

Data Practice for a Politics of Care

Food Assistance as a Site of Careful Data Work

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ABSTRACT

As data plays an increasing role in civic decision making, diverse organizations are facing pressure to engage in data work. The HCI community has explored both the potential of and challenges to integrating robust data practices in mission-driven organizations. At each step – from collection, to storage, to analysis, to maintenance – these organizations need to develop tools and practices that balance internal operational needs and external community priorities. This work reports on an 11 month-long collaboration with a mission-driven hybrid organization that has designed tools and procedures for collecting data that enact an ethic of care. This caring data practice is characterized by defining success through relationships, attending to the social and cultural community context, and protecting vulnerable populations through non-collection. We share the organization’s practices, analyze how they support the organization in providing care, and offer recommendations for building caring data systems.

CCS CONCEPTS

• **Human-centered computing** → *Ethnographic studies*.

KEYWORDS

data, politics of measurement, care, digital civics, design

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1 INTRODUCTION

Data is increasingly being used as a tool for decision making around civic issues [11, 39]. Despite often being perceived as neutral, data is always socially and culturally situated and the processes of data collection, management, and use, reproduce existing power dynamics and culturally based assumptions [8, 15, 17, 18, 23, 33, 36, 55, 61, 64]. Given the socially constructed nature of data, HCI researchers have begun to call for attention to how increasing datafication allows the “invisible hand” of data practices to influence outcomes and

prioritization [60]. This call becomes more urgent as data is increasingly used in both the public and private sector, creating ways of knowing and decision making around social issues that are shaped by the affordances of databases and other data tools.

Pervasive neoliberal structures create pressure for mission-driven organizations, including nonprofits, activist groups, and counter-institutions to adopt practices that are common in the for-profit world. Following this pattern, pressure to engage in data collection that promises to improve decision making and make organizations more effective has caused organizations in all sectors to collect more data than they use [45, 68]. One key mismatch between market driven and mission-driven organizations are the steep resource and capacity constraints mission-driven organizations face. Conversations around data use in mission-driven organizations contend with a tension between the opportunities data provides to increase efficiency, seek funding and resources, and improve decision making, with the reality of data work in the context of resource constraints. These constraints include limitations in staff time [51, 79], funding [6, 51, 79], and technological expertise [51, 79], creating a “cycle of disempowerment” [6]. To address this cycle, we seek to understand how data practices can be designed to embody organizational values in the context of a resource constrained mission-driven organization.

We report on an 11-month collaboration with The Office of Immigrant Affairs (hereafter referred to as Immigrant Affairs) in an urban area in the Southern US, a cabinet-level office that addresses food insecurity, housing, and other issues in the local immigrant community. Our partners did not fully fit the organizational characteristics of municipal government, non-profit, or private sector. As such, we characterize our partner as a mission-driven *hybrid organization*, a structure that blends value systems and institutional logics of multiple different sectors of society [2, 41, 58]. This hybrid organization was born of institutional bricolage [59], a term that refers to institutional situations where available resources and capacities are pieced together. While there was a level of formality afforded to Immigrant Affairs as part of the Mayor’s Office, and the services they provided could be viewed as acting on behalf of the mayor, they often chafed with other city services because of their work with non-citizens. Additionally, their funding model more closely fit with that of a non-profit as they relied on external grants for funding and participated in continuous cycles of grant applications. We conducted 28 hours of fieldwork, working alongside staff as they delivered needed services to residents and conducted semi-structured interviews with six members of the organization to gain insight into the tools and processes they employ to collect, manage, and use data.

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From our ongoing work with our partner, care has emerged as a theoretical framework that grounded the organization’s data practice. In HCI, care has been discussed as a framework for interaction primarily in healthcare [43, 70], disaster response [66, 80], making [71], and IoT [44]. More recently, care has become a perspective for understanding data practice in nonprofits and civic engagement through grassroots data collection [50, 72]. Establishing a connection between care, data, and civics reveals the potential for data to provide a place to involve community members, build civic engagement, and start conversations about important civic issues.

Borrowing from Tronto’s call to develop “caring institutions” that enable the deployment of robust care policies to the public [74], this work adds to the empirical understanding of care, data, and social services by exploring a carefully developed set of data practices deployed in a mission-driven hybrid organization and providing insights for designing data systems that align with organizational goals and values. We contribute empirical insight into the data practices of a hybrid organization, an analysis of a data system that embodies an ethic of care, and considerations for designing data systems for care.

2 RELATED WORK

2.1 Care

The concept of care as a scholarly framework is rooted in ethics but has emerged in a variety of different domains, including STS, political theory, and HCI. Ethics of care originated from feminist psychologist and ethicist Carol Gilligan in the 1980s in reaction to masculinized perspectives of moral development [32]. In contrast to dominant moral frameworks that stress logical rights or virtues at an individual level, an ethics of care prioritizes relationality, reciprocity, responsiveness, and plurality [26, 32, 38]. In STS, the concept of care has been applied as a framework to describe technological and knowledge practices. Borrowing from ethics of care, Mol analyzed technology practices in healthcare and agriculture through a lens of *logic of care*, a mode of reasoning that centers care, and introduced tinkering as a technological practice of care characterized by ongoing attention and attunement [52, 54]. The introduction of care into conversations around STS prompted some scholars to argue for a shift from *matters of concern* to *matters of care*, encouraging an approach to the study of science and technology that not only recognizes the ethical and political implications of sociotechnical systems but also emphasizes attention to the overlooked work of maintaining everyday life, an ethical and political commitment to neglected things, and personal relationships with objects [16, 46].

As a political theory, Tronto identifies care as a foundation of democratic society countering the current neoliberal order [75]. She suggests that political communities should embody the ethical qualities of care: attentiveness, responsibility, competence, responsiveness, and solidarity [75]. These values have the potential to alleviate what she identifies as a dual relationship between a caring deficit and a democratic deficit [7, 25, 48, 56, 76], highlighting the similarities between the incapacity in advanced countries to provide sufficient care, and the incapacity for democratic institutions to reflect the values and goals of its citizens [75]. Similarly, The Care Manifesto put forth by the Care Collective draws a link between

the competitive individualist ethos of neoliberal economics and the destruction of public places, arguing that the lack of public gathering space has reduced the capacity to build communities that care, directly decreasing the ability to participate in democratic decision making [13]. Beyond political theory, recent work engaging the political realities of care described how the COVID-19 pandemic laid bare the long-standing failure of existing institutions to provide care for a wide variety of social needs, including healthcare, housing, and policing [13, 34]. The politicization of care provides a compelling attunement to civic issues that contradicts the dominant methods of organizing public life in the US and presents care as an alternative organizing principle to neoliberal capitalism [13, 21, 75].

