Dilemmas in Mutual Aid: Lessons for Crisis Informatics from an Emergent Community Response to the Pandemic

In response to the COVID-19 pandemic, networks of community organizers and activists mobilized to support their neighbors as part of mutual aid groups across the United States. Emergent community response is a common phenomenon during crisis, but mutual aid in the pandemic took on a distinct character, drawing on traditions of political and community organizing. Our research into these activities suggests that mutual aid organizing in relation to disaster is growing practice but remains evolving and contested. Drawing on interviews with organizers of mutual aid groups in New York, we identify a series of four dilemmas that mutual aid organizers encountered in their work, with impacts on their organizational strategy and technology choices. We then raise three implications for crisis informatics to support community response to disaster: taking a long view of crises, centering questions of equity, and adopting a transformative vision of emergency response.

CCS Concepts: • Groups & Organization Interfaces → collaborative computing, computer-supported cooperative work; Social Issues

KEYWORDS

Crisis informatics, mutual aid, COVID-19, disaster response

1 INTRODUCTION

Beginning in March 2020, neighborhoods and community groups across the United States mobilized in response to the devastating impacts of COVID-19. Citing the principles of "mutual aid", emergent networks of volunteers and organizers worked to channel resources to people impacted by the pandemic. Much of their organizing was virtual, enlisting platforms like Whatsapp, Slack and Google Forms, given social distancing requirements. They created complex workflows to redistribute millions of dollars in cash, groceries, personal protective equipment (PPE), information, and emotional support. In this paper, we look at mutual aid activities within New York City. At the time of writing, the impacts of COVID-19 in New York and the mutual aid response are both ongoing and evolving. This study draws on 15 semi-structured interviews with organizers of mutual aid groups in New York during the spring and summer of 2020 to identify new directions in crisis informatics research and design.

Crises draw communities together. Contrary to popular mythology about disasters, decades of research in disaster studies have shown that most people, most of the time, behave calmly and altruistically during emergencies [50]. The drive to aid each other during disaster, though widely documented, is often discounted in formal planning around crises, in part because its informal character makes it so difficult to account for. Though crisis informatics has examined these activities, and the creative ways that communities use technology to meet the demands of emergencies [37], the field has not yet specifically examined activities framed by its participants as *mutual aid*. In this paper we argue that the principles and practices of mutual aid are distinct from other forms of community self-help or volunteer response during disaster, and that they address several areas of concern to our field.

Mutual aid has a long and contested history. Though the term is ascribed to Peter Kropotkin [25], a 19th century Russian geographer, the activities it describes are in some ways universal across human cultures. The contemporary mutual aid movement in the United States often draws inspiration from recent manifestations, such as the organizing work of the Black Panther Party in the 1960s, the response of LGBTQ groups to the HIV/AIDS epidemic, and the disability justice community [51]. Mutual aid groups responding to COVID-19 draw upon these examples when invoking values and practices such as "solidarity over charity", non-hierarchical organizational structures, and commitment to dismantling oppressive social structures [21][51][52]. They combine community-based work towards meeting the material needs of vulnerable groups with efforts to address the political, economic, and cultural causes of this vulnerability.

Despite many shared values among organizers, we encountered significant debates within mutual aid organizations about how best to enact their work. They are shaped by the political values and practical concerns of the organizers who have struggled to support their communities during an unprecedented crisis. There are no easy answers to the questions of inclusion, focus, permanence, and relationships with government that mutual aid organizers wrestle with. We take these "dilemmas", as we have termed them, as an opportunity to explore challenges in mutual aid organizing, especially as they have been exacerbated by the virtual nature of activities during COVID. Though mutual aid shares some of these dilemmas with other forms of community response to disaster, the tradition of community organizing and socioeconomic analysis that participants draw upon are quite different. As we will show, these distinctions are relevant to several ongoing areas of concern in crisis informatics.

In the next section, we discuss the history of the mutual aid movement and relevant literature in crisis informatics. We then provide a short overview of the mutual aid response to the COVID-19 pandemic in New York City and our approach to studying these activities. In Section 4 we draw on data from interviews with mutual aid organizers to describe four ongoing challenges, or dilemmas, that these groups are grappling with. Finally, in Section 5 we reflect on the implications that this example offers for crisis informatics researchers seeking to understand and support community response to disaster. We do not claim to offer the last word on, or even a comprehensive account of, the incredible amount of complex and difficult work undertaken by the mutual aid community. Instead, we hope to learn from this example, and to support the development of a crisis informatics research agenda that is responsive to the many challenges of the moment.

2 RELATED WORK

2.1 Crisis Informatics and Community Response in Emergencies

Crisis informatics is a multidisciplinary field with roots in human-computer interaction and computer-supported cooperative work (CSCW) that examines the human behaviors and social life that surround information technology use and crises. Most widely-known for its work on social media as a tool for supporting information-seeking and sharing during emergencies [42], research in the field has also investigated a range of other technologies including mobile applications [43], situation reports produced by humanitarians [12], and disaster risk maps [46]. Crisis informatics researchers have also begun to explore different temporalities of disaster beyond the moment of crisis, including pre-disaster emergency preparedness and risk mitigation [59] as well as questions of post-disaster impact and longer-term recovery [13]. In addition to CSCW and organizational studies, crisis informatics research draws heavily on sociological insights into crisis and disaster. A major contribution of this research to crisis informatics has been highlighting the important role of the informal and emergent community response to disaster [4].

