RESEARCH READINESS & PARTNERSHIP PROTOCOL

FROM CRISIS TO COMMUNITY-ACADEMIC SOLUTIONS

MICHIGAN INSTITUTE FOR CLINICAL & HEALTH RESEARCH
UNIVERSITY OF MICHIGAN

2026 REVISION

RESEARCH READINESS AND PARTNERSHIP PROTOCOL MICHR AIM 2 WORKGROUP

THANK YOU FOR VIEWING R2P2!

We would love your feedback.
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Unless otherwise indicated, all quotes were provided by key interview participants.

Photo by Jake May, titled "A Man Holds Bottle of Flint Water," 2018, Flint Water Crisis Collection. The Flint Journal/AP Images.

INTRODUCTION

When the **Flint Water Crisis** began in April 2014, Flint citizens were the first to sound the alarm. Community members appealed to officials at all levels of government for eighteen months, citing concerns about the discolored, foul-smelling water and its devastating impact on community health. Local, state, and federal government officials, public health agencies, and academic institutions failed to respond to the community's concerns with the urgency warranted by the crisis.

While many long-standing community-academic partnerships exist in Flint, MI, these relationships were insufficient to advance necessary interventions to address the crisis. One such partnership was between the Michigan Institute for Clinical & Health Research (MICHR) - funded via a Clinical & Translational Science Award (CTSA) from the National Institutes of Health since 2007 - and the Community Based Organization Partners (CBOP), an umbrella organization representing Flint-serving entities. Together MICHR and CBOP wrote an aim into the 2018-2022 CTSA grant renewal to improve the likelihood of an enhanced response to future health crises. To accomplish this work, the MICHR Community Engagement program convened a Flint-focused Workgroup.

Specifically, this community-academic Workgroup was tasked to design, implement, and disseminate a disaster response study, the **Research Readiness and Partnership Protocol (R2P2)**. The Workgroup applied community-based participatory research (CBPR) principles (Israel, BA, 2011) to ensure community engagement in all aspects of the research process. In the midst of this work, the COVID-19 pandemic emerged and the Genesee County Board of Commissioners passed a resolution essentially declaring a broader definition of public health emergencies that includes specific communities in crisis. This prompted the Workgroup to expand its scope to incorporate the three concurrent crises: water quality/ lead poisoning, COVID-19, and the emergency state of the community.

The purpose of the Research Readiness and Partnership Protocol is to serve as a roadmap for community-academic partners to engage in impactful research, that achieves significant public health impact, especially during times of crisis. This publication provides a detailed timeline, research methods, and findings, along with recommendations and resources all co-created with community partners.

> ***The best time to have a friend is before you need one... if you don't have a relationship when emergencies arise, people have a tendency of potentially not believing you even though what you may be saying maybe absolutely the truth.***
> ***- Key Interview Participant***

Source: Pixabay, Image ID: 4756043.

Photo by Jake May, titled "Lead Pipe," 2016, Flint Water Crisis Collection. MLive.com.

EXECUTIVE SUMMARY

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EXECUTIVE SUMMARY

RESEARCH READINESS AND PARTNERSHIP PROTOCOL (R2P2)

The Research Readiness and Partnership Protocol (R2P2) was developed as part of a collaboration between the University of Michigan, Michigan Institute for Clinical & Health Research (MICHR) Community Engagement program and the Community Based Organization Partners (CBOP), in Flint, MI. This work was conducted (2018 – 23) with support from a Clinical & Translational Science Award (CTSA) funded through the National Institutes of Health (NIH) (UL1TR002240 and UM1TR004404).

This protocol details criteria that are relevant to addressing emergent health priorities and is designed to serve as a blueprint for Flint and other communities facing crises in the future. It was developed to answer the following three research questions:

1. What would a protocol entail that would enhance disaster research readiness/resiliency and support bi-directional research relationships?
2. What are ways to build and maintain community-academic relationships in research, establish clear communication and mutual respect, and prepare for or alleviate emergent crises?
3. What are the lived experiences actualized, community-driven actions implemented, and lessons that have been learned, during and as a result of the Flint Water Crisis, the COVID-19 pandemic, and populations under chronic stress as a public health crisis? How have they impacted Flint organizations and the community as a whole?

Two phases of work were conducted using a community-based participatory research (CBPR) approach. Both phases reflect notable contexts: 1) the perspective that populations under chronic stress is a present and ongoing public health crisis, and 2) the experience of developing a disaster research readiness protocol while simultaneously living through the ongoing Flint Water Crisis and the emerging COVID-19 pandemic.

Phase 1 - A literature review was conducted to identify common elements in disaster response protocols. The search yielded 26 manuscripts that met the designated criteria of including a protocol and a community-based intervention in response to a man-made disaster/crisis. These manuscripts highlighted the following elements listed below:

- **“Asset-based” approaches** were frequently employed, utilizing resources in the community rather than from outside.
- **Professional and community training opportunities** were widely implemented.
- **Transparent communication** was emphasized, and the use of technology was recommended to enhance connectivity.
- **Cross-sector partnerships and coordination efforts** were a recognized need along with the inclusion of policymakers for funding and support.
- **Resources to conduct evaluation** were acknowledged as a priority.

Phase 2 - Key interviews (n=31) were conducted with representatives from twelve diverse sectors relevant to the Flint Water Crisis response. These sectors were: community-based, corporate, education, elder care, faith-based, financial, government, health care, housing, foundations, public health, and youth. The following are the ten main themes that emerged from these interviews:

ACADEMIC PRESENCE IN THE COMMUNITY	EQUAL RESOURCE DISTRIBUTION
BI-DIRECTIONAL COMMUNICATION	FOLLOW-UP
CROSS-SECTOR COLLABORATION	NEGLECT/DENIAL
DELAYED RESPONSE	ROLE OF POPULATIONS UNDER CHRONIC STRESS
EQUAL PARTNERSHIPS	USE OF TECHNOLOGY

These findings informed the development of recommendations and resources including a language guide and a detailed timeline of factors impacting health in Flint over the past 40 years. Furthermore, a digital tool, Community-Academic Network Alarm & Research Readiness Response (CANARRRe) app, was designed to assist in the implementation of the protocol recommendations.