Within HCI, scholarship on care has been introduced in a wide variety of settings including healthcare [4, 43], housing advocacy [81], making [71], and IoT [44]. Data around social issues in particular has emerged as a potential site where perspectives of care seem relevant and instructive. Across these contexts, we begin to see the tactics and practices that support caring through data, whether through the tinkering tactics that emerged in the context of data collection aimed at advancing housing justice [72], or through the collective data work communities engaged in documenting code violations [50]. These collective efforts seek to use data directly as a tool to advance care within the affected communities, doing the work Bowyer et al. call for by shifting the locus of decision making from data holders to data subjects [9]. Each of these projects provides valuable insight into care as both a process and a value that guides data work, but additional research is needed to understand how the specific features of sociotechnical data systems align with an ethic of care across diverse institutional contexts.

2.2 Resource Constrained Data Work

Understanding the intersection of care and data requires attention to how institutional contexts shape data work. We are particularly interested in understanding care and data in organizations characterized by resource constraints, including municipal governments, mission-driven organizations such as non-profits, grassroots movements, and counter-institutions because these organizations face unique tensions that shape data work.

While municipalities are increasingly collecting and using data to help drive decision making and operations, that data is fraught. For example, the use of existing municipal data on private property to estimate urban distress creates a scaleable prediction model capable of extensively reproducing existing inequalities [35]. The negative impacts of such a task are exaggerated when we consider the observed unreliability of data collected by the city. Porton et al. find that court-record data on evictions is incomplete, inaccurate, and inconsistent [62]. This distorts the eviction rates, makes the data difficult for researchers to work with, and hurts renters, especially those who face marginalization from their economic or legal status. Analysis of a community partner’s struggle in obtaining data from the city reveals additional issues with city data, raising questions of access to government data and reduction in characterizing neighborhoods in Chicago [27].

For nonprofits, data presents both challenges and opportunities. Previous research has identified the use of data for making a case to funders [3], as well as the potential for accurate and reliable data

to improve decision making and increase the effectiveness of non-profits [45]. However, the challenges nonprofits face in establishing effective data practices have been well documented, specifically constraints in staff time [51, 79], funding [6, 51, 79], and technological expertise [51, 79]. Widespread neoliberalism is creating pressure for organizations across sectors to follow for-profit industry leaders in becoming “data driven,” but data practices that fit for-profit context don’t always translate to other institutions. Data work in nonprofits has been characterized by erosion of autonomy, data drift, and data fragmentation, creating a cycle of disempowerment [6]. The challenges for nonprofits in managing data work often come in the context of organizations that are chronically underfunded and understaffed, resulting in *homebrewed databases*, messy assemblages of different technological tools used to meet information needs [78].

Grassroots movements and activist organizations share similar time, funding, and expertise constraints as nonprofits, but may have unique data practices. For example, the Anti-Eviction Mapping Project, a collective based out of San Francisco, engages in “critical cartographic and feminist data visualization practices that seek to render visible the landscapes, lives, and sites of resistance and dispossession elided in capitalist, colonial, and liberal topographies” [49]. However, the use of technology in data work introduces an additional challenge to grassroots movements in aligning technical systems with movement values. Ghoshal et al. identified a tension between the values of grassroots movements and the politics of the technologies they relied on to achieve their goals [31]. One tension they identify is that while many grassroots organizations value inclusion and participation, the use of ICTs for coordinating nevertheless privileges members of the movement with technological access and expertise. D’Ignazio and Klein address similar inequalities in the context of data, calling on data feminism to “use data science to challenge and change the distribution of power” [19]. Tran et al. describe how data fragmentation results as a product of the tension between logics of care and logics of efficiency in a counter-institution, an organization endeavoring to function outside of the nonprofit-industrial complex [72]. In these distinct accounts, we find a common thread where specialized capacities to make use of technology, and to do so efficiently, run up against values of inclusion and care, prompting, on one hand, calls to radically rethink how we design those technologies from the outset [19, 31], to observing how local acts of tinkering get deployed in order to nudge systems inline with an organization’s values [72]. In each of these examples, we are shown directly how the values embedded in sociotechnical systems can support or challenge the values of grassroots movements and activist organizations.

Despite the challenges formal and informal organizations must overcome in their data work, civic data collection presents a potential productive site of community engagement [30, 42, 47, 69]. Lindley et al. encourage civic participation in a neighborhood by collecting data through multiple voting technologies in the home, on the street, and at their office, finding that participants interpreted results as indicating “homogeneity” in the community, perceiving a kind of sameness between them and their neighbors [47]. Storytelling, and dialog in particular, may provide meaningful forms of civic engagement centered around local data [30, 42]. A sense of place may also be important in organizing communities around

data. Taylor et al. emphasize the connection between data and place in a project that explores the physicality of data moving through a community [69]. We build on research speaking to the potential use of data in community building and support by examining how data work supports the work of a community-driven organization.

This project revolves around a collaboration with an organization that does not fit neatly into public, private, or nonprofit sectors but can best be described as a *hybrid organization*, one with funding from different sources and competing institutional logics [2, 22, 41, 58, 65]. Hybridity arises in organizations that simultaneously pursue “financial stability and social purpose,” requiring strategies such as compromising, avoiding, defying, and manipulating to negotiate competing external demands [22, 40, 57]. Hybrid organizations are understudied [41, 65], and there is a limited understanding of the role of data in hybrid organizations beyond the use of key performance indicators [1]. Considering the tensions that emerge at the intersection of public, private, and nonprofit institutional logics, situating our analysis within a hybrid organization provides a unique opportunity to examine how these tensions play out in sociotechnical systems that support data practices. These insights are necessary to enable us to build systems that support data work in the context of institutional tensions, which remain unaddressed despite being common in hybrid organizations and cross-sector collaborations. Building on the existing understanding of data work in resource-constrained organizations like municipal government, non-profits, and counter-institutions, this work contributes an account of data practice in an organization that does not fit neatly into these categories.