Building on this work, crisis informatics has investigated the role of social media and other digital technologies in supporting informal public response to emergencies. Research has demonstrated the importance of Facebook and other platforms in facilitating self-organized groups to share information and provide material and economic assistance during acute crises like wildfires [4] or earthquakes [61] and protracted emergencies such as the economic and political crisis in Venezuela [11]. This work has emphasized that, though significant, online coordination and provision of assistance is just one element of a larger community response that is also shaped by in-person efforts as well as the social and political context of the emergency [58]. A recurring issue in much of the crisis informatics research into community self-help in disaster is the complex, often challenging, relationship between volunteer responders and formal government response. Some research has explored how these two forms of response can reinforce one another, and the role of technology in support these partnerships

[53]. Other work has highlighted how issues of trust, competition, and different perspectives on disaster raises challenges [9].

Another theme of crisis informatics research that we engage with in this paper is the inherently political character of disasters and the technologies used to predict, manage, and respond to them [48]. Even if disasters are triggered by storms, earthquakes, or viruses, researchers have argued for decades that the roots of vulnerability to these phenomena are ultimately social in origin and linked to decisions around how to organize our societies, where to build our cities, and how, or if, to prepare for crises [60]. There is thus a political dimension surrounding the distribution of risks and safety, who receives assistance during a disaster, or support to recover in the aftermath. This has been particularly clear during the pandemic where working class, Black and Latino communities in New York have suffered the worst effects of both the virus as well as the economic impacts [31]. Crisis informatics research has demonstrated that technologies intervene in these politics and can unwittingly reinforce existing inequalities [5][44]. As this paper will show, mutual aid organizers struggled with these tendencies in their work even as they have grappled with the wider political issues that COVID has manifested in their communities.

2.2 Mutual Aid in Disasters

There is no single definition of "mutual aid"; rather, it comprises a constellation of community self-help activities in acute moments of disaster and crisis, and in ongoing struggles for survival and self-determination within marginalized communities in the United States. While altruistic behaviors in disasters are common, we observe that the extent to which organizers are labeling them "mutual aid" is growing. We trace this to Hurricane Katrina and the work of New Orleans community organizers, who created the Common Ground Collective to manage an enormous influx of material resources and volunteers, eventually forming Mutual Aid Disaster Relief (MADR) [45]. Since 2004, MADR has used its network and principles of "solidarity not charity" and "autonomous direct action" to support emergency mutual aid efforts in disaster zones including Puerto Rico, Houston, and elsewhere [30][52].

In New York City, members of the Occupy Wall Street movement responded to Hurricane Sandy in 2011 by forming Occupy Sandy, a mutual aid disaster relief effort. Occupy Sandy leaned on traditional tenants of mutual aid, such as a horizontal organizing structure, but also relied heavily on social media and web technologies. It was able to mobilize thousands of volunteers quickly and direct them to impacted neighborhoods. However, traditional disaster relief agencies, like the Red Cross and FEMA, were reluctant to work with Occupy due to its history of political advocacy [10]. This is an illustrative example of the barriers that exist between formal and emergent response to disaster, in particular when emergent groups are rooted in communities with preexisting tensions with government.

In our research, we found that New York City organizers most often cite the legacy of ongoing mutual aid projects in marginalized communities, such as the work of the Black Panthers, rather than disaster-focused projects like Occupy Sandy or philosophic treatments such as those by Kropotkin. Identity-oriented mutual aid efforts have allowed historically marginalized groups in the United States to provide material support to each other while also building community and political power over time. Mariame Kaba, an organizer and prison abolitionist, traces the origins of the practice to the Committees of Vigilance, which offered sanctuary and support to Black people who fled slavery to the northern United States in the 19th century [21]. These Committees engaged in "practical abolition," including self-defense for Black people as they protected themselves from slave-catchers. While these groups were often sites of inter-racial solidarity, Kaba notes that Black people, especially Black women, led much of the organizing and fundraising (*ibid*). This organizing tradition continued with the Black Panthers, whose Free Breakfast for Children program was a cornerstone of their political and social movement. In addition to the direct impact the program had on alleviating hunger, the

program allowed the Panthers to build solidarity and political mobilization in Black communities [16].

Though less frequently cited by our interviewees, queer, trans and disabled communities also have a long history of practicing mutual aid, well-documented by Dean Spade, Leah Lakshmi Piepzna Samarasina and others [39][52]. Spade, a trans activist, writer and teacher, draws the connection between identity-based and disaster-based mutual aid, writing: "the most visible mutual aid work in contemporary movements for justice is happening on the front lines of storms, floods and fires" [51][52]. In bringing the principles of mutual aid to community-based crisis response, organizers raise important questions such as the roots of disaster vulnerability and the relationship between formal responders and affected communities. Yet the answers to these questions are neither straightforward or settled, and mutual aid groups we studied in this research are continuously evaluating their approaches. In this paper we take the opportunity to highlight what lessons the mutual aid community may offer for crisis informatics research more broadly.

3 RESEARCH METHODS

This research is part of an ongoing collaboration with a network of mutual aid organizations in New York City. The first author was both active as a local mutual aid participant in a neighborhood group between March and August of 2020 and continues to be a member of the wider mutual aid community across the city. Though our participation in mutual aid organizing provided context, the data we report on here is drawn from 15 semi-structured interviews conducted by the lead author between May and July with organizers of mutual aid groups across the city. Interviews lasted between 30 and 45 minutes and explored interviewees' experiences with mutual aid organizing during the pandemic. The interviews were wide-ranging but intended to document major activities undertaken by mutual aid organizations, technologies utilized or developed in order to accomplish this work, and challenges faced by the community. Other topics included how groups conducted outreach, organizational and leadership styles, and plans for the future of the group.