The Workgroup's analyses and conclusions suggest that the protocol can be used by the community and the academy as a roadmap to collaborate and partner prior to and during a crisis. It is anticipated that the use of the protocol will boost efficiencies, determine role clarity for community and academic researchers, and ensure that power-sharing and decision-making processes are established.

The Workgroup wishes to thank the residents of Flint, who are still facing many of the challenges addressed in this protocol, for their generosity in contributing to its development.

In Partnership,

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TIMELINE

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R2P2 TIMELINE

This timeline depicts the activities conducted by various community, academic, and government entities related to the Flint Water Crisis, COVID-19, and populations under chronic stress as a public health crisis. The following R2P2 timeline presents key milestones providing relevant history and context. Furthermore, the timeline highlights the importance of preparation, transparent communication, and the definition of roles and responsibilities in all processes related to public health.

As you will notice, the timeline begins in 1983 and does not have an end date, as the Flint Water Crisis is not over. As of April 15, 2026, not all the pipes have been replaced. A comprehensive assessment of the injuries and any recovery from the lead poisoning (especially in the children of Flint) has not been done. The community is still plagued with distrust of elected officials, and constant community crises are still fueling public health emergencies in Flint, MI, and beyond.

The full timeline may be viewed at:
https://time.graphics/line/738456

The one-page abbreviated layout may be found on pages 72-73 in the Resource section.

RESEARCH READINESS & PARTNERSHIP PROTOCOL TIMELINE

By: MICHR AIM 2 Workgroup (2022)

TIMELINE LEGEND

GOVERNMENT · FEDERAL · STATE · COUNTY · CITY · COMMUNITY · COMMUNITY ACADEMIC · ACADEMIA · CORPORATE

JAN 1983 • Governor James Blanchard (D) takes office

1988 • Michigan state legislature approves emergency managers for local governments and school districts in fiscal distress (1988-90)

JAN 1991 • Flint Mayor Woodrow Stanley (D) takes office

MAR-AUG 2002 • Flint Mayor Darnell Earley (D) takes office (temp)
AUG 2002-2003 • Flint Mayor James Rutherford (D) takes office (temp)

JAN 2003 • Flint Mayor Don Williamson (D) takes office

FEB-AUG 2009 • Flint Mayor Michael Brown takes office (Temp)
AUG 2009 • Flint Mayor Dayne Walling takes office

JAN 2011 • Governor Rick Snyder (R) takes office

MAR 2013 • Emergency Manager Ed Kurtz approves the switch from Detroit Water (DWSD/GLWA) to KWA; Flint City Council approves switch by symbolic vote 7-1

OCT 2013 • Darnell Earley starts as Flint's emergency manager, reporting directly to Governor Snyder and State Treasurer Dillon

APR 2014 • Flint River becomes water source for Flint, MI

JUN 2014 • An outbreak of Legionnaire disease begins in Flint, killing 12 people and causing 87 to fall ill

AUG 2014 • First community demonstration to protest weeks of poor quality Flint water and extraordinarily high water rates

AUG 2014 • First boil water advisory issued

AUG 2014 • Bottled water was disseminated by community volunteers

NOV 2014 • Independent consultants detect high levels of chlorine causing secondary contamination of the water with TTHMs.

FEB 2015 • Flint community leaders begin hosting townhall meetings to alert the residents about the water

FEB 2015 • EPA Region 5's Regulations Manager Miguel Del Tora alerts MDEQ of elevated lead in sample collected, 104 parts per billion, which was later found to be due to absence of corrosion control treatment (OCCT)

AUG 2015 • Sheryl Thompson, deputy director of Field Operations Administration, for the Michigan Department of Health and Human Services (MDHHS) oversaw the provision of water filters to Flint residents

SEP 2015 • The community engages Dr. Marc Edwards from Virginia Tech to perform a series of water quality tests. The findings of high lead levels were reported to the city

SEP 2015 • MDHHS enlisted to provide bottled water and premixed formula to families until corrosion control is optimized

SEP 2015 • The City of Flint temporarily switched back to DWSD water

JAN 1987 • Flint Mayor Matthew Collier (D) takes office

JAN 1991 • Governor John Engler (R) takes office

JAN 1997 • Ken Hardin becomes County Drain Commissioner

JAN 2003 • Governor Jennifer Granholm (D) takes office

JAN 2003 • Jeff Wright becomes County Drain Commissioner

OCT 2010 • KWA is created as a separate water authority

AUG 2012 • Ed Krutz returns as Flint's Emergency Manager

JAN 2013 • Emergency Manager law strengthed/enhanced by State Legislature

JUN 2013 • Emergency Manager, Ed Kurtz and State Treasurer, Andy Dillon decide to use the Flint River as the interim water source

JAN 2014 • Suzanne Selig, University of Michigan-Flint professor, and community members develop and implement a course on the Flint Water Crisis

MAY 2014 • Flint community resident start complaining of discolored, foul-smelling, and foul-tasting water

JUL 2014 • Flint community activist Arthur Woodson alerts the Flint City Council of total trihalomethanes (TTHM) and E.coli in the Flint Water

AUG 2014 • First semi tractor-trailer donation of clean water arrives from church in Kansas City, MO

SEPT 2014 • Second boil water advisory issued

OCT 2014 • General Motors announces switch from Flint River water to pre-treated Lake Huron water supplied by GLWA, due to concerns regarding machinery damage from high levels of chloride in treated Flint River water

FEB 2015 • Representative Sheldon Neeley organizes a group of residents and leaders, including the Concerned Pastors for Social Action, to meet with the Governor's Chief of Staff

FEB 2015 • The EPA detects toxic levels of lead in the home of Lee-Anne Walters that are nearly 7 times the EPA's limit

APR 2015 • Governor Snyder announces control of City of Flint's finances returned to Mayor and City Council under supervision of Receivership Transition Advisory Board

JUN 2015 • The only attorney to respond early on was Attorney Trachelle Young, who filed the first complaint, which was thrown out of court in Flint and Detroit

AUG 2015 • Michigan Department of Environmental Quality (MDEQ) requires corrosion control treatment for the City of Flint water

SEP 2015 • Dr. Mona Hana-Attisha comes forward with evidence of lead poisoning in Flint children. Among the findings, nearly 80% of the children she tested may need special education services due to the effects of lead poisoning