3 FOOD ASSISTANCE FROM A HYBRID ORGANIZATION

This work revolves around an 11 month collaboration with a cabinet-level office in municipal government that served immigrants in an urban city in the Southern United States. The organization was made up of five full time staff and nine community navigators, residents who were hired part-time to assist with various initiatives. Immigrant Affairs was established in 2015 to “create a connected, inclusive community” that afforded all city residents “equal opportunities and meaningfully engage in civic life, regardless of language or country of origin.” Because of the vulnerability of the population they served, we have elected to keep the organization and the city anonymous.

Despite operating within municipal city government, Immigrant Affairs often functioned as a non-profit. Officially termed The Mayor’s Office of Immigrant Affairs, they represented the agenda of the current city mayor, a position which required them to re-justify their work at the end of every four-year election cycle to align with the priorities of the incoming mayor. Despite operating on behalf of the city, the organization’s funding structure more closely aligned with that of a nonprofit, requiring staff to piece together city, state, and federal funding as well as funding from various grants. The piecemeal funding required the organization to adapt to whatever resources were available at any given time. Immigrant Affairs was forced to discontinue regular food distributions at some sites when the funding agreement supporting that specific location ended. The organization would also postpone distributions by hours or days

based on staff resources, adjust the amount of food distributed to each family based on what food was on site on that day, or offer non-food items on occasion like clothing, diapers, books or baby formula when those items were donated to the organization. The inconsistency in services reflected the uncertain nature of funding for the organization.

The COVID-19 pandemic transformed Immigrant Affairs, exacerbating many existing issues in the community including food insecurity, employment, and affordable housing. A small staff that, pre-pandemic, had worked with 100 people annually, found themselves serving 5000 people annually through a global health crisis. The exacerbated needs in the community prompted the set up of new direct services, including an extremely successful food assistance program which constituted the majority of the organizations interactions with community members during the time of our collaboration.

The central piece of our partner's food assistance program was food distribution events. The program was designed to bring food directly to residents in need by hosting food pick-up in the neighborhoods where immigrant families lived. The food distributions allowed the organization to provide direct assistance for immediate needs in the community, but they also became an opportunity to reach new residents, establish trust, refer families to additional resources, and to speak one-on-one with residents on a regular basis. Staff viewed food distribution as an effective way to build relationships that enhanced capacity in the community to navigate a system of resources that is often opaque and can be particularly difficult for immigrant families to take advantage of. We build on previous work calling for the democratization of food systems [63] by naming food as a site of political action and posing the work of providing food as one of providing care.

4 METHODS

In order to better understand the data practices of a mission-driven hybrid organization delivering social services within a Southeastern city, we deployed a qualitative approach that utilized ethnographic fieldwork practices and focused semi-structured interviews with key informants among organization staff. Over 11 months, we engaged in 28 hours of field work, observing procedures and interactions between staff and community members at food distributions. We chose food distributions as the site of ethnographic work because it was the predominant site of data collection in the organization and provided a visible aspect of the organization's data work. Observational data was recorded as abbreviated notes or jottings that were later used to construct full descriptive field notes [28]. In addition to fieldwork, we conducted a series of semi-structured interviews and one focus group with six staff members. Three semi-structured interviews were conducted with individual full-time staff members who played diverse roles in the collection, management, and use of data in the organization. Interviews were aimed at uncovering detail about aspects of data practice that were not observable at food distributions, including the work of managing, analyzing, and using data, the development of data practices over time, and staff's perception of the role of data in the organization. Additionally, we conducted a focus group with three participants: one full time staff member, one community

navigator, and one intern. We chose to host this session as a focus group rather than an interview based on the recommendation from Immigrant Affairs to overcome a language barrier between the first author and some members of the staff. The focus group allowed us to hear from members of the organization we would not have heard from otherwise. Because the study aimed to understand the work of data practice in the organization, we chose to focus on experiences and perspectives within Immigrant Affairs and not the experience of the residents who were provided with food assistance. Additionally, by focusing on staff instead of residents, we avoided increasing barriers to access or undermining the trust developed between Immigrant Affairs and neighborhood residents receiving emergency food assistance during a crisis. Directly questioning residents about the data they were asked to share risked creating unease around data sharing and developing distrust in staff.

We used an inductive thematic analysis to analyze field notes and interview transcripts with the goal of producing a rich description of the organization's data practices [10]. Our initial analysis resulted in six themes: limitations of organization, community context, interface, actions taken, seams and mismatch, and organization goals. The first author also carefully memoed to record personal reactions to the data as the inductive coding analysis was performed. Informed by initial themes, memos, and conversations among the authors, we refactored our analysis to better capture the design decisions that were made in the data system to connect with and protect residents. The six themes developed in our initial analysis indicated factors that influenced the design of the organization's data practice, including *resource constraints*, *community context*, *organizational goals*, and *external goals*. Additionally, the memoing process highlighted the level of care and intention taken to protect vulnerable populations, these characteristics stood out as a foundational point of their data practice. At this point in the analysis, we returned to the literature around several different points of connection including theoretical work on care [50, 72, 75], seams in knowledge practice [77], the politics of measurement [60] and scholarship looking at alternative food networks [63]. This existing body of work informed a final iteration of analysis on the rationale behind and impact of specific features of the data system. Connecting the conversation to care allowed the authors to identify key features of the sociotechnical system that characterized Immigrant Affairs' data practice and embodied an ethic of care, including a procedural attention to individual needs and resistance to over-collecting data about vulnerable populations.

5 THE WHAT AND HOW OF CAREFUL DATA PRACTICES

The technological tools and social practices developed by Immigrant Affairs constituted a *careful data practice*. By this we mean a unique data practice that embodied an ethic of care by centering interpersonal relationships and displaying virtues associated with care, including attentiveness, responsibility, competence, responsiveness, and solidarity [32, 75]. While staff did not explicitly characterize their data practice as "care", their emphasis on building and maintaining "trust" (P2, P3, P4) with community members, "protecting" (P1) vulnerable populations, and providing needed material resources (P1, P3) nonetheless presents an orientation to care as

defined by Tronto and other ethics of care scholars [32, 75]. Our observations in the field and conversations with staff revealed three main activities that shaped careful data practice in the organization: *choosing what to measure, collecting data in the field, and using data to provide care*. Within these activities, we unpack careful data work in a mission-driven hybrid organization with attention to data practices that prioritize relationships, protect vulnerable populations, reflect ongoing tinkering, support individualized care, and balance short term needs with long term structural change.