Participants were recruited through personal connections and posts on citywide mutual aid Slack and WhatsApp groups. The 15 interviewees came from 12 mutual aid groups of various sizes across four of the five boroughs of New York. At the time of writing, all of these groups remain active in mutual aid work. Five interviewees were based in Manhattan, six were from Brooklyn, one was from the Bronx, and three were from Queens. The majority of interviewees identified as women and/or non-white. In general, our interviewees were important figures in the groups in which they participated, though the non-hierarchical nature of mutual aid organizing frequently elides strict distinctions between leaders and membership [52]. All interviews took place over Zoom and were recorded. Recordings were professionally transcribed, and participants were given the opportunity to read and revise the transcripts prior to analysis.

Following initial discussion of the interviews and our own observations of mutual aid work, the authors collaboratively analyzed the transcripts. We decided to focus our data analysis on several recurring dilemmas or challenges faced by the mutual aid community that regularly came up in both the interview transcripts as well as our observations of organizing work. We also noted that technology choices made by organizers shaped the contours of the dilemmas. Through several successive rounds of coding and discussion, we developed thematic memos [55] detailing four dilemmas that emerged in the interviews. By delving into these dilemmas and the values and organizational issues at stake, we provide a rich understanding of the work being undertaken by communities (online and offline) to support one another during the pandemic and the context in which this work is conducted. Our choice also reflects our desire to document and understand the open-ended and evolving nature of mutual aid activity in New York, rather than presenting a complete or final picture of these practices.

Researcher Positionality

The first author is an HCI and crisis informatics scholar with a long-term interest in how communities appropriate digital technologies to support themselves during disaster. They lived in New York City during the first stages of the pandemic and co-organized a small mutual aid group between March and August of 2020, where the main narrative of this paper leaves off. They continue to participate in the wider mutual aid community in the city. The second author is an independent researcher whose work focuses on disability and urban planning. She co-founded a large mutual aid group in Philadelphia in March 2020, and continues to organize with that group. She also co-coordinates a roundtable of mutual aid groups across Philadelphia. Both authors have a continued and vested interest in the success of mutual aid efforts.

4 RESEARCH SITE: THE MUTUAL AID RESPONSE TO COVID-19 IN NEW YORK CITY

New York City was one of the most impacted cities in the world during the early stages of the COVID-19 pandemic. Though widespread, these impacts were felt unequally and came on the heels of a pre-existing affordability crisis that was already devastating and communities of color and working class residents [19]. Data from the city's Department of Health shows that Black and Latino residents were twice as likely to die from COVID-19 as white residents in the first six months of the pandemic [31]. As the health crisis merged with the ongoing economic crisis experienced by many New Yorkers, low income workers lost jobs and access to health care at a higher rate than their middle and upper income counterparts [32]. Elderly and disabled residents, often considered most at-risk from COVID-19, lost access to the services and infrastructures necessary to maintain everyday life as the city went into lockdown. Mutual aid groups, organized online and socially distanced, launched in the first few weeks of March as the magnitude of the crisis became clear.

While the full scale of the mutual aid response to COVID-19 is impossible to measure, tens of thousands of New Yorkers from every borough joined Facebook groups, WhatsApp chats, Slack channels, or otherwise signed up to participate in one form or another. Participants in these groups raised millions of dollars through crowdfunding efforts and delivered countless tons of groceries, homemade masks and PPE, and other supplies. Information was also an important form of assistance, and many groups were able to share details about how to access social services or ways to keep safe while participating in mutual aid. Other forms of care provided through mutual aid groups included offering free child and pet care services, and running errands or conducting wellness checks for at-risk individuals. Some groups organized social activities to combat feelings of isolation, or started reading groups on topics related to the history of mutual aid or racial justice. Still others organized support for protesters during the Black Lives Matter protests in the summer of 2020.

Social media and other internet technologies were central to these organizing efforts, particularly as a result of social distancing requirements. Because people could not gather in person, nearly all organizing work was conducted online. As is the case in many emergencies, mutual aid groups mostly cobbled together familiar tools in novel configurations to address the problems and needs that surfaced during the crisis rather than inventing new technologies or software [48]. Many neighborhood organizations ran their own Slack and WhatsApp groups along with citywide instances of these tools to help coordinate and share information across communities. Zoom and other tools were used for video-conferencing. Early on in the pandemic, a citywide volunteer registration and assistance request system was set up using Google Forms and Airtable in order to complement localized efforts. Google Suite was used widely by groups to manage information about members, requests, and organizational issues. As a complement to digital technologies, analog tools such as paper flyers, zines, and word of mouth were used extensively for outreach and recruitment.

Though many of the groups participating in mutual aid in New York formed in the early days of the crisis, preexisting networks and organizations were central parts of the effort. Some early organizers had been part of the Occupy Sandy movement. In Manhattan, a state senator's office, the local chapter of the Democratic Socialists of America, and organizers with the Bernie Sanders presidential campaign each launched mutual aid efforts. All over the city, neighborhood groups, professional networks, and activist organizations started or expanded mutual aid work in an effort to support their communities through the crisis. These groups drew in new participants, many of whom were new to community organizing, creating new opportunities but also presenting its own set of challenges and tensions.