OCT 2015 • Governor Snyder announces that Flint's drinking water was contaminated with dangerous lead levels

NOV 2015 • Flint Mayor Karen Weaver (D) takes office

DEC 2015 • Dr. Karen Weaver, newly elected mayor of Flint, declares a water crisis and demands a permanent return to DWSD/GLWA

JAN 2016 • President Obama declares a health crisis in Flint

JAN 2016 • General Motors orders special industrial filters for their drinking fountains. The filters are supposed to last a year, but only lasted approximately one month

JAN 2016 • Executive of Oakland County, L. Brooks Patterson, denies severity of the Flint Water Crisis in a comment to Fox News

JAN 2016 • University of Michigan-Flint uses campus-wide water filters to protect students, staff, and faculty

FEB 2016 • Olivia West and her two children, residents of Rochester, New York, collect and donate 172 cases of water (two semi-trucks donated by United Trucking), to Shiloh Missionary Baptist Church, after hosting a large-scale fundraising event

FEB 2016 • Flint-Based entity, Rowe Professional Services is contracted by the Governor's Office to replace lead service lines

MAR 2016 • Flint Water Advisory Task Force final report released

MAR 2016 • Emergency manager, Flint mayor, and EPA executive testify in congress

MAR 2016 • Under expedited review, the Centers for Medicare and Medicaid Services (CMS) approves an expanded Medicaid waiver

MAY 2016 • President Obama visits Flint and drinks the water. This is viewed as a publicity stunt and lead to backslash from community

JUL 2016 • Dr. George Mashour of MICHR comes to Flint to meet with Community Based Organization Partners (CBOP). Aim 2 programming is created to support Flint after the meeting

SEP 2016 • Researchers from all three campuses of the University of Michigan; Ann Arbor, Dearborn and Flint, Michigan State University, and Wayne State University, all flocked to Flint to discuss research possibilities, without involving members of the Flint Community

2016 • Lawyers flock to the Flint community at the 11th hour, hoping for a piece of the action. Flint activists had long sought legal representation for environmental justice issues for years, approaching attorneys in Flint, Detroit, New York, Atlanta, and Chicago

DEC 2016 • President Obama signs the "Water Infrastructure Improvements for the Nation (WIIN Act)". The purpose of this act is to facilitate improvements in the waterways in the United States; when the President signed the act, he earmarked $174 million for Flint

FEB 2017 • The Michigan Civil Rights Commission releases an article about the Flint Water Crisis that appeared in The New York Times.

APRIL 2017 • Replacement of lead-tainted pipes in Flint begins

2018 • Activists travel to Ann Arbor, Lansing, and Washington DC to advocate

MAR 2018 • MICHR's Building Capacity for Research and Action (BCRA) funding mechanism awards $65,000 to community-academic research teams focused on health disparities in Flint

JAN 2019 • Governor Gretchen Whitmer (D) takes office

JUN 2019 • Attorney General Dana Nessel initiates a new criminal probe, citing problems with the integrity of the investigation, and ordering a new inquiry of nine government officials connected to the water crisis

MAR 2019 • MICHR's BCRA funding mechanism awards $45,000 to community-academic research teams focused on health disparities in Flint

NOV 2019 • Flint Mayor Sheldon Neeley takes office

OCT 2019 • MI House Bill 5105 Bipartisan "Filter First" legislation is introduced by Representative Lynn Afendoulis, aiming to ensure safe drinking water for kids

MAR 2020 • The COVID-19 global pandemic takes the lives of millions. Black and brown communities are disproportionally affected due to existing non medical health needs.

MAR 2020 • Water bill moratorium issued by Governor Whitmer

FEB 2021 • MI Senate Bill 0185 is introduced by State Senator Jim Ananich, aiming to institute water supply quality assurance and control

JUN 2020 • The Flint City Council, Genesee County Board of Health, and Genesee County Commissioners all declaring populations under chronic stress as a public health crisis

NOV 2021 • United States District Court for the Eastern District of Michigan granted final approval of a landmark $626.25 million settlement resulting from the class action and individual lawsuits brought on behalf of more than 90,000 Flint residents and businesses

JUL 2021 • MICHR's BCRA funding mechanism awards $40,000 to community-academic research teams focused on health disparities in Flint

JAN 2022 • Governor Gretchen Whitmer signs the Filter First Program into law, ensuring safe drinking water for kids

SEP 2022 • April Cook-Hawkins, Flint resident and former Genesee County Health Department secretary who claimed she was forced to resign after refusing to falsify the results of blood lead tests of Flint children, is awarded $100,000 in damages by a Genesee Circuit Court jury

SEP 2022 • American Rescue Plan Act (ARPA) funds are utilized to provide a $300 water credit, proposed by Mayor Neeley and approved by Flint City Council

Long-term effects: community still not drinking water, thousands of kids with special needs... (ongoing)

OCT 2022 • Felony criminal charges tied to the Flint water crisis against seven former government officials are dismissed by a Genesee Circuit Court judge, Judge Elizabeth A. Kelly

TIMELINE LEGEND

GOVERNMENT · FEDERAL · STATE · COUNTY · CITY · COMMUNITY · COMMUNITY ACADEMIC · ACADEMIA · CORPORATE

RESEARCH READINESS & PARTNERSHIP PROTOCOL TIMELINE

By: MICHR AIM 2 Workgroup (2022)

COMMUNITY QUOTES

"The crisis was already set in motion prior to it happening; ***everything was set up that way until something broke.*** *Disinvestment in urban cities allowed the water crisis to happen."*