5.1 Choosing What to Measure

I'm placing two packages of "cheesy taco skillet" into an empty box held in the hands of a resident when P3 catches my attention. She is standing off to the side with a woman wearing a fitted flowery dress. The woman holds her phone near P3's ear. She is part way through the intake form protocol, asking for an estimated income. There's a woman on speakerphone, I can hear her talking through the phone, though I can't hear how she is answering P3's questions. When P3 asks whether the speakerphone person is married or single, there's a loud laugh out of the speaker along with a response that is unintelligible from this distance. P3 tells the woman not to worry, she will record "unknown" as a response to that question. August 2022.

There were representatives from CORE at the distribution today offering healthcare services and vaccinations against COVID-19. P1 tells me that this is the first time CORE has been at a food distribution event but he has been working for weeks to build foundations by telling people about the services they provide and handing out flyers about the organization. He says it takes a lot of time to build trust like that and get the community aware of what kind of services there are. November 2021.

Immigrant Affairs carefully and iteratively crafted data collection instruments that collected essential information while defining success through relationships, aligning with funder information needs, and protecting residents through non-collection. The data system utilized two main survey instruments, the intake form and the assistance record. The intake form recorded basic demographic information, including resident name, birth date, household size, income, primary language, country of origin, impacts of COVID, and neighborhood. Data collected on the intake form allowed the organization to characterize the communities they work with and to measure the impact of provided services within subsets of the community. The intake form was supplemented by the assistance record, which tracked the services Immigrant Affairs provided residents over time. The assistance record documented the name of the food provider(s) sponsoring a food distribution along with other services such as providing vaccinations, baby formula or diapers, or legal advice.

The data collected at food distributions reflected choices our partner organization made about what to measure that defined success through relationships, enacting an ethic of care [26, 32, 38]. The majority of data collected by Immigrant Affairs was aimed

at tracking the number of people served. This metric was used to measure the organization's impact and to justify continued funding for their services, a necessity given the increase in data-driven decision making [6, 37]. The decision to measure the number of people served reinforced the primary goal of food distributions, to create an opportunity for face-to-face interaction between Immigrant Affairs and residents to build relationships with the community.

By structuring and evaluating their work through direct interactions in the community, Immigrant Affairs defined success through the lens of relationships, embodying an ethic of care [32]. Metrics describing the number of people served were augmented by including a measurement of household size on the intake form. By including this metric, the organization looked beyond their relationship with an individual resident and demonstrated an awareness of the relationships within the community – how individual residents are connected to their families and support systems. Again, this remains aligned with a feminist ethic of care that poses ethical systems around human relationships [26, 32, 38]. The organization's data practices created a sociotechnical system that helped them build relationships and measure connections in the community. The value Immigrant Affairs placed on relationships with community members was embodied in their data practices by choosing success metrics that highlighted personal connections.

Immigrant Affairs was so effective at building relationships with immigrant families that their access to the community was the basis of frequent collaborations with other mission-driven organizations that sourced food, provided healthcare services, and engaged in advocacy work. As with their partnership with Community Organized Relief Effort (CORE) to offer COVID-19 vaccinations at food distribution sites, these organizations provided services that would benefit immigrant communities but struggled to reach a vulnerable population that is often wary of service providers. Staff at Immigrant Affairs understood the trust they had developed with the community to be an important but fragile aspect of their work because it allowed them to either facilitate or encourage community members to access essential services. That trust is an important aspect of Tronto's notion of caring with, an aspect of the ethical quality of solidarity required in the context of democratic values like justice, equality, and freedom [75].

While tracking the number of people served addressed the organization's central goals, other data points were collected to establish alignment with external partners. The intake form incorporated the information needs of external funding sources, which sometimes required the collection of specific information that may or may not have aligned with the organization's information priorities. For example, a significant source of funding came from a grant aimed at supporting victims of crime. Their financial support necessitated a record of when residents disclosed that they have been a victim of crime, an experience that might have come up when the residents spoke one-on-one with the community navigators during food distributions. By recording when people reported crime, Immigrant Affairs aligned the gap between their own data practice and the data needs of external funders in a way that allowed them to continue receiving funding that provided care for community members.

Despite aligning the intake form with the victims of crime grant information needs, the organization maintained a misalignment between data collection and crime reporting. When crimes were



Figure 1: Scenes of data collection at food distributions: 1. A community navigator holds the iPad she uses to access Charity Tracker. 2. Two members refer to iPads as they speak with residents at the front of a line that has formed in a local park. 3. A community navigator stares at Charity Tracker on her phone as another woman sits next to her at a picnic table

disclosed they did not automatically report it to law enforcement but provided resources to the victim, allowed the resident to choose whether they want to pursue legal action or not, and supported the resident in navigating the legal processes to do so. Maintaining separation between Immigrant Affairs and law enforcement protected residents from what could be a burdensome and potentially re-traumatizing process of legal action. Tronto describes "protection" as caring labor that may not always be considered traditional care, but nonetheless constitutes a social service of care [75]. In these cases, decisions about what data to collect required a careful balancing of different stakeholders information needs and the goal of protecting vulnerable populations.

Immigrant Affairs also protected vulnerable communities by choosing to forego certain types of data collection. In contrast to many nonprofits that have been found to collect far more data than they use [68], the organization designed a lean data practice that minimized burden on staff and residents. Most notably, they did not collect any indicators of citizenship status, including social security number, driver's license, or other formal documentation. The first factor in this decision was the awareness that all of the data the organization collects is subject to the Freedom of Information Act (FOIA) ¹. Because Immigrant Affairs operated out of the Mayor's Office, all information would be required to be made available to be inspected by the public upon request. Though they indicated that resident citizenship status would have been an valuable piece of information, staff members reported a desire to "ensure that nothing would actually put the people that were serving in jeopardy" (P1) expressing awareness of potential risks to vulnerable populations through data collection and resisting causing potential harm. The second factor in choosing to omit collection of citizenship status was informed in part by the observation that other organizations who asked questions about citizenship status were likely to deter a large portion of the population from requesting services in order to avoid disclosure of sensitive information. Comparing their data practice with the data collection of other service organizations, staff reported that they "try to be as mindful as possible to not collect data that's going to just intimidate people to just even seek

services" (P1). Our partners never asked about immigration status until it became necessary to determine whether to refer them to an external service that requires citizenship for eligibility. Even then, Immigrant Affairs would not record that information. By avoiding requesting or recording immigration status, the organization protected community members from disclosure and lowered barriers to accessing food. Within the context of institutional bricolage that resulted in data vulnerability via the Freedom of Information Act, the organization adapted its data practice to avoid harm to the community they serve.

