintaining, or even strengthening, scientific rigor.

Meeting notes from early in the SOAR Project describe the potential challenges of developing this sort of partnership. The research and CVI teams have different institutional cultures and norms around communication and knowledge sharing; as one CVI leader shared, "street epistemology is very different than academic – it's a rhythm and speed issue." A Principal Investigator noted that CORNERS accepts that "there is a different culture and there is patience and guidance" when creating systems that work for all stakeholders, even if it sometimes feels like things move "too slow." This measured and sustained engagement gave the research and CVI teams time to learn how to collaborate and develop a shared language. In doing so, the SOAR Project has become embedded in the community partners' organizational culture.

Another key feature of the SOAR Project's research design is flexibility. A CVI leader involved in the early stages said that what makes the project unique is "being willing to pivot when we need to," which many researchers are unwilling to do because of research validity concerns. They added that this is "the most authentic experience of having a researcher as a true thought partner." Many CVI practitioners reported instances of reaching out to the research team in between meetings for support, analytical and otherwise. One outreach worker shared that they would text a research team member updates after a meeting, while another outreach supervisor said that they have reached out in between meetings for support on critical incidents that have the potential to spill over to different neighborhoods.

This flexibility requires tailoring the design of the SOAR Project to the context of CVI work in Chicago, including prior and existing relationships and experiences between CVI organizations and the police. Likewise, the SOAR Toolkit was developed to account for the different needs of each partner organization. Because each partner offers different services, has varying capacities, and deals with unique local conflict dynamics, the Toolkit accounts for these differences in ways that will end up benefiting a range of users. Flexibility through tailoring the research design to local contexts allows for a more responsive and effective process and tool. Although the research team is committed to remaining flexible to keep up with the quick pace of CVI work, flexibility also creates challenges.

CVI practitioners often have competing interests as reflected by the research team in qualitative notes. One field note described a scene where CVI practitioners were all attending a virtual meeting at the same time; rather than cancelling or rescheduling, they chose to move forward, attending two meetings at once. If there is a shooting incident in the organization's service area, CVI workers respond immediately, which can create disruptions or unexpected cancellations of SOAR meetings. Additionally, because the research and CVI teams work different schedules, CVI workers may arrive before work hours for morning meetings and researchers may stay after work hours for afternoon and evening meetings.

The SOAR Project's engaged approach also relies on transparency and direct conversations to negotiate boundaries and weather potential tensions. One CVI leader described that "trust-building happened both ways, [a researcher] said no a few times on some information we wanted due to privacy." They added that "the magical part is being transparent and having expectations." For example, the research team has grappled with the need to make data usable and accessible while keeping it secure. Yet, as one researcher described, "we have a culture of talking through things which is hard but it's not something that feels impossible, it's baked into the culture of the project."

Photo of a Community of Practice meeting in North Lawndale. Image credit: CORNERS

This boundary setting has been a regular practice during SOAR meetings and is responsive to each organization's unique context. For example, leadership at one organization decided that the information should not be shared beyond CVI supervisors while another organization chose to bring in their full team from the start. For a CVI leader at one organization, talking about the group element of conflicts was a "non-starter," while for another organization, it can be brought up as essential context in a meeting. A CVI leader shared that it was "no big issue having these conversations" about boundary setting because of the trusting relationships between the research and CVI teams.

In addition to flexibility and communication, centering CVI practitioner expertise is also central to the design of the SOAR Project. As CORNERS' expertise, network science is a way to study relationships; at the same time, "outreach workers are all about relationships" and their success is predicated on the ability to reach people, as noted by a CVI research leader. Networks are the foundation of the SOAR Toolkit, enabling CVI practitioners to make the data actionable by drawing on their personal relationships. Referring to this, one CVI leader described the SOAR Project as "putting language to what outreach might already be thinking." In this way, the network science component of the SOAR Project complements, rather than displaces, practitioner knowledge and expertise.

Iterative design allows the research and CVI teams to continuously innovate together, creating an actionable set of analytical tools that is responsive to the needs and realities of violence prevention work. The Toolkit has evolved to include tools beyond network visualizations through direct feedback from CVI practitioners and ideas generated together in SOAR meetings. In field notes from the first SOAR meeting, one researcher shared: "At the beginning, and for much of the time, we were kind of disorganized, but that's because this is the first time, and we're just trying stuff out." Despite the messiness, the research team remained committed to "trying stuff out," receiving feedback, and coming back next time with a modified approach. For example, during an early SOAR meeting, a CVI practitioner asked for the location of arrests so "they could basically like more efficiently hone in on" and "squash" conflicts. In response, the research team added a list of arrest locations and developed spatial network maps to the Toolkit. One researcher described how "once we showed them the CSV table of arrest locations... then there was like, I can do something with this, I can act on this, and that was a palpable shift...they're like this could be interesting." Another researcher summarized how they use information shared between CVI partners and researchers at the meetings in order "to make themselves more informed...to make the tools better."