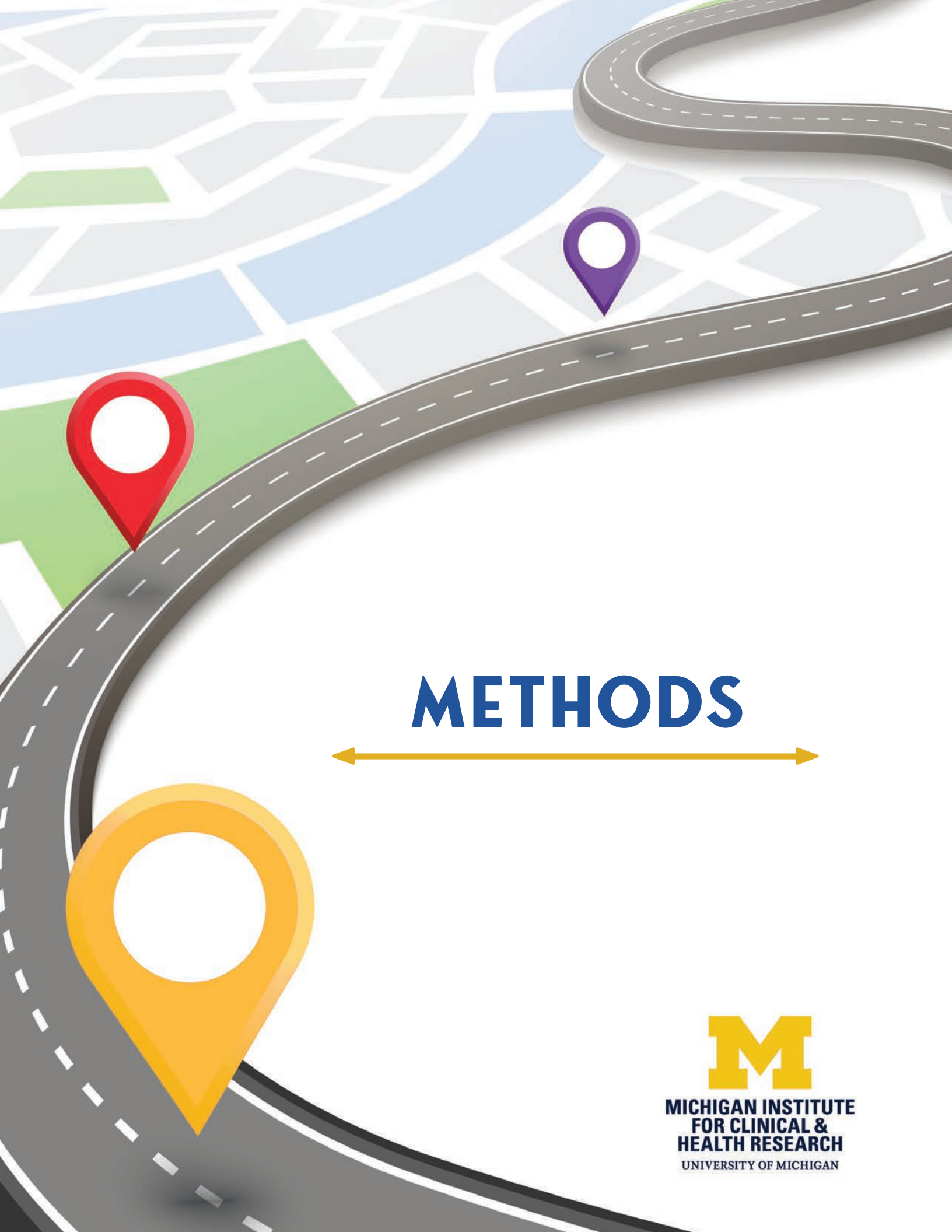
- Key Interview Participant

~

*"****The word crisis is thrown around as if it matriculated on its own. It did not.*** *This was a policy issue that was written into law, and because of this, there was nothing people could do."*

- Key Interview Participant

Photo by Jake May, titled "Water Delivery," 2016, Flint Water Crisis Collection. MLive.com.



METHODS

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METHODS

OVERVIEW

The study's aims were explored using a mixed-method approach. This included a scoping review and key interviews. The project was reviewed by the University of Michigan's Institutional Review Board (HUM00169601) and was deemed exempt. The community-academic Workgroup began the scoping review in March 2018 with assistance from the University of Michigan's Research and Informatics department. There were seven iterations for the keywords search, over an eight-month period, to develop succinct results that identified man-made disasters and outlined protocols for research partnerships and/or disaster preparedness. The Workgroup then developed a review guide to answer the aforementioned research questions.

The findings were summarized and used to develop a semi-structured interview guide for the conversations with key leaders from a range of community sectors in Flint. The findings were also used to inform the infrastructure of the R2P2 protocol.

METHODS

LITERATURE REVIEW

The R2P2 Workgroup conducted a scoping review of published literature relevant to community-academic disaster response, resilience, and preparedness. In accordance with community-based participatory research (CPBR) practices, partners were involved in every phase of the project.

Keyword Selection

In an iterative process, a list of keywords was generated to identify manuscripts describing protocols that both outline principles and components of a collaborative disaster response and included grassroots input (Table 1).

Table 1: Literature review keyword search

DATE OF SEARCH	APRIL 20, 2018	JULY 30, 2018	JULY 30, 2018	NOVEMBER 15, 2018
INCLUSION/ EXCLUSION CRITERIA	• Publications in or since 2000 • National or International occurrence published in English speaking journals			
KEYWORDS	ORIGINAL TERMS: • Man-Made Crisis/Disaster • Natural Disaster • Disaster Preparedness • Community • Research • Research Protocol • Environmental Disaster Preparedness	ADDITIONAL TERMS: • Research Readiness • Trauma Informed Care	ADDITIONAL TERMS: • Urban Environment Justice • Cross-Referenced with Man-Made Crisis	ADDITIONAL TERMS: • Disaster Protocol • Environmental Disaster • Downstream/ Upstream

Data Source and Search Criteria

PubMed was searched to identify English-language manuscripts published between January 2000 and November 2019 that included the keywords listed above.

The manuscripts identified were reviewed in the following stepwise manner:

- The titles were reviewed to identify those that provided documentation of procedural responses to disasters (man-made and/or natural).
- A review of the accompanying abstracts identified those that included:
  - Descriptions of each of the following:
    - Response to a specific disaster
    - Grassroots community engagement as a component of the disaster response
    - A protocol for the conduct of a disaster response initiative

  Or:
  - Answers to the first two research questions for the study, namely:
    - What would a protocol entail that would enhance disaster research readiness/resiliency and support bi-directional research relationships?
    - What are ways to build and maintain community-academic relationships in research, establish clear communication and mutual respect, and prepare for or alleviate emergent crises?
- The resulting articles underwent a full review as described in the following pages.