The forms of support provided by mutual aid organizations in New York shifted over time, especially as the effects of the pandemic changed. Initial priorities around providing groceries and other support to those most impacted by the health effects of the pandemic were in many instances supplemented or supplanted by other work focused on the rent crisis or the Black Lives Matter movement. Many groups also shifted away from individual grocery trips towards bulk purchase and delivery of food and other supplies as they grew more organized and sought to increase the amount of assistance they could provide in the face of a growing economic crisis. Along the way they developed internal governance mechanisms, sought to combat burnout amongst their members, and stayed responsive to the changing nature of the crisis and needs of their communities. As we discuss in the next section, our research shows that organizers consistently struggled with who was included and excluded in their work, whether and how to address both the immediate needs in their communities as well as the structural problems driving the COVID-19 crisis, how to relate to government and other formal crisis response entities, and how long their work should endure.

5 DILEMMAS IN MUTUAL AID

5.1 Who is Included and Who is Excluded from Mutual Aid Work

Mutual aid organizers who we spoke with for this research frequently wrestled with questions of who was included in their work—both organizing and receiving mutual aid—and who was excluded. Though most groups in New York were emergent and self-organized, the modes of recruitment, technology choices, organizational practices and culture all influenced the distribution of mutual aid. Other factors including time constraints, financial resources, language barriers, and technological ability also played a role in shaping who was able to access support from mutual aid groups and whose perspectives determined how these groups were organized. Given the gravity of the health and economic crises that COVID-19 has presented and the inequalities with which these crises are experienced, every organizer we spoke with struggled with this issue. As one put it, "we're definitely seeing a class and race divide in who's giving and receiving aid."

Digital-first organizing, a choice driven by social distancing requirements, facilitated the work of mutual aid groups but also shaped patterns of inclusion and exclusion. In the early days of the pandemic, technology allowed those who were physically isolated yet Internet-savvy and eager to help to find each other quickly and organize. Describing their initial involvement in mutual aid, one participant said:

> "I just felt like I had to do something, you know, I had the skills in outreach and in public health, in reaching the community and meeting them where they are at, and then I came across a Facebook post in a Harlem mutual aid group."

Social media, including Twitter, Facebook, and Whatsapp, were critical for early recruiting efforts for groups across the city. Once groups began to coalesce, they tended to transition to more complex digital tools to manage their operations, such as Slack, Airtable, and

Zoom. Groups took donations and disbursed aid via Venmo, Cashapp, and similar apps. These systems have allowed people to collaborate while maintaining social distancing, but they have impacted who can participate in predictable ways. Vulnerable community members without reliable Internet access and comfort learning new software were thus sometimes excluded. To help address this, and to ensure community members knew about mutual aid organizing, most groups that we interviewed also relied heavily on flyering and word of mouth. Several organizers mentioned the need to translate flyers into multiple languages including Spanish, Chinese and Arabic to ensure information was accessible to the populations in their neighborhood. Another talked about flyering in the poorest part of the neighborhood to ensure individuals who may be most in need knew about their services.

Despite the digital-first nature of these groups, lowering the barriers faced by community members in obtaining aid was a priority. While groups usually tried to focus on specific neighborhoods or regions of the city, most maintained a "no questions asked" policy. As one organizer said, "we're not gonna make anyone prove that they need this." At least one group was more specifically focused on reaching people who could not leave their homes to get groceries due to age, illness or disability, as a way of ensuring resources were going to those who were most in need. An organizer from this group explained:

> "We basically asked, you know, are you able to leave your apartment? But you know, we have situations where someone will say, yeah, I can leave, but I have five children and I can't wait in line at a pantry. And so it gets hard and it feels almost like, who am I to be deciding who gets and doesn't get support?"

In addition to digital expertise, free time was another critical resource that many mutual aid organizers had, but that wasn't equally available to all New Yorkers. As the pandemic hit, some individuals had more time due to lost employment, the shutdown of public life or cancelled projects. For some organizers we spoke with, increased free time at the start of the pandemic pushed them to reconsider their priorities and connect with their neighbors. For example:

> "I've been involved in activism back when I was in college, and then kind of fell off a little bit, especially when I moved here because...I [had] to have three jobs for a little while just to be able to, to stay here...When the pandemic happened, I was like, now is a time for me to really kind of get back to the things that I want to do, which is actually having a meaningful impact... It was also a thing that helped me manage my reaction to the pandemic."

Organizers continued to grapple with the fact that mutual aid during COVID-19 didn't always feel mutual, and that hierarchies continued to exist within the movement. In particular, the reliance on digital tools was seen to exacerbated existing inequities which traditionally might have been broken down by physical proximity. As one organizer, with prior experience in a mutual aid group, explained:

> "The mutual aid that we all knew and loved before this pandemic was based in a Walmart parking lot after a hurricane or a fire or an earthquake. And you would set up these big boards and everyone would be co-present in figuring out what to do together in physical proximity. But of course now we can't do that."