Field notes are filled with examples of both researcher and community partner reflections on the development of the SOAR Toolkit. As one researcher noted, the commitment to long-term engagement "produces a more robust toolkit in the end" because "we are able to test, iterate, and produce this thing" that gives practitioners "access to information more quickly." In effect, this process produces a tool where "people see themselves in it" and which "challenges and affirms folks at the same time," according to the same researcher. The research team constantly reflects upon "what is useful and what could be working better," as one member noted. Speaking to the project's iteration, one researcher reflected,**"there is humility in this project, we we don't always have it figured out, there is always a better way to do things, there is so much power in adding folks with different lenses."**

Furthermore, the design of the project also involves building capacity for the SOAR Process and Toolkit to be sustainable into the future. In the words of one researcher, a goal of the project is to "not just impact our partners now but other orgs in the future, having an impact across [the] city [and] getting folks access to information more quickly." Part of this entails the development of infrastructure that will allow CVI partners to access the SOAR Toolkit outside of meetings, even without researcher involvement. One CVI partner remarked that being able to integrate network analysis into their own computers and processes, "that would be impressive."

Through this engagement, flexibility, and iteration, the SOAR Project actively works to challenge traditional power imbalances between researchers and community partners by valuing and validating practitioner knowledge and expertise as equal to researcher knowledge and expertise. Rather than the researchers adopting the sole expert position or acting strictly in a service capacity, the SOAR Process holds space for anyone to pitch new ideas, ask questions, and challenge assumptions. Stakeholders are united by a shared goal of creating a sustainable tool that provides CVI practitioners access to data that supports their work in ways they know and say they need.

Understanding Impact

The Principal Investigators envisioned the SOAR Project as a way to move violence prevention research past basic demographic and gang affiliation statistics and toward a more useful tool to bolster existing CVI practice. This theme discusses how stakeholders understand the impact of the SOAR Project, including the value of data, various uses of the SOAR Toolkit, professional development and skill building, and organizational learning and change.

During SOAR meetings, the research and CVI teams work together to understand shooting incidents, group conflicts, and potential points of intervention by building upon each other's knowledge and skills. One CVI practitioner described their role in meetings as "learning and teaching at the same time." The analysis produced by the SOAR Toolkit, combined with CVI practitioner knowledge and relationships, helps the team fill in gaps, make inferences, and discover connections.

The SOAR Toolkit is used in a variety of contexts, including:

- Connecting with recent shooting victims or their families.
- Confirming or learning new information about an incident.
- Facilitating collaboration with other outreach organizations.
- Guiding conversations with victims or participants.
- Safety planning.
- Recruiting participants.

...learning and teaching at the same time

The utility of the SOAR Toolkit is well-documented in both interviews and field notes. A researcher shared that the Toolkit "really struck me, I never had seen research be beneficial on the implementation side." The Toolkit can be used to fill missing pieces, with several practitioners noting the role of the Toolkit to "weed out" false information and identify "who is collaborating with who." In instances where practitioners might be stuck on how to proceed with a particular incident response or participant engagement, as one CVI leader pointed out, the SOAR Toolkit "pushes them to dig a little deeper." One CVI practitioner added: "the biggest asset that the CORNERS team brings is direction."

Reflecting on the urgency of improved access to data, one outreach supervisor shared: "if we would have had this information before we probably could have saved a life." Several practitioners have experienced "aha moments" that help drive home the value of data to their work, of collaborating with external partners, and of keeping up to date records internally at their organizations. A victim advocate emphasized the potential benefit that the SOAR Project could provide to other organizations, noting: "I wish all organizations would do this." Conversations about the utility of the SOAR Project are used to onboard new practitioners and researchers and to advocate for the project in front of leadership, who join meetings only occasionally.

However, researchers and practitioners also spoke about the challenges of not receiving timely data from CPD, which often impacts the utility of the SOAR Toolkit.Ω A CVI practitioner reflected on the lag time: "If I need info in January, I won't get it until February." Another practitioner mentioned: "if you all can get that info back in a timely fashion then it would work even better." These delays impact the utility of the Toolkit, especially when delays stretch on for weeks or months.