METHODS

LITERATURE REVIEW

Data Extraction

Articles appearing to fulfill the initial study criteria underwent a full-text review using the abstracting guide developed for this study, depicted in Figure 1.

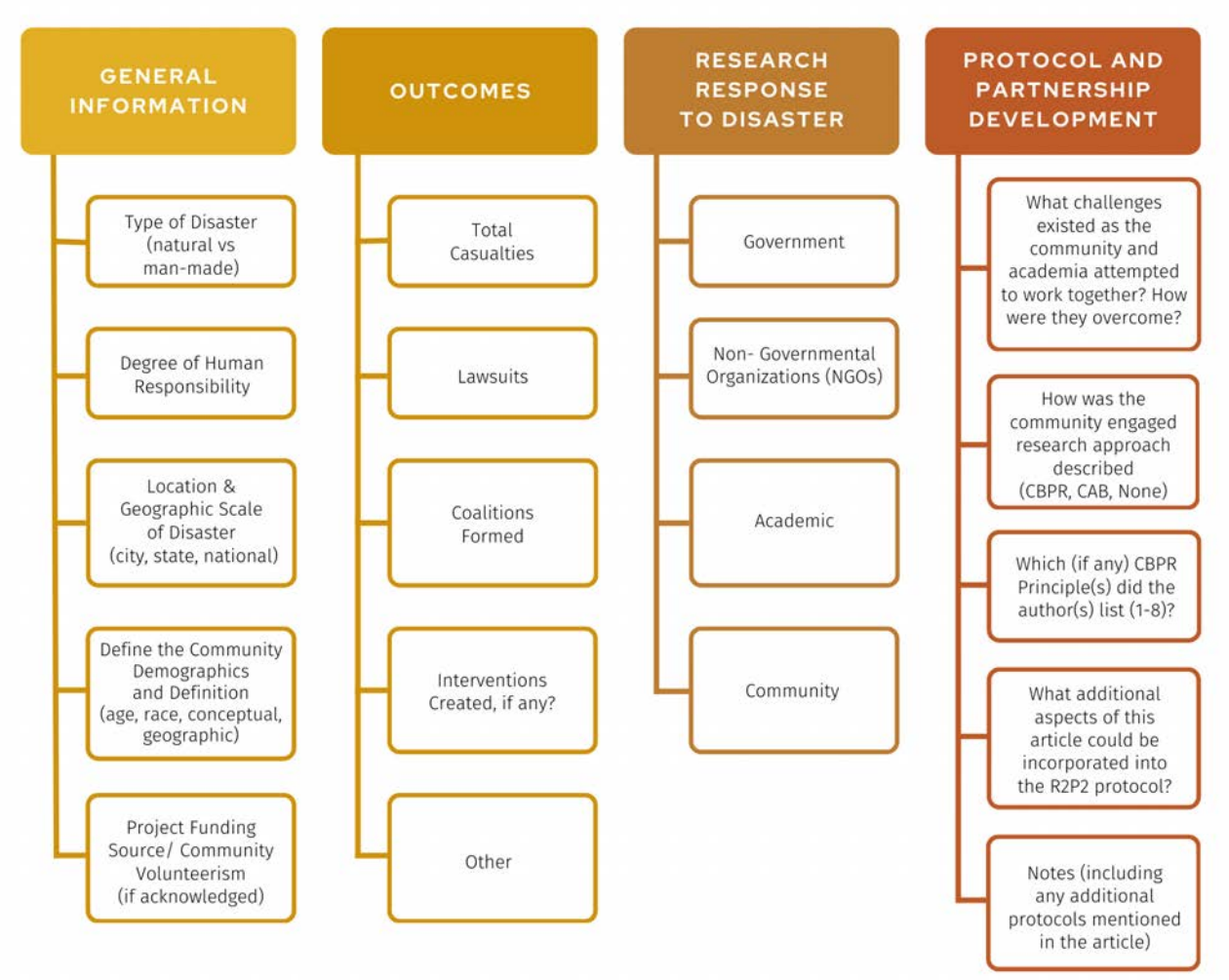

Figure 1: Abstracting Guide for Literature Review

A component of this guide evaluated whether the disaster described by each article was a man-made disaster or a natural disaster. The degree of human responsibility in both the origin and perpetuation of the disaster was considered in the assignment of these classifications. For example, Hurricane Katrina, while clearly a natural disaster in origin, was further classified as man-made due to the failings of infrastructure and local, state, and national government responses that amplified the hurricane's impact for populations under chronic stress.

METHODS

LITERATURE REVIEW

Data Review and Analysis

Because of the project's broader emphasis on disasters similar to the Flint Water Crisis, the community-academic Workgroup elected to restrict the final review to the articles that focused solely on responses to man-made disasters (see Figure 2).

Due to the high number of articles that met selection criteria in the early stages, members of the community-academic Workgroup primarily conducted the review process individually, followed by ongoing consensus meetings to ensure meaningful engagement from all parties throughout every stage of the literature review. These meetings were used to resolve differences of opinion and affirm broader perspectives throughout the research process.

Data extracted were reviewed for major themes and summarized for each of the topic areas listed in the abstracting guide described in Figure 1 (i.e., General Information, Outcomes, Research Response to the Disaster, and Protocols/Partnership Development related to the Disaster). The full results will be presented in a forthcoming manuscript. The findings relevant to a protocol for research readiness are presented in this document (page 23).