That organizer further illustrates how some of these barriers have born out:

> "We had been aware from the beginning that a lot of the way we had set up the infrastructure, because of its digital nature, was going to attract a crowd that was more highly professionalized and skewed whiter...The fallout from that was really clear to me…

5.2 Immediate Needs vs Root Problems

With limited time and volunteers, mutual aid organizers struggled with how much energy and attention to focus on addressing immediate needs as opposed to the longstanding problems that

had been aggravated by the pandemic. COVID-19, and its economic fallout, both revealed and exacerbated larger underlying problems and inequities in the community such as food security and rent affordability. Mutual aid groups found themselves trying to address long-standing issues that have become true crises due to mass unemployment and lack of government relief. While most ultimately did some degree of both, many of our interviewees described feeling forced to make difficult decisions in this regard. As one Brooklyn organizer states:

> "I often feel like we're just offering temporary assistance. It's better than nothing, but I feel like it's not changing anything or getting rid of the root of problems that our neighbors are experiencing…"

Another raised similar concerns:

> "Six or so months later, it's very clear to all of the mutual aid groups that this is more about systemic poverty. And this is going to be felt by this community for a long time, and after other, more privileged parts of the city have forgotten."

Mutual aid groups were forced to weigh how much time and energy to spend on providing direct relief such as cash, groceries, or assistance with chores vs political mobilizations on issues thought to be at the root of New York's vulnerability to the pandemic, like racial injustice or housing affordability. One organizer described their attempt to manage both.

> "We realize that not providing direct services is not an option, but we are trying to think about social action too and, you know, while the Black Panthers had mutual aid networks, many of our mutual aid networks have sprung out of this moment of crisis. But even though we're acting out of a moment of crisis, we understand that's not the only way to be. We are thinking about organizing rent strikes, signing petitions for rent and mortgage fees, housing for the homeless, cash assistance for those excluded from unemployment insurance and federal stimulus."

Many of the technological and organizational choices made early on by mutual aid organizations, including the creation of request forms and hotlines for assistance, mechanisms to track individual requests for assistance, and the reliance on digital communication tools, propagated quickly throughout the citywide network of organizers. These strategies were geared towards meeting the immediate needs of impacted communities, but perhaps were limited in their ability to support the kinds of in-depth discussions or develop strong relationships that could make more structural changes. We also speculate that social distancing, and the communication challenges it created, drove groups to work on more concrete and tractable problems. However, for many practitioners, the work of communities to come together and meet their immediate needs is a means of developing the relationships, organizational structures, and capacities needed to accomplish more structural change. An organizer from the Bronx captures this perspective:

> "We found that creating a system where we can rely on people and relationships to get the work done, instead of relying so heavily on the city and or volunteers, that has helped and made a tremendous difference in our work. What we're trying to create, together in a joint sense, is one collaborative system that our neighbors in our different communities can use. If there's a need for food that gets separated and dispatched to each individual group in their respective communities. And we all pour into our communities together and work together in one cohesive manner."

In this light, the work to meet the immediate needs of communities most impacted by COVID-19 is part of a strategy that aims to build relationships and organizational structures capable of addressing some of the long-standing challenges they face. Through building and utilizing tools like Slack groups, online forms and spreadsheets, and Whatsapp channels to mobilize neighbors, track requests for assistance, and manage logistics, some mutual aid groups

were developing the infrastructures and organizational capacity that could undertake political action needed to address the root causes of the pandemic's inequities.

5.3 Relationships to the Government and Formal Responders

As noted above, mutual aid has most often been practiced by marginalized communities who historically have had good reason to be suspicious of the government and nonprofit sectors. For mutual aid groups in New York responding to COVID-19, discussions about how to relate to the government ranged from pragmatic to theoretical but had real meaningful impacts on organizing strategy and decisions.

Rather than positioning themselves in opposition to the government, some mutual aid groups describe themselves as "gap-fillers," stepping in to meet basic community needs because the government had failed to provide an adequate response to the COVID-19 crisis. As one organizer explains:

> "It's necessary in these times. We know that some of the people who need the most are not being looked out for by our city, by our state, or by our federal government, and it's gonna be important for us to be there for each other."

Especially in the early days of the pandemic, many organizers didn't want to wait for a comprehensive government response. Instead, they believed that they could do it themselves. As an organizer who lives in a neighborhood without an assigned City Councilperson explained in July of 2020:

> "By the time we wait for the city to get to us. You know, we're at the end of the first wave of COVID. And now it's coming around to the second we still don't have any support."

On the other hand, mutual aid groups also volunteered to help neighbors access federal, state and local public benefits, such as SNAP and emergency cash grants. One group had an entire team dedicated to this purpose. The application processes for public benefits were often laborious, and tech-savvy organizers can be well-positioned to help people through them.

Organizers' views on government also influenced the ways in which mutual aid groups coordinated (or did not coordinate) with local elected officials. These types of relationships were just emerging in the summer of 2020. One organizer believed that such collaboration would help mutual aid groups sustain their efforts in the long term.

> "I have my personal views around the political system but I do think about what would it look like to look at a different way of partnering with the electeds without being co-opted, which is the biggest fear... But I think that it's necessary to really be able to come to the table with a City Council person and local assembly person, your senator, to really say there is support still needed because financially a lot of mutual aid won't be able to sustain themselves on this."

As an example, the office of State Senator Robert Jackson began coordinating mutual aid efforts in his district in March 2020, spurring the creation of groups in Washington Heights neighborhood of Manhattan. During an interview, a staff member from the Senator's office explained that the goal was to "jumpstart" these groups and help them connect to existing resources in the Heights, such as community organizations. But this initiative raised questions about the relationship between government and mutual aid during the COVID-19 pandemic, and some organizers in the city reported viewing the effort with suspicion or concern.