5.2 Collecting Data at Sites of Food Assistance

A man arrives in a red car, pulling up next to the tent. He hands the community navigator a piece of paper, lined and torn from a notepad. Written in red pen is a list of five four digit numbers separated from a first name with a dash. While the man loads his car up with five boxes, the community navigator taps the case numbers into her phone to add the assistance record to Charity Tracker. I ask the community navigator what the paper is. She gestures to the man to indicate he brought the list. "He's picking up for five families." August 2022.

When I arrive at the distribution today, there are community navigators and volunteers as usual, but no staff are present and many of the food items have not yet arrived. People are lining up, but no one is able to check them in without the iPads. I'm speaking with Stephanie, a master's student interning with Immigrant Affairs, when one man breaks out of the line to ask if he can get his food dropped off at his house. Stephanie explains that we can drop the food off at his house, but he needs to wait until the iPads arrive so that he can give his information to check-in. He can't stay and wait. Stephanie writes his contact information on a digital note in her phone. She will add his information to Charity Tracker once the iPads arrive someone will drop a box of food off at his house at the end of the distribution. February 2022.

¹A federal law in the United States that requires disclosure of information controlled by a public authority upon request.

Our partners used Charity Tracker, a HIPAA² compliant database designed for non-profit organizations, as its primary data collection tool. According to staff, Charity Tracker was chosen primarily because it was the most affordable platform that met the organization's information needs. Another major factor in choosing Charity Tracker was its perceived maintainability. One interviewee noted that many of the data management systems they considered were designed and priced for large organizations with thousands of staff. Immigrant Affairs had five regular staff members and nine community navigators, so the scale of most existing solutions was impractical and unnecessary for their needs. Notably, the organization's use of a single commercially available data management tool differs from typical non-profit work, which other researchers have characterized by the appropriation of a wide variety of tools in messy assemblages or "homebrewed databases" [78]. Our partner struggled with the same staffing and resource constraints as nonprofits [78] and counter-institutions [72] described by other researchers, but their data practice was formalized by a single primary database tool.

Immigrant Affairs' data system was designed in parallel with the food assistance program, both being responses to significant increases in need during COVID-19. Because food distributions were created to provide support at scale and serve as an introductory interaction with Immigrant Affairs, these events served as the ideal spot for the majority of data collection in the organization. Staff members expressed to us that while providing food to residents in need was an important aspect of their work, the primary goal of food distribution was to create opportunities for connection with the community. The organization built connections with residents around food in a way that acknowledges, reinforces, and values food as a social practice deeply linked to community and collective action. Choosing to collect data at these sites set the stage for a data practice that is deeply connected to interpersonal community relationships.

Data was primarily collected by community navigators, a process that was intended to foster trust with residents. Community navigators and staff were trained to facilitate the intake survey in a way that was comfortable and familiar to build rapport, encourage information sharing, keep residents comfortable, and establish trust. Full time staff encouraged community navigators to be the primary data collectors as residents were often more comfortable sharing information with peers and the community navigators were equipped to interpret their responses based on shared experiences. This practice echoes previous research highlighting the unique ability of peer mentors to build trust and support in community-based mentorship in vulnerable populations [20].

iPads owned by Immigrant Affairs and staff's personal smartphones were used to enter intake forms and assistance records at the food distributions. All residents were asked to check in with a community navigator before taking any food, as in each case presented at the beginning of this section. When the organization first started tracking assistance records, they did not maintain a strict practice of recording each attendee and would often let people who arrived late or people they recognized grab food towards the

end of the distribution without checking in. However, this made it impossible for them to report the number of people served by any distribution and so they implemented the policy that every person must check-in so that they could ensure consistent data collection. This policy also ensured that each person who attended the distribution would receive one-on-one attention from staff, which provided an opportunity for Immigrant Affairs to build relationships with individual community members, keep a pulse on the community, and provide additional resources or care beyond food security. The procedural individual attention provided another example of the emphasis on relationships that echoed an ethic of care and underpinned the organization's data practice.

First time attendees who had never had contact with the organization were asked to complete an intake form, after which the person was assigned a case number which could be used to track that individual's data record. Staff were very clear that they would not require any information to be given for an individual to get food, but for residents who agree to respond to questions on the intake form, answers to each question were recorded on Charity Tracker using an iPad by a community navigator. The community navigator asked the resident each question on the form and recorded their answer from a list of drop down choices. Every question on the form was mandatory, but the drop down questions included an option for "unknown." This design forces the community navigator to attend to each question while still providing an option to decline to respond to any question. Borrowing from Tronto's ethical qualities of a caring democracy, consistently verbalizing every question on the form demonstrated a procedural *attentiveness* by creating an opportunity to "notice unmet caring needs" [75].

After a resident completed the intake form, or if they were a returning resident who attended a distribution and completed an intake form previously, a community navigator searched for the resident's case using their case number or phone number. If a resident wanted to collect food for multiple families, they would be asked to provide case numbers or phone numbers to identify each family receiving food, as did the resident who came prepared with a list of case numbers from five different families written on notebook paper. After the community navigator located the resident case, they added an assistance record, which tracked what kind of service the resident received that day. The mechanism for searching up an individual resident was iterated on over time. Staff first used names to look up residents, but they struggled with duplicates, nicknames, and misspellings. Next, staff asked residents to remember their case numbers so the community navigator could use that ID to look up the case record. This was problematic because many residents struggled to remember their case numbers over the two weeks that pass between most distributions. In response to this, staff sent barcodes to resident phone numbers so that they could search for the resident file by scanning the barcodes. This attempt was unsuccessful because of technological limitations; the iPads were unable to scan barcodes in the sunlight at distribution sites. Finally, Immigrant Affairs decided to search for the residents using their phone numbers, which are unique and persistent identifiers that were more easily remembered by residents. The iterations in data procedure indicated a practice of persistent *tinkering*, an attunement to the responses of care-receivers that identifies new

²The Health Insurance Portability and Accountability Act, A US law passed in 1996 establishing standards to protect sensitive patient health information.

needs and re-opens the practice of care to address new needs as they arise [53, 75].