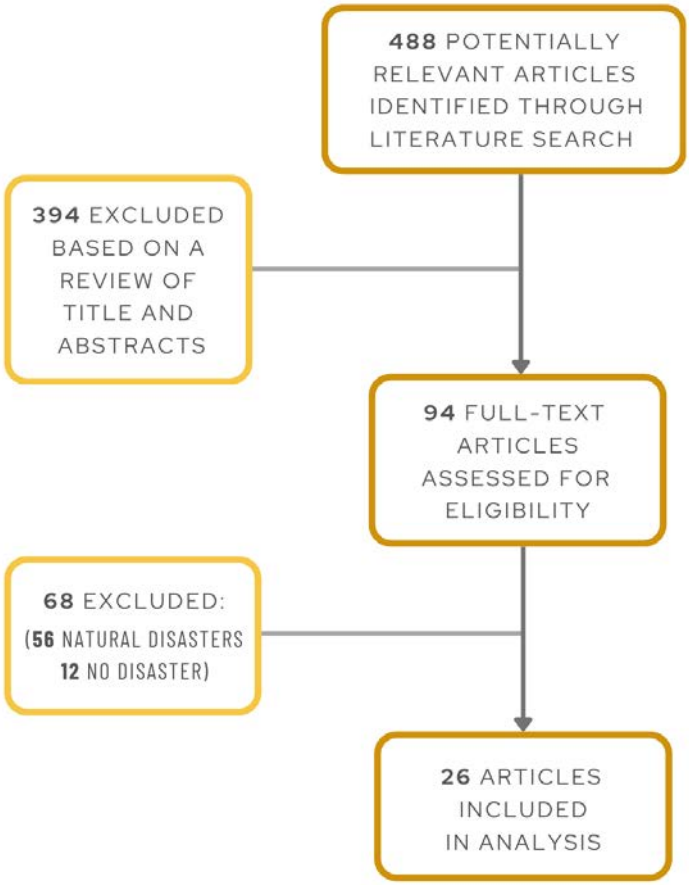

Figure 2: Literature Review Flow Diagram

METHODS

KEY INTERVIEWS

Interview Guide

The community-academic Workgroup developed a 10-item semi-structured interview guide (Appendix C) relating to the three project research questions.

Topics included:

- Participants' reflections related to the Flint Water Crisis and the pandemic
- The impact of the Flint Water Crisis, including lessons learned
- Suggestions for strategies to inform a community-academic response to crises
- Preparatory steps for developing partnerships
- Advice regarding partnership sustainability
- Approaches to building trust

Study Population

Potential interviewees were selected from community members who held positions in organizations serving the city of Flint, including 12 sectors (Table 2) deemed by the Workgroup to represent a broad range of perspectives on the water crisis. They then identified representatives from each of these sectors, creating a database of 192 community members who held leadership positions in organizations servicing the city of Flint. In addition to utilizing the community connections of Workgroup members, supplemental online research was conducted to identify as many potential participants as possible from each sector. Efforts were made to select organizational leaders who had a broad knowledge of the impact of the crisis and of their agency's response to the crisis. Furthermore, potential participants who were present in the agency during the water crisis were prioritized over those who joined the organization after the crisis began, who were directly impacted by the crisis, and/or who were involved in the response to the crisis.

Recruitment

Invitations were sent via email (Appendix A) to all 192 community members. In addition, Workgroup members reached out to those on the list who were in their network of contacts to encourage them to participate in the study. Efforts were made to ensure interviewee representation from as many sectors as possible. Due to COVID-related financial freeze enacted by Michigan, it was not possible to offer study incentives.

Table 2: Interviews per Sector (n=36)

COMMUNITY-BASED 6	CORPORATE 0	EDUCATION 4
ELDER CARE 3	FAITH-BASED 6	FINANCIAL 1
GOVERNMENT 4	HEALTH CARE 1	HOUSING 2
FOUNDATIONS 3	PUBLIC HEALTH 2	YOUTH 4

METHODS

KEY INTERVIEWS

Data Collection

- Interviews were conducted by the research team via Zoom.
- All interviews were recorded and transcribed verbatim.
- Interviews were conducted until thematic saturation was achieved (n=36).

Analysis

- After a preliminary analysis, ten initial themes were developed. (Table 3):

Table 3: Initial Key Interview Themes

COMMUNITY VISITS	DELAYED RESPONSE
BI-DIRECTIONAL COMMUNICATION	RESOURCE DISTRIBUTION
EQUAL PARTNERSHIP	DIGITAL MODEL
CROSS-SECTOR COLLABORATION	POPULATIONS UNDER CHRONIC STRESS
FOLLOW-UP LAPSE	NEGLECT/DENIAL

- Two out of 10 participating reviewers (mixed community/academic backgrounds) were randomly assigned to each interview, provided with recordings and transcripts, and asked to identify quotes corresponding to one or more of the ten initial themes.
- Reviewers were also given the option to suggest/add additional themes, as needed
- Paired reviewer meetings were conducted to reach consensus on interview analysis
- Based on these findings, the themes were updated and illustrative quotes were collated into three groups corresponding to the three overarching research questions.
- Key takeaways are outlined below in Protocol Steps & Recommendations (page 43)

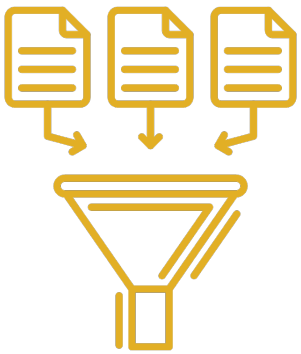

Photo by Jake May, titled "Lead Test," 2016, Flint Water Crisis Collection. MLive.com.

FINDINGS

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FINDINGS

OVERVIEW: LITERATURE REVIEW

Of the 488 studies identified in the literature review, only 26 included a community-based intervention implemented in response to a man-made disaster and provided a protocol. The following elements were commonly included in these protocols:

- "Asset-based" approaches were frequently employed, utilizing resources in the community rather than from outside.
- Professional and community training were widely implemented.
- The importance of transparent communication was emphasized, and the use of technology was recommended to enhance connectivity.
- The facilitation of cross-sector coordination and partnerships was a recognized need along with including policymakers for funding and support.
- The need for resources to conduct evaluation was acknowledged.

This section outlines the detailed results of the literature review, categorized by recommendations to be accomplished prior to a crisis and to be implemented during a crisis. Notably absent from the literature were concrete suggestions or intervention results.

FINDINGS

PRE/POST-CRISIS PERIOD

LITERATURE REVIEW

Asset-Based Initiatives – The use of existing community resources, rather than outside sources, was viewed as an important component of preparedness (Muller et al., 2014). This approach ideally starts with analyzing the assets and resources already present in the community along with existing knowledge and awareness of the issue. Incorporating established networks such as faith-based organizations in these efforts is vital, as they are both knowledgeable about and trusted by the community.