In addition, many of the groups we spoke with were actively engaged in organizing to protest government's handling of the COVID crisis and other issues. As mentioned above, many groups attended and provided support to protesters during the Black Lives Matter uprisings over the summer of 2020. This included physical support like water and snacks, or sharing

information about protests on social media. By August 2020, a number of groups were also working with neighbors on challenges faced by renters as a result of the economic impact of the panemic. Under discussion at the time were actions such as rent strikes, the creation of sanctuary housing, and eviction defense. In addition to food insecurity, the inability to pay rent was a major issue in the communities where organizers were working. As one organizer describes their approach:

> "We've also started to have conversations about a rent strike. As Mariame Kaba wrote, mutual aid is solidarity, not charity. So we definitely don't want to have a paternalistic approach. Instead we're asking people to organize in their own buildings, and asking if they want more information."

Tensions over the relationship to government, and whether advocacy efforts by mutual aid groups should focus on demanding the government provide essential services and support to communities during disaster or aim to build autonomous support networks outside of government, continue. As we discuss further in the following section, one part of this tension related to whether mutual aid groups were filling gaps *temporarily* and should pressure the government to step in, or whether they believed these gaps were longstanding and they should (or could) fill them indefinitely because the government was incapable or unwilling to do so. They are bound up with questions about group longevity, another dilemma faced by mutual aid organizers working in response to the long disaster of COVID-19.

5.4 Longevity of Emergent Mutual Aid Groups

As mutual aid groups worked to fill the gaps and meet community needs, questions over whether their efforts would, or should, last beyond the pandemic came up in many of our interviews with organizers. While some organizers predicted that their groups would become permanent fixtures in the communities, others raised fears of burnout or turning into formal non-profit organizations that focused solely on direct service. The lifespan and organizational evolution of groups that emerge in response to disaster is an important area of work in disaster scholarship and crisis informatics [54]. Here we found mutual aid organizers wrestling with both the logistics of managing long-term response to an extended crisis alongside questions of whether such longevity is desirable.

A common sentiment was the emotional toll of providing mutual aid to struggling neighbors. One organizer describes:

> "A heaviness that I felt and kind of a deep sadness to hear--as opposed to just looking at statistics or reading a newspaper--in people's voices how much they needed food and how the system had failed them."

For a number of interview participants, these feelings were compounded by a tremendous sense of uncertainty as a result of not knowing how long the pandemic would last or whether the government would begin to expand relief services. Several organizers wondered when larger relief efforts would begin and alleviate some of the burden that they felt. One organizer from Manhattan said:

> "We're in this not knowing when relief is going to come in, it's like, not knowing when the sub(stitute) is going to come in, or when the the tag team is going to happen. We're in this for the long haul, I guess. And, you know, it's about maintaining that energy for God knows how long, and it's hard to keep up momentum, not knowing when we'll have a break, or when will when this will end.

These sentiments were common and contributed to feelings of burnout amongst organizers. Most of the organizers we interviewed reported high degrees of churn amongst participants. We posit that the stress of the pandemic, combined with the difficulties of building real community and connection through all-virtual organizing, compounded these problems. As an exception to

this, one organizer felt that they had been able to successfully stave off burnout, partly as a result of a strong organizational and management processes developed using tools like Slack and Airtable.

> I would say our volunteers are more committed now than ever. We were kind of unique in that we were able to focus on building out our structure early on, whereas other groups were already swamped with requests by then and had to close out and start fulfilling them. We didn't have that situation because we were still trying to focus on outreach and because of that, we could slowly develop our infrastructure and integrate our Slack to Airtable and automate the process—have an intake and dispatch team and assess which partner would be appropriate on the backend.

Mutual aid groups also debated how to sustain themselves institutionally and financially without clear models to work from. The question of whether to formally register as nonprofit organizations arose frequently in discussions about sustainability. Many groups felt hamstrung without formal status, lacking bank accounts and unable to take funds directly or access government grants and other resources that established nonprofits rely on. Yet some organizers reported feeling hesitant about taking the step of becoming established. In addition to the time and expense required to obtain 501c3 recognition as a non-profit organization in the United States, interviewees suggested that such formalization would force them to alter their priorities and organizational practices in ways that would distance their groups from the principles of mutual aid that motivated them. One interviewee explained:

> It feels less authentic. It feels less of the people, you know, for the people by the people. It puts you into a place where it feels like service.

Finally, some interviewees reported reluctance to develop long-lasting structures using volunteer labor to provide services that they felt more formal entities should provide. As discussed above, these interviewees seemed to view their mutual aid work as temporary gap-filling until the crisis was over. Yet others believed that their communities were underserved prior to the pandemic and the experience with mutual aid has given them a sense of agency and connection that they hoped would continue. In the words of one such organizer:

> The city has given us little to zero resources. And we have created systems in our own communities that operate faster than the city's resources. That is an amazing thing. That is, in my opinion, how our communities should be run. The people that live in the communities should be involved in decisions around the resources of the community. They should be the ones making the decisions on the resources that the community gets and feeding them back into the community.

Where we left organizers in August of 2020, the underlying questions around longevity—funding, volunteer burnout, and government response to the crisis—were unresolved.