The continuous tinkering of Immigrant Affairs was supported by the practice of placing community navigators on the front line of data collection, which helped the organization iterate on data collection tools by responding to social and cultural cues. For example, when staff observed confusion from their target population in responding to likert scale questions, they recognized cultural unfamiliarity with the question format. They responded by replacing likert scale questions with binary yes or no options that were more clear to residents. Other times, recommendations from community navigators administering data collection resulted in a tension between a logic of care and logic of efficiency [72]. The original version of the intake forms asked residents to provide their current age, which was felt to be a less intrusive request than asking for a resident's birth date. However, maintaining data around age created significant administrative work that drained resources from the organization. Despite the perceived intrusion, staff ultimately chose to request birth date instead of current age to avoid the need to continuously update the field and resolve data issues created by fluctuating fields, prioritizing efficiency. Though the likert scales and birth dates were not resolved in the same way, both decisions highlighted the organization's approach to improving their data collection processes through ongoing tinkering and careful observation as they negotiated tensions between efficiency and care.

5.3 Using Data to Provide Care

"Where's the food coming from today?" I ask P3. This is the same question I ask at every food distribution. Today the food is sponsored by a local Synagogue. The Synagogue contracts with Garcia Foods, a food distributor that specializes in ingredients found in Mexican cuisine. The Synagogue has also sent six volunteers, who ask me lots of questions about my studies as we carry 50 lb boxes of tortillas from the truck to the open space in front of a Supermercado. It's hot. At the end of the distribution, P3 will be able to share how many people received food assistance from the partnership with the Synagogue. November 2021.

"And then also then when the funding is up in two years and we're writing our review in our application...The more data that you have is the better." (P2).

P2 told me about the organization's response to refugees from Afghanistan in 2021. The coalition was writing a letter proposing a strategy to the federal administration. Looking at data from ARC and IRC, P2 found that the policy would be more influential for a neighboring city, so then they worked with them to talk about what the impacts would be. Ultimately staff recommended that the mayor support the policy and both cities signed the coalition letter indicating support. November 2021.

Our partner organization utilized the data they collected through careful tracking of resident action in a myriad of ways, all of which were intended to increase capacity to serve residents. The use of

data for funding, casework, and advocacy allowed Immigrant Affairs to attend to, take responsibility for, and competently serve neighborhood residents [75].

5.3.1 Funding. One of the primary reasons for collecting data was to provide supporting evidence of community needs and organization impact when applying for funding. This required labor around aligning information needs of different organizations. In the previous section we described how data collection was robust to the information requirements of the Victims of Crime grant, allowing the organization to report back to funders and secure continued support. Other times, the organization aligned requirements from different external funders to use the same data for multiple purposes. For example, the information they collected for the data requirements of CARES³ funding was later used to apply for funding from ARP⁴, "working hand in hand...to benefit future programs (P1)."

The value the organization placed on data for enabling funding reflects a growing use of data in decision making and increasing pressure for nonprofits to provide metrics that validate their impact [37]. One staff member reported that the most powerful piece of data is being able to share the percentage of people in a community that are facing a common problem, such as evictions or health complications. Charity Tracker allowed staff to download summary reports based on location, time, and demographics, which staff strategically combined with elements of storytelling to create compelling grant applications. Interviewees reported that it was important not to just share numbers but to tell a story about the organization's previous and potential impacts in a specific community. This observation aligns with previous findings that show nonprofits building narratives around data that build a case for support from funders [29]. Crafting this narrative was a way of aligning Immigrant Affairs' mission with the mission of the fund-granting agency.

The production of data was directly related to the organization's ability to provide services and material relief to communities struggling with food insecurity. All the labor that went into applying for funding, including data collection, analysis, and storytelling, resulted in resources that afforded food for the community and supported other services offered by Immigrant Affairs, such as legal counsel and employment of community navigators. In this way, securing funding allowed the organization to competently provide care for residents [75]. Data collection was an essential step to applying for funding and was ultimately an important part of the way that Immigrant Affairs set itself up to provide care.

5.3.2 Individual Cases. Another use for the data collected at food distributions was to enable follow-up and continuous service to individual residents. As all staff had access to the data on Charity Tracker, staff passed individual resident information including the responses to the intake form, the assistance records, and any case notes between themselves by referencing the case number. The ability to track a single case through the organization indicated a willingness to take responsibility for a noticed need [75]. The case

³The Coronavirus Aid, Relief, and Economic Security Act, a 2020 federal economic stimulus bill worth \$2.2 trillion.

⁴The American Rescue Plan, also known as the COVID-19 Stimulus Package, a \$1.9 trillion economic stimulus bill passed in 2021.

number allowed the organization to transfer responsibility between individuals trained to provide specific types of care, providing an affordance for the organization to invest in ongoing care-giving. The organizational memory afforded by the case number enabled care-giving to be an ongoing process. In her description of *caring institutions*, Tronto warns against organizations that regard care as a commodity because that perspective poses people as consumers of care, incorrectly implies care is a scarce zero-sum resource, and removes the right from care receivers to make judgments about their own needs. For Immigrant Affairs, the case number affords the organization the ability to follow an individual's needs through-out a process of giving care, rather than reducing care to a single transaction.

When a resident was in need of a service the organization did not provide, they occasionally shared summaries of an individual case record with outside organizations that specialized in providing particular services, like rental assistance or legal aid. This practice was used to supplement the limitations of time and expertise available within the organization. When staff identified another organization that could help that resident, they could send the information they deemed relevant to outside organizations so that service providers could do their work without burdening the resident with repeated requests for information. Staff viewed their role as a mediator between service providers and immigrant communities who were often unfamiliar with navigating social services in the US as a particularly important part of their impact in the community. The ability to judiciously share information with external service providers expanded the organization's capacity to meet community needs and protected residents from intrusive applications or information gathering systems. While the organization's standard data procedures prevented information traveling outside the organization, they were able to bridge that gap through additional labor when they chose to in order to provide better care and attention to an individual case. In these cases, the ability to refer a case to an external service provider when needed emphasized the personal nature of their relationship with residents and a recognition of a need for institutions to provide individualized care [26, 32, 38, 74].