Another significant impact of the SOAR Project is increased data literacy among CVI practitioners, which in turn contributes to the project's long-term sustainability. For many practitioners, the SOAR Project is their first time learning about network science and provides a pathway for developing new skills that can "make their job a little easier," as noted by one CVI leader.

Another CVI leader credits the SOAR Project with offering new insight on how to approach the work, mentioning that network science "gave us an edge" to better understand "how the data can make sense of how well connected a person is." One CVI leader noted: "SOAR introduced us to the technology side of things... [by] learning how to connect and put the dots together." They added: "you could always be out here canvassing but when you see the connections its different." One CVI supervisor described how the project has "opened his staff's eyes to different ways of seeing and putting information into motion." Several CVI leaders and practitioners have become advocates for the project, encouraging new staff members to use the Toolkit and to value data in their work. In one field note, a CVI practitioner called over a new staff member to look at a network diagram, slowly explaining the meaning of the ties and how to use it to identify potential participants. This moment captures the sense of ownership that all stakeholders feel over the project and its value for their work.

Practitioners and researchers noted that the SOAR Project has also contributed to their personal and professional development in other ways. For example, one CVI leader shared that improved communication and collaboration skills facilitate "open dialogues that help them [CVI practitioners] to be better at their profession." The research and CVI teams have co-presented at conferences, which practitioners report "gives them a sense of ownership, being able to speak on things that they have been a part of" and enables practitioners to practice "translat[ing] the work they do for a different audience." One CVI leader even noted that the project "has given some folks a level of skills that has allowed them to be promoted."

Members of the research team also felt that their experience on the SOAR Project helped build skills that led to professional growth. Beyond learning more deeply about

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Ω The data sharing agreement between CORNERS and CPD states that data will be received monthly. In practice, data is received less often.

the complexities of CVI work and local conflict dynamics in Chicago, researchers have developed their skills in science communication, collaboration, and iterative development.

This personal and professional growth has led the development of new organizational processes and practices at some sites. For example, at their weekly shooting review, one organization now flags incidents for follow up with the SOAR team and practitioners come to the next meeting with a list of incidents on which to focus or call the research team in more urgent circumstances. At another organization, outreach workers are incorporating SOAR into their safety planning and engagement strategies for all new participants. Among the research team, insights learned from CVI practitioners have influenced engagement strategies, research design, and analysis choices on other projects in CORNERS's portfolio.

In sum, while building individual skills and organizational capacity directly supports implementation of the SOAR Project, it also has larger implications for personal and professional growth, internal data-keeping at CVI organizations, and other research projects at CORNERS.

Photo of a Community of Practice meeting in North Lawndale. Image credit: CORNERS

Discussion

This case study elucidates some essential features of the SOAR Project that have allowed the research and CVI teams to model a collaborative and equitable approach to research and community partnership.

These values were built into the research design from the beginning and are upheld through relationships and demonstrated utility of the SOAR Toolkit. The SOAR Project evolved, despite initial tensions and mistrust, precisely because relationships were built to last beyond the project, adaptive systems were created to support continuous reflection and improvement, and stakeholders believe in the practical value of data. The teams have been able to work through challenges and develop solutions together.

There is some debate amongst stakeholders about whether the SOAR Project should be classified as community-based participatory research (CBPR), participatory design (PD), or something else. As discussed earlier, CBPR and PD are research frameworks that center community expertise and long-term engagement. While the project did not explicitly use either framework to inform the research design, it certainly incorporates key elements of both. The SOAR project embodies CBPR's and PD's key principles in the following ways:

- **Recognizes community as a unit of identity. The SOAR Project recognizes CVI practitioners as its core community. However, meetings occur with teams at the neighborhood level to allow for variation in implementation based on local conflict dynamics and differing organizational needs and practices. Partners meet quarterly in a Community of Practice to learn how the project is being applied in different contexts.**

- **Builds on strengths and resources of the community. The project builds on the immense knowledge about CVI strategies and local conflict dynamics among its core community while also employing the strengths of the research team in data visualization and triangulation. SOAR meetings combine the resources of CVI organizations, like office space and staff time, with the resources of the research center, like software.**

- **Promotes collaborative and equitable partnerships in all research phases. The SOAR Project distinguishes itself from CVI practitioners' previous research experiences due to a design that prioritizes collaboration and long-term engagement. These features were incorporated in the original design because of partner participation and the research team's previous direct service experience.**