Training – Training programs were included in two of the protocols, one conducted in-person and the other via web-based training to increase access and create a "more educated population" (Laborde et al., 2013) (Richmond et al., 2014). A *train-the-trainer* approach was used by one group in which mental health providers received training to become "the experts" and they in turn were able to prepare local clinical providers, and eventually leaders of community-based organizations to deliver the intervention (Laborde et al., 2013).

Coordination and Partnerships – The need for initiatives to coordinate interactions between multiple partners and large collaboratives was highlighted (Hansel et al., 2015). One manuscript suggested dividing large coalitions into smaller subsections to provide more tailored help. Another report recommended organizing major partners to coordinate different response activities in the community (Gupta, 2011). The establishment of partnerships was widely viewed as important. One approach taken by the Preparedness and Emergency Response Learning Centers (PERLCs) was to establish programs and partnerships, internally and externally, specifically to sustain and advance strategies to improve public health preparedness (Richmond et al., 2014).

> ***A crisis is not a great time to try to build a relationship from scratch.***
>
> *- Key Interview Participant*

Evaluation/Assessment – The period between disasters was viewed as an ideal opportunity to engage in evaluation and assessment. Preparedness surveys including questionnaires to assess citizens' awareness of preparedness measures (Hinton et al., 2015) and interview/survey tools mainly with questions about disaster resources, emergency plans, and preparedness training (Muller et al., 2014). Furthermore, consistent review and revision to improve project frameworks was advised (Richmond et al., 2014). In addition, the evaluation by community partners of an intervention's effectiveness using objective measures was modeled by one study (Richmond et al., 2014).

FINDINGS

PRE/POST-CRISIS PERIOD

LITERATURE REVIEW

Communication – The need for effective communication was identified in several manuscripts. Suggestions for enhanced communication included regular press releases with information updated on a project website to keep the community informed (Gupta, 2011). Due to the importance of community voice in any preparedness initiative, one manuscript recommended adding phases to the traditional disaster management cycle, called "anticipation" and "assessment," for communities to give input. The authors state that community assessment should be used to determine which measures were implemented (Reaves et al., 2014). Such initiatives are designed to focus on "community connectivity" and to coordinate an effective disaster response (Sobelson et al., 2013).

Digital technology was frequently used to aid communication, such as the novel use of community notification networks/maps (Bera and Hrybyk, 2013). This system allowed residents to enter detailed reports of chemical accidents in their area, with follow-up from a rapid response team. Additionally, residents received alerts from the tool, to update them with reports from the National Response Center (NRC) which tracks chemical spills.

Photo by Jake May, titled "Third grader surrounded by water bottles," 2016, Flint Water Crisis Collection. MLive.com.

Challenges – The studies frequently presented the challenges experienced by community and academic partners in their efforts to work together. These included the following:

- Obtaining perspectives from a limited network of community members
- Resiliency building and capacity development
- Timeliness in disaster response
- Disagreements between community participants and outside organizations
- Maintaining interest and participation from all parties
- Developing long-term, sustainable community support systems
- Trust and perceived fairness
- Language/cultural barriers

Successful Approaches – Two successful approaches employed to address these challenges were:

- Providing flexible services that reach out directly to a wide network of community members
- Creation and strengthening of partnerships prior to an imminent disaster to ensure timely responses

FINDINGS
CRISIS PERIOD
LITERATURE REVIEW

During a crisis, the following concepts were recommended in the articles reviewed.

Community-Based Risk Reduction and Planning
Immediate attention should focus on disaster risk reduction rather than disaster management (Généreux et al., 2018). The community should be involved in evaluating disaster risks (Kafle, 2012) and this input should be used in community planning and assessment (Volenzo et al., 2018). High-risk groups should receive support and resources (Généreux et al., 2018), and efforts to mitigate fear and stigma should be employed (Andrulis et al., 2011).

Assistance with Resources
Efforts should be made to identify the needs of the community, which could be achieved via regular meetings to make decisions about the appropriate services and resources to provide (Hansel et al., 2015). This should be assessed in the context of "asset/resource management" recognizing community resources and shifting the rhetoric from a "deficit" based plan to an "asset" based plan. In keeping with this approach, use should be made of already existing community resources rather than creating an artificial infrastructure (Agani et al., 2010). Further, community members should be encouraged to believe in their knowledge and capabilities, understanding that they can make active and positive changes in their community (Agani et al., 2010).

Community Support
Support was a key component of some of the studies which actively engaged community members and developed communication through community voice (Volenzo et al., 2018). Health surveys were regularly employed to identify the community's priorities, promote support within the community, and create open dialogue regarding a defined action plan (Généreux et al., 2018). Community support was also used to influence policies and funding (Krause et al., 2017).

Community Education
Even in a disaster, continuing education occurred including the creation of training modules and manuals in order to build capacity at the field level (Krause et al., 2017). Training to develop a tailored approach to communities in crisis (Andrulis et al., 2011) was conducted, along with education to raise awareness for post-disaster mental health (PDMH) (Laborde et al., 2013), and workshops with community leaders to provide training about data collection methods (Bell et al., 2015).

FINDINGS
CRISIS PERIOD
LITERATURE REVIEW

Coordination of a "Multi-Sectoral" Response (Généreux et al., 2015)
The response to disaster benefits from a multi-sectoral plan with each partner contributing information and knowledge gleaned from their field of expertise (Généreux et al., 2015). One study convened a range of partners, from national, regional, and local levels, representing a variety of professional backgrounds to collaborate and coordinate a plan. Others brought together members of community-based organizations (CBOs), faith-based organizations (FBOs), clinics, and community businesses (Nepal et al., 2010) to participate in focus groups about the disaster or recruit members of CBOs as community researchers, who contributed to the study design, implementation, analysis, and dissemination (Nepal et al., 2010). In light of the importance of sustainability, one study involved community members to serve as "Community and Family Links" to continue the change after the researchers left (Agani et al., 2010).

Communication/Information
Regular monitoring and evaluation of progress by the community was a key component of many projects (Volenzo et al., 2018). Several channels were created to ensure the community was well-informed. These channels often took the form of press conferences and press releases. The response team quickly learned the most effective channels were local radio stations and direct outreach; press conferences/releases only resonated on a national level (Généreux et al., 2015). Communication was designed to increase empowerment, collaboration, and innovation (Généreux et al., 2018). Examples included employing a positive public relations campaign, allowing communities to control how they are presented in the media and to the world, and asking community members to provide images and videos to represent their community (Généreux et al., 2018).