5.3.3 Policy. While not considered a primary goal of data collection, our partners used data collected at food distributions and data from other sources to advocate at a federal level for policy to benefit local immigrants. Immigrant Affairs was part of a coalition of Mayor's offices across the country that together advocated for policies that impacted immigrants and immigration at the federal level. Coalition members wrote memos advocating for policies that would benefit immigrants in their cities, then directed the memo to other coalition members for additional support. However, because these policies were locally specific, it was not always clear if they would benefit immigrant communities in the city where our partners operated. In order to determine which policies the Immigrant Affairs would support, they used open data resources from the city and an international humanitarian organization to evaluate the impact a proposed policy would have in their city.

Advocacy work represents a longer term form of providing care, and a way of working towards structural change for the future. Generally, the organization worked within existing institutional

systems to support residents. However in advocating for policy they used data to support structural change that could benefit the community beyond residents they were in contact with.

6 DISCUSSION

Many organizations have responded to the increasing value placed on data in current civic decision making by engaging in data work. Despite the many potential pitfalls enumerated by HCI researchers observing resource-constrained organizations engaging in data work – including loss of autonomy, data drift, and fragmentation [5, 6, 72] – data practice at Immigrant Affairs does not match these characterizations. Instead, the organization's data practice reveals a political orientation to care, a thoughtful management of tension in a hybrid organization, and implications for designing data systems for care.

6.1 Data for a Politics of Care

Where care has emerged as a political framework [12, 75], HCI researchers have already identified data as a potential agent of political care, asking “how democratic caring might be enacted and sustained through collaborative data work” [50]. We contribute to this conversation by exploring a case where the ethical qualities of care – attentiveness, responsibility, competence, responsiveness, and solidarity – were enabled by a sociotechnical system at an institutional rather than grassroots level [50]. Our work speaks to the ability of caring institutions [74] including hybrid organizations [41, 58] that function through institutional bricolage as potential contributors to a caring democracy.

Data practice provides a place where the contours of a sociotechnical system enable visibility into the organizational orientation to care. Measurement and quantification is inherently impersonal, reductionist, universalizing, and colonizing [24, 60], but the data practice of our partners demonstrates nuance, flexibility, and socio-cultural awareness. We do not argue that the organization has overcome the inherent biases and value judgments that are produced by measurement, but rather that the organization's data practice has been formed through a careful attention to the politics of measurement, and that in both the design of the technical tools and social practices that facilitate data collection, storage, management, analysis, and use, Immigrant Affairs has carefully designed a system that enacts a politics of care. Where Pine argues that politics are inevitably imbued in data systems [60], we argue that the political stance embodied by Immigrant Affairs is one of care.

Our partners created a system comprised of technical tools like the intake form and assistance record paired with social practices like data collection that allowed the organization to enact each of the ethical qualities that embody the process of care [73]. By developing procedures requiring each resident to check-in before taking food and requiring responses to all questions on the intake form, the organization formalized *attentiveness*, allowing them to notice and track unmet caring needs. That attentiveness allowed the organization to accept *responsibility* for individual and community needs. Their data practice they demonstrated *competence* in the work of actually providing care, whether through sharing case files within the organization, sharing summaries of a case with external service providers, protecting vulnerable residents through

non-collection, or using data to advocate for long term change. They also demonstrated *responsiveness* in their data work, iterating on the design of tools and practices as they continued to work with the community. Notably, this responsiveness required a high level of cultural awareness, for example responding to resident unfamiliarity with likert scale questions by replacing the likert scale with binary response options or omitting intake form questions when individuals show resistance to sharing specific information. Tronto adds a final ethical quality of care, *solidarity*, for thinking about care on a societal level, as is necessary to pose care as a political framework [75]. Our partner organization exhibited solidarity by prioritizing relationship building throughout their data practice, placing peer community navigators at the forefront of data collection, and choosing metrics of community ties to measure success.

6.2 Tensions in Institutional Logics

Hybrid organizations are characterized by competing institutional logics [58], negotiations we observed as Immigrant Affairs worked to maintain an orientation to care within the context of broader institutions. Sitting somewhere between municipal government and a non-profit, Immigrant Affairs faced tension between varying expectations for data collection, management, storage, and a need to balance immediate community needs with long term structural change. Conducting our research in an organization that defied categorization highlighted institutional factors that shaped data practices.

First, Immigrant Affairs was beholden to different types of institutions with data requirements that may or may not have aligned with the organization's information needs. The organization's status as an office of municipal government carried a unique set of entanglements including the need to produce financial records for audit and potential data vulnerability to the Freedom of Information Act. The information needs of the city government were sometimes in conflict with the organization's ability to provide care to residents. Compliance with FOIA created a data vulnerability that prevented the organization from collecting information with the power to do harm, like immigration status, even where that data would have helped the organization. In this case, protection as care was privileged over data collection within institutional constraints of federal law. Meanwhile, the organization was also beholden to funders who required the organization to report specific metrics. Expanding data collection to meet the requests of many different potential funders could quickly stretch the imposition on resident privacy, jeopardizing the development of trust between the organization and the community. Ultimately, the information needs of funders were sometimes prioritized over surveillance and extraction concerns, resulting in the collection of information with rhetorical value only, like the impacts of COVID-19 on the community, a metric that helped staff tell a compelling story about their work in grant applications, but that was not used to improve services. Though the organization limited expansion of data collection by reusing metrics for multiple grants wherever possible, the negotiation of these tensions contended with power dynamics between staff and vulnerable residents, the force of the markets on mission-driven resource-constrained organizations, and the coexistence of

extraction and care. Because these tensions were not uniformly resolved, ongoing negotiations between institutional logics allowed for a data practice that simultaneously defied and complied with market forces, disrupted and maintained power hierarchies, and intertwined data production with the ability to provide care.