- **Integrates knowledge and action for mutual benefit of all partners. The project generates new knowledge about how to build equitable partnerships between research and CVI organizations. The SOAR Toolkit has a direct impact on practice and the deeper understanding of CVI work and relationships has a direct impact on other projects in CORNERS' portfolio.**
- **Promotes co-learning and capacity building among all partners. Even beyond the co-learning that has led to the development of the SOAR Toolkit, meetings have facilitated conversations about the impact of trauma on the brain, Chicago gang history, and even drafting resumes. Several researchers report improved science communication skills and several CVI practitioners and leaders report improved data literacy skills.**
- **Involves a cyclical and iterative process. The research design is explicitly iterative, and the project prioritizes ongoing conversations about challenges, data security, and future directions.**
- **Addresses health problems of relevance to the local community using an ecological approach. The SOAR Project uses an ecological approach that understands gun violence to be caused by individuals, their immediate environment, and broader social forces. When reviewing a particular shooting incident, conversations captured in field notes jump with ease between these scopes.**
- **Disseminates results to all partners and involves partners in dissemination. All partners have been intimately involved in the development of the SOAR Toolkit and several CVI practitioners have presented at academic and industry conferences with research team members on the SOAR Process.**
- **Involves a long-term process and commitment to sustainability. All stakeholders are committed to extending the partnership beyond individual grant cycles. The research team is working to make the SOAR Toolkit more accessible to partners on a Digital Platform, which will increase accessibility to analysis and promote sustainability.**

In addition to drawing on CBPR and PD principles, the SOAR Project recognizes the need to adapt for each implementing partner. Chicago's CVI community is a rich patchwork of community-based organizations that are supported by larger non-profits, city departments, funders, researchers, and other stakeholders. While this community is organized and collaborative, it is not homogenous. Each organization serves a particular geography and adapts their institutional structure and practices to account for their local context. Therefore, any research project that engages the CVI community in Chicago must account for flexibility in implementation, rather than strict fidelity. As discussed earlier, the SOAR Project embraces flexibility by adjusting meeting frequency and structure and by encouraging varied uses of the SOAR Toolkit.

Adaptation not only ensures that the project is well-integrated into an organization's existing practices, but also facilitates the iterative development of the SOAR Process and Toolkit, ensuring that it serves a wide range of future users.

However, adaptation also presents challenges in evaluating the impact of the SOAR Project. These implementation differences make it challenging to identify variables that can be measured consistently across partners. In the same way that the project has challenged traditional research practices through its design and implementation, the team will need to expand traditional research paradigms about success and failure to accurately evaluate the project's impact.

Despite these challenges, stakeholders already see the impact that the project has had on individual and organizational learning. CVI leaders and practitioners recognize how data can be integrated into their day-to-day work, rather than just serving a reflective role through program evaluation. Researchers have learned how to be better science communicators and have deepened their understanding of CVI work, which has informed the development and implementation of other projects in CORNERS' portfolio. Most importantly, all stakeholders have learned how to create and maintain an equitable research partnership. The SOAR Project is "a powerful piece" for frontline practitioners, and in the words of one CVI leader, if deployed citywide, "it'll help deescalate a lot of violence in the city."

Photo of a SOAR meeting in West Garfield Park. Image credit: CORNERS

Lessons Learned

Photo of a SOAR meeting in North Lawndale. Image credit: CORNERS

The SOAR Project was designed to re-imagine what a researcher-practitioner partnership could look like. From inception to implementation, bringing academics and frontline staff together to innovate had to center mutual trust, equity, and utility. Not all research projects can – or should – follow an identical model for development. In fact, many of CORNERS' evaluation projects are not nearly as demanding on practitioners' time, effort, and resources. However, researchers and practitioners dedicated to developing meaningful, sustainable, effective, and equitable partnerships can learn from the approach taken to develop the SOAR Project and the partnerships that serve as its foundation. Together with the CVI practitioners that built the SOAR Project alongside CORNERS researchers, we identified critical lessons learned in the hope that they serve as a guide to others seeking to engage in robust researcher-practitioner partnerships.

1. **Budget time and resources for relationship building.**
   It may take several months or even years to build trusting relationships between researchers and practitioners. Rather than affecting rigor or objectivity, strong relationships facilitate project implementation and improve the quality of data.