Technology was used to create productive community discussions (Bell et al., 2015). Information and data displayed graphically facilitated discussion. Technology was also used to enhance the coordination of information and resources (Andrulis et al., 2011).

Assessment
Assessment was an essential need during disasters and many articles described the use of surveys such as those addressing the needs of disaster survivors (Hansel et al., 2015), risk assessments for various populations (Généreux et al., 2015), information technology-based risk assessment tools (Bell et al., 2015), and surveys to capture people's psychological responses (Grattan et al., 2011). Assessment tools consisted of questionnaires, guidance for focus group discussions, key interviews, and health facility assessments. These tools were consistently revised, as needed (Krause et al., 2017).

> ***Respect is given to another human being simply because he or she IS a human being. No other reason.*** - E Hill De Loney

FINDINGS

OVERVIEW: KEY INTERVIEWS

Key interviews (n=36) were conducted with representatives from twelve sectors relevant to the Flint Water Crisis response. These sectors were: community-based, corporate, education, elder care, faith-based, financial, government, health care, housing, foundations, public health, and youth. The following are the ten main themes that emerged from these interviews:

Table 4: Final Key Interview Themes

ACADEMIC PRESENCE IN THE COMMUNITY	EQUAL RESOURCE DISTRIBUTION
BI-DIRECTIONAL COMMUNICATION	FOLLOW-UP
CROSS-SECTOR COLLABORATION	NEGLECT/DENIAL
DELAYED RESPONSE	ROLE OF POPULATIONS UNDER CHRONIC STRESS
EQUAL PARTNERSHIP	USE OF TECHNOLOGY

This section outlines the detailed results of the key interviews, categorized by recommendations to be accomplished prior to a crisis and those for implementation during a crisis.

FINDINGS

RESPONSE TO THE FLINT WATER CRISIS

KEY INTERVIEWS

Response to the Flint Water Crisis

For most respondents, as they reflected upon the response to the Flint Water Crisis, they noted two main problems:

- **Community Voice and Response** – From the first signs of contamination, community members voiced their concerns. The community-driven crisis response was faster than the response from the government. Early organizing of canvassing occurred to reach Spanish-speaking families, for whom a language barrier impeded access to public information. Existing community resource networks were repurposed for the distribution of bottled water, water filters, and information. Community organizations (e.g., faith-based groups) distributed information via mailing lists, in-person contact, and radio stations (see Appendix D for related quotes).
- **Leadership Neglect/Denial** – Top-down government denial that anything was wrong with the water, despite concerns vocalized by community members, was almost universally noted. Many community members continued to insist that something was wrong. Still, others trusted the government reports and continued to drink/use the tap water that city/state officials said was safe. This lack of timely accurate communication about the risks of the water led to greater exposure of community members to contaminants (see Appendix D for related quotes).

Photo by Brittany Greeson. "Line of Cars," 2018, Vehicle City Collection.

FINDINGS

POPULATIONS UNDER CHRONIC STRESS

KEY INTERVIEWS

Populations Under Chronic Stress as a Public Health Crisis

Population factors contributing to chronic stress in communities were deemed to play a role in both the Flint Water Crisis and the pandemic. The main points emphasized by the key interviewees are presented below:

Populations Under Chronic Stress and the Flint Water Crisis

The Michigan Civil Rights Commission (MCRC, 2017) completed an investigation of the Flint Water Crisis and concluded that it was a classic example of disrupting poor communities. Many believe that had this crisis occurred in somewhere other than Flint (with different demographics), resources, accountability, and efforts to fix the water crisis would have materialized faster. Better yet, the crisis may not have happened at all. The Flint Water Crisis was not a result of infrastructure failure. It was a man-made decision driven by a fiscal belt-tightening approach.

In 2011, the State of Michigan passed a law that utilized an emergency manager appointed by the governor to assume power in economically challenged cities/municipalities (MI Public Act 4). Although that act was overturned by voters, the State passed a similar act with the emergency manager law embedded in it a few months later, Public Act 436 (Flint Water Study, 2016) (Jones. CP, 2014) (APHA, 2016). The Governor-appointed emergency manager model created a loss of democracy for Flint's elected officials and more importantly for the citizens of Flint, rendering the people democratically powerless.

In Michigan and beyond, emergency managers have been disproportionately assigned to communities under chronic stress, leading some to believe that Michigan's emergency manager law is strategically used to induced an emergency state in the community (Lee, S. J. et al., 2016). Cities like Flint, Benton Harbor, Highland Park, Pontiac, and Inkster have all had emergency managers. Whereas, it has been noted that other communities were not subjected to emergency manager oversight despite facing similar economic challenges. This shows the historical impact of repeated community public health crisis.

Photo by Picture Alliance. "Water Supply in the US City of Flint," 2025.

FINDINGS

COVID

KEY INTERVIEWS

Photo by Jake May, titled "Wagon," 2016, Chauvin Verdict. MLive.com.

Populations Under Chronic Stress and the Response to COVID

There was broad consensus across the key interviews, that the response from government/academic institutions to COVID-19 was far better than the response to the Flint Water Crisis. This was attributed to two main factors:

- COVID-19 is a tragedy that impacted the entire world; whereas, the water crisis was a tragedy solely in Flint.
- The Flint Water Crisis primed the pump for community response to the pandemic. For example, networks previously used for water and water filter distribution were utilized to distribute masks, information, and sanitizer when the pandemic started.

Despite the increased readiness of the community and the more rapid response of the government and academia, the residents of Flint disproportionately suffered from the initial impact of COVID-19. The town had economic challenges with companies moving their production to other areas. These factors contributed to families experiencing low employment and lack of employment. In addition, Flint residents were typically front-line workers without the opportunity to work from home. Thus, they were more likely to contract the disease. Furthermore, residents were at greater risk of having grave outcomes from the disease because of the history of poverty, multiple public health crises, and myriad of non-medical factors influencing the community's health which meant that they were more likely to have underlying chronic illnesses, such as heart disease, diabetes, and excess weight, all of which proved to be