6 DISCUSSION: IMPLICATIONS FOR CRISIS INFORMATICS RESEARCH

While crisis informatics has often provided remarkable insights into how communities support one another during crisis, the mutual aid response to COVID helps shed light on a number of areas for further investigation. We argue that so-called "emergent" community responses to disaster do not emerge spontaneously, but rather they engage in acts of infrastructuring [6] by drawing on varied social, technological, and ideological resources in order to accomplish their goals. Thus, taking a long view of community organization in response to disaster is necessary. Second, we call attention to the extreme inequities that determine who is impacted by disasters, and who is able to recover in their wake. In doing so we raise the issue that the emergent characteristics of community response risk extending and reinforcing these inequities, especially when drawing on certain forms of technology in their organizing work. Finally, we argue that crisis informatics should attend to forms of research and design that engage with

root causes of vulnerability, so that technologies and infrastructures that support disaster response and recovery activities may take on a more transformative character.

6.1 The Long-Now of 'Emergent' Community Response to Disaster

Research in crisis informatics, and disaster studies more generally, has argued that the common perspective on disasters, that of narrow temporal bounds of their immediate impacts and short-term aftermath, conceals the long trajectories of history and social life that give rise to disaster and the many ways in which they continue to have impact after popular and media attention fade [18][33][41][60]. In the book *Slow Violence*, for example, Nixon argues that the episodic spectacle of disasters draws attention away from the everyday experience of precarity and inequity that characterizes the lives of so many people [33]. Horowitz claims that the term disaster itself is a "misnomer" and that it is "at best, an interpretive fiction" that artificially limits the sorts of analysis that are conducted by disaster researchers as well as the public imagination of their causes and effects [18]. In contrast, these authors propose taking a much longer view of disaster and not treating disasters as extraordinary events that can be so readily disentangled from the social context in which they occur.

Research that takes a long view of disaster generally does so in order to understand the historical and political origins of disaster vulnerability or the long reverberations of their impacts [18][33][41][60]. The mutual aid response to COVID-19 will undoubtedly have lessons to teach us in this regard, but they also point to other histories that crisis informatics researchers should account for –the intellectual traditions and social networks that shape so-called "emergent" responses to disaster. The socio-technical practices of online and offline convergence, information sharing, and provision of assistance, core concerns of crisis informatics research, all happen in particular social and ideological contexts. The mutual aid organizers we interviewed drew on political ideas that traced back centuries in organizing their work, predating the particular technologies and tools they used. They also built upon social relationships and networks whose histories influenced the scope, reach, and aims of mutual aid work in New York. These factors suggest that emergent community response to disaster is far less spontaneous than many accounts would suggest.

COVID-19 won't be the last disaster, and perhaps not even the last pandemic, of the early 21st century. Many observers of the contemporary moment foresee a future of recurring and intersecting crises driven by climate change, political instability, and economic precarity [27][56]. Treating each crisis as analytically distinct from this backdrop, despite the practical and methodological advantages, is likely to yield incomplete accounts of these events and societal responses to them. Orienting ourselves toward the challenging aspects of recurring and socially embedded crises amidst a long view of disaster will require, amongst other things, an expansion in the number of longitudinal studies of crisis responders, affected communities, and volunteer technologists that have been the mainstay of crisis informatics work to date. Prior efforts of this sort have yielded important findings about how communities grow, maintain their organizational capacities, and learn across multiple disasters [34][54], but such studies remain relatively few.

6.2 Hierarchy, Inequities, and Care in Community Response to Disaster

The dramatic racial inequities in the effects of COVID are both caused by, and help to reveal, wider inequities in society. While crisis informatics has developed valuable insights into the affordance of emerging technologies and how they enable community response to disaster, less has been written about how these efforts intersect with wider social and political contexts. Questions about the role of the state, who is worthy of assistance, and who has the expertise to provide care are all raised, whether explicitly or not, and answers hypothesized by the specific organizational and technological choices made by informal response. These factors shaped

mutual aid work as much as practical efficacy and the desire to come to the assistance of others during the disaster. In making explicit their politics in ways that some groups haven't, mutual aid groups help to shed light on these issues and raise important challenges for crisis informatics in doing so.

For example, a central organizing principle of mutual aid is the slogan, "solidarity over charity". This was enacted, albeit imperfectly, by mutual aid groups in NYC and repeated in numerous conversations and on outreach materials. Organizers sought, through their organizing practices, to create equitable and non-hierarchical structures that welcomed all participants, recognizing that everyone has something to contribute and that everyone stands to benefit from mutual aid. Yet, as we have described, this remains a challenge. In their writing on mutual aid, Dean Spade warns against saviorism and paternalism, arguing that they can reinforce the very inequities that aid is meant to countermand [51]. Similar arguments have been made in HCI research looking into the challenges of care work at scale or the intersections of care and infrastructure [8][20]. The role of technology in supporting care work is debated [7], and some have questioned whether care in the wake of disaster can be accomplished at the kinds of scale that government-led responses to large disaster would seem to require [47]. In this vein, feminist science studies scholar Michelle Murphy has warned that research has too often conflated care with positive affect, ignoring the ways in which care work can be reinforce hierarchy or portray situations of unequal power relation as innocent or even benevolent [29].

Despite thoughtful efforts, mutual aid organizers we spoke to weren't always successful in avoiding charity models of providing assistance, and some technology choices or organizational decisions inadvertently created barriers between groups and some of the most affected people in the city. ICTs offer powerful tools to organizers but may lead to sustaining or deepening the very inequities that make some communities so vulnerable to disaster in the first place. We saw this both in the kinds of exclusions created by particular tools chosen, but also in the way that technology choices framed the problem of immediate needs vs long-term solutions. HCI and CSCW research suggest that concerns related to equity or justice should be centered throughout the entire life-cycle, rather than hoped-for outcomes of processes that orient towards other values such as scale or particular notions of efficiency [14][15][38]. How to accomplish this in practice, in the midst of a disaster with limited resources and an often fraught relationship with the formal emergency response, remains a challenge.