2. **Have conversations about data protection early and often.**
   Transparency about how data is collected, stored, and analyzed is essential, especially in the early stages of a research project. Researchers must remain aware of how CVI practitioners have been harmed by data and research in the past and actively work to rebuild trust.

3. **Hire a diverse research team that brings different perspectives through non-traditional research backgrounds.**
   When building a research team, hiring managers should look beyond traditional research backgrounds. Many research skills are transferrable from other fields and/or can be taught.

4. **Advocate for research design that pursues epistemic justice, such as community-based participatory research (CBPR) and participatory design (PD).**
   Centering practitioner knowledge ensures that the research findings are seen as valid by the CVI community and begins to disrupt the traditional power imbalances discussed earlier. Whether or not a project strictly follows CBPR or PD frameworks, these principles can be useful reflection points at the beginning and throughout a project.

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Appendices

Appendix 1. Interview Guide

Questions were adapted to align with the role and organization of the participant.

1. What is your position at [organization]? How long have you been with the organization?
2. When did you first learn about SOAR?
    a. What were some of your initial thoughts?
    b. Did you have any assumptions about what the experience might be like?
3. For CVI Partners: How did you use data to inform your work before SOAR? How has that changed since becoming involved in the project?
4. What did you know about [network science or street outreach] before becoming involved in SOAR? What have you learned about [network science or street outreach] since being involved in the project?
5. Can you describe your role (if any) in the [weekly or bi-weekly] meetings?
    a. How do you prepare for the meetings?
    b. How do you use the information provided at the meetings?
    c. Do you engage with the [outreach workers or CORNERS team] in between meetings? If so, how?
6. For CVI Partners: Have you participated in research projects in the past, either with CORNERS or with other academic institutions? For research team: Have you participated in collaborative/community-engaged research projects in the past?
    a. If so, what were those experiences like?
    b. How do they compare to SOAR?
7. From your perspective [as a Principal Investigator, as an outreach supervisor, as part of the research team, as an outreach worker, as a victim advocate], what is successful about this project?
    a. Has being involved in the project supported your professional development? If so, how?
8. What challenges have you or your team experienced while participating in this project?
    a. Is there anything I didn't think to ask that is important for me to know?

Follow up questions for outreach supervisors:

1. Has the SOAR Project supported the professional development of your teams? If so, how? Are there specific skills that the SOAR Project has helped build?
2. Has the SOAR Project changed your team's feelings towards research partnerships? If so, how?
3. Has the SOAR Project changed the way your teams use data to inform their work? If so, how?
4. Has the SOAR Project changed the way information is shared internally amongst the team? If so, how?

Appendix 2. Codebook

Theme	Code	Description
Relationship Building	Early encounters	History of connections; Northwestern name; initial skepticism; conversations vs. note taking
	Relationship building	Mutual trust; transparency about intentions; building trust by showing utility
	Maintaining relationships	Long-term partnership; consistency
Research Design	Collaboration	Working against research-as-usual; building in time to learn how to collaborate
	Engagement	An engaged approach; requires trust/flexibility/honest conversations
	Reciprocity	Sharing information back and forth
	Networks	Network science; supporting and building on outreach knowledge and relationships
Understanding Impact	Value of data	The importance of (good) data; challenges with not up-to-date data
	Utility	Safety planning; recruitment; finding high-risk people; putting people together; immediately useful
	Sharing expertise	Validating knowledge; integrating with scientific language; visualizing information; onboarding

	Professional development	Data literacy; problem solving; communication; promotions; technical assistance
Sustainability	Iterative design	The challenges of iterative design - when do you stop?
	Individual-relationship-based	Reliant on specific personalities; interpersonal relationships
	Capacity building	Lack of capacity; team/organizational capacity-building
	Effective internal champion	Support from leadership/supervisors; answering questions and pushing project forward
Ethics	Boundaries	Loosening boundaries; drawing new boundaries; constant negotiation; normalizing tension/conflict around boundary setting; data sharing; "off-the-record" norms (to help us ask/answer questions)
	Data protection and concerns	Data sources; sharing data with CPD; privacy; confidentiality
	Initial skepticism	Research ethics; exploitation; feeling "policey"
	What ifs/ongoing issues	Reactive and proactive frameworks for handling ethical dilemmas, both internally and with partners

The Center for Neighborhood Engaged Research & Science (CORNERS), housed at Northwestern University's Institute for Policy Research, leverages the transformative power of networks to help community and civic partners build safer, healthier, more equitable neighborhoods.

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