Secondly, the organization's data practice developed out of tension between meeting immediate needs and building groundwork for long term support. The pandemic found counter-institutions and mutual aid groups responding to long-standing systemic challenges and inequities exacerbated by a public health crisis. For resource-constrained organizations, the desire to push for structural change needed to be balanced with meeting immediate needs in the community [67, 72]. Many nonprofit organizations face pressure to provide measures of impact and performance to funders [6, 37]. The rapidly increasing scale of the communities Immigrant Affairs worked with created additional pressure for the organization to become more data-centered in order to manage information at a broader scale. The abrupt increase in scale of work during the pandemic also prompted the organization to invest time into creating data practices that would allow them to sustain their emergency services. Diligent data collection throughout the pandemic allowed Immigrant Affairs to make data-informed claims about their impact in the community. Those data-informed claims in turn strengthened the funding requests that allowed the organization to continue offering food assistance. Consistently asking new residents about the impact of COVID on their family's employment and health further allowed the organization to describe lasting impacts of COVID to a wide variety of funders seeking to provide pandemic relief, even years after the onset of the pandemic. Furthermore, the relationships that were built between Immigrant Affairs and the community during the pandemic remained as the organization shifted away from crisis-mode to sustaining services for the long term and advocating for structural change.

6.3 Data Systems for Care

The challenges and successes of a hyper-local service provider's careful construction of data practice that protected and served community members highlights considerations for designing data systems for care. Through our collaboration with our partner organization, we observed several attributes that shaped caring data work. Prioritizing inclusivity over usability, minimizing impact on resource-constrained organizations, and resisting quantification contributed to a data system for care.

6.3.1 Inclusivity over Usability. The organization's data work was facilitated by a service staff agreed was not "friendly to use." To create a data system for care, the organization developed data tools that maximized inclusivity despite being difficult to navigate and read.

For example, they expanded the accessibility of Charity Tracker by writing out English and Spanish versions of all their questions in the form. Having a bilingual form allowed the organization to hire people who were not proficient in English, further serving the neighborhood by providing jobs and strengthening trust building and communication efforts. The workaround made the form harder to read and use, yet supporting linguistic diversity was taken as a vital feature to be implemented at the cost of traditional usability.

Similarly, the organization used Charity Tracker on smartphones and iPads in the field despite the platform not being designed responsively. Though the program was difficult to read and use on these mobile devices, the organization prioritized the needs of residents with limited mobility by choosing tools that allowed them to bring their work into the neighborhoods, collecting data at the site of food assistance.

Lastly, inclusivity in this context required a social and cultural awareness. Our partner organization found that the likert scale question format was not familiar to their target audience, so they removed likert scale questions. Though the organization lost the nuance likert scale questions afford, the resulting tools were more culturally inclusive. Data systems for care should be aware and responsive, a flexibility that requires attunement to the social and cultural context of data collection [60].

More broadly, data systems for care privilege inclusivity over usability. Considering that inclusive affordances look different for different communities [14], our partner organization prioritized the protection of safety and trust with community members over smooth user experiences for their own staff. Data systems for care prioritize supporting linguistic diversity, designing responsive interfaces, and minimizing internet and battery demands over creating intuitive interfaces. This counters traditional design narratives stressing the importance of user-friendly navigation and even legibility.

6.3.2 Usability in the Context of Resource Constraints. While Immigrant Affairs privileged inclusivity over usability, the unintuitive design of the platform was a drain on the limited resources of an organization that faced constraints in time, funding, and expertise [78].

The organization's use of Charity Tracker was limited by the capacity they had to train new staff and community navigators on the system. Unintuitive design was especially challenging in an organization that did not employ technology professionals. Adding an additional barrier, forms in Charity Tracker were not even available to edit by staff; the service required the organization to call customer service to request a new form to be made.

Recognizing common resource constraints uncovers needs for data systems to be used in this context that go beyond offering inexpensive services. Because many non-profits operate under piecemeal and inconsistent funding, there is a need to explore business models that can accommodate grant funding cycles, or can bear flexibility for organizations that can spend more at some times than others. The limitations on staffing highlight additional needs for small companies. Many data management platforms are built for large scale teams, but organizations facing resource constraints need something more lightweight that minimizes administrative and management work. While inclusive design may be more prioritized over usability, the platform needs to be accessible enough to minimize onboarding and training time for staff. Data systems for care should minimize demands on staff time to make effective data use accessible for diverse types of organizations. In the context of resource-constraints, developing usable data systems expands the kinds of organization that can access data systems for care.

6.3.3 Resist Quantification. In line with Dourish, we question the reduction of context inherent in measurement and call for data systems that resist quantification [24].

Despite engaging in data work, the affordances of our partner's data system presented efforts to limit reduction through measurement. One way they did this is by limiting data collection to the minimum information requirements. This counters the tendency of nonprofits to collect more data than they have [68], as well as the prevailing of logic of big data – that more data is always better. Their goal was not to capture and quantify every aspect of the community, but rather to use data to provide quantitative support for compelling stories about the community and their role in it. In line with this, Immigrant Affairs used the experiences of Community Navigators to help interpret stories around data they collect. Not only did this practice resist quantitative reduction, but it also acknowledged the ties between data production and physical and social geographies [69], and provided an opportunity for community members themselves to be active participants in the analysis and interpretation of data collected from their peers.

The affordances of the technical tools that facilitate data collection resist quantification in their own ways. First, the organization used both quantitative and qualitative data fields. In particular, the ability to add qualitative case notes opened the ability for staff to provide context and individual needs. Additionally, requiring answers to all the questions on the intake form but allowing staff to choose “unknown” from among possible answers provides people the right to refuse data collection and permits staff to regularly forego data collection at their discretion. This allowed the organization to prioritize attentiveness, trust, and relationships over quality data collection.

While we agree that data systems are an inherently colonialist, actively resisting quantification wherever possible allows the organization to prioritize care. Data systems for care recognize the limitations of quantification and do not impose themselves on the subjects of data collection. They are open to flexibility in data collection, cater to the need to acknowledge but skip sensitive questions, support diverse voices in storytelling around data, and forego data collection wherever possible.

7 CONCLUSION

This paper reports observations from an 11-month collaboration with a mission-driven hybrid organization that has intentionally designed data practices that help them provide care for local immigrants. We contribute a description of data practice in a mission-driven hybrid organization, an analysis of a data system that embodies an ethic of care, and considerations for designing data systems for care. Our work reveals how the organization's data practice enacts a political orientation to care and demonstrates a thoughtful management of institutional tensions. Our partners' development of a caring data system reveals considerations for designing data systems for care. We recommend aligning data with a politics of care by prioritizing inclusivity over usability, minimizing burdens on resource-constrained organizations, and striving to resist quantification.

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