We see strong opportunity crisis informatics research to support equitable response efforts in disaster affected communities. Doing this, however, will require careful consideration of who we design for, and in turn who we perceive as having agency in disasters [26]. The mutual aid efforts we studied clearly demonstrate that the information needs, organizational structures, capacities, and motivations of community-based response were clearly distinct from, and sometimes in conflict with, government-led or sanctioned priorities and approaches of the formal response. Decentering formal emergency responders and humanitarian and nonprofit organizations as the primary users of the tools that we design, in recognition that they have different needs and incentive structures and different relationships to disaster. Despite some recognition of this by researchers and many practitioners themselves, these groups' outsized influence on the public imagination of disaster as well as their access to funding and formal recognition has meant that the design of most disaster response technologies is still targeted primary at these groups [33], rather than the communities in which informal response of all kinds takes place.

6.3 From Response to Transformation

The impacts of COVID-19 will continue to reverberate in NYC and the lives of its communities for many years. Mutual aid groups that stay active in the aftermath of the pandemic will be challenged with the task of helping to rebuild livelihoods and neighborhoods and restore the social and economic life of the city. The crisis demonstrated both the sharp inequalities of the

current system as well as the profound resilience of even, and especially, the most marginalized communities. Whether such revelation will lead to the substantial change needed to address these inequities remains to be seen. Crises are opportunities, as the saying goes. A return to normal that doesn't repair the vulnerabilities that allowed COVID-19 to wreak such damage will be a missed opportunity, and a dangerous one at that. The escalating impacts of crisis and disaster affecting the United States and many other countries will require a form of disaster response that goes beyond "building back better" and toward more fundamental and transformative reorganizations of social life.

As has been argued by Mariame Kaba, Dean Spade, and others [21][51][52], mutual aid serves as a practical critique of current economic and political arrangements. By stepping into the gaps created by the weaknesses of institutional responses to COVID-19, and demonstrating alternate possibilities, mutual aid organizers are engaging in a form of prefigurative politics (c.f. [1][22]). That is, mutual aid work has worked to both help meet the immediate needs of communities hard hit by the pandemic as well as create social networks and practical experience needed to build an alternative future where these communities are less vulnerable to disaster and less dependent on the uncertain arrival of outside assistance. This is a more radical notion of resilience than many of its more mainstream adopters would countenance and, as argued above, a significant departure from accounts of disaster that center on the role of formal responders and efforts limited to only the most immediate impacts. As climate change and other crises increase, government capacity to respond will be challenged. This raises the question, what does a crisis informatics research agenda that doesn't center or assume the existence of government capacity or benenvolence look like?

A transformative vision for crisis informatics thus opens up new possibilities for thinking differently about how we study and design the technologies used to understand and response to disasters, who we center in these processes, and how we evaluate our work. For example, our current metrics of disaster damage and impact, or approaches to situational awareness, are not well designed to account for multiple simultaneous or recurring events [12]. Nor do they inform the kinds of response that can enable substantive development of resilience to future disasters [47]. But this is not necessarily the case. Research into transformative crisis response will also require an expansion of the bodies of research from social sciences, humanities, and other areas of HCI that crisis informatics draws upon and interacts with. Crisis informatics' early engagement with research on disasters in sociology and organizational studies was formative for the field and remains incredibly fertile [36]. We can build on this inheritance through further contact with HCI work in areas that have deeply considered the sorts of transformations mutual aid work in this study pointed towards, including social and racial justice[14][35], solidarity movements [57], critical approaches to design [2][24][40], and sustainability [23][28]. Considering the communities, technologies, and socio-technical practices that crisis informatics attends to from these perspectives, would open up a new and exciting terrain for our work.

7 CONCLUSION

In late 2020, where the research for this paper left off, mutual aid groups in New York City were facing a looming rent crisis, a second wave of the pandemic, and important questions about whether and how to sustain their work. Many organizers have sustained their efforts into 2021, adapting their projects as resources and community needs change while government relief for groups most impacted by the pandemic remains sparse. For example, as COVID-19 vaccines rolled out, appointments were available almost exclusively online. Mutual aid organizers utilized their technological capabilities and their community networks to book appointments for elderly neighbors and others who lacked technological expertise or time to look for slots. In other parts of the United States, mutual aid groups organized during the pandemic responded to the massive power outages caused by severe winter storms. It is clear that organizers continue to mold their capabilities and infrastructures to the new demands that the pandemic presents.

Yet the dilemmas that organizers faced in 2020 persist. Increasingly, it is clear that COVID-19 mutual aid groups are operating outside of the norms of both traditional mutual aid, as carried out by community organizers for many decades, and disaster-focused mutual aid that has arisen in recent years. They are operating within a long crisis that does not have a clear end date and managing complex relationships between protest and cooperation with government and other powerbrokers. Even as the term "mutual aid" gains traction, some question if the work undertaken in the pandemic is mutual aid at all. Breslauer notes the increasingly messy lines between mutual aid and traditional charity and worries that the movement is losing some of its more radical character, writing that "if our mutual-aid efforts are not closely linked with target-and-demand driven fights with bosses, landlords, administrators, it has no relationship to organizing" [3]. Such debates will continue, as will emergent community response to disaster, and the crises that necessitate them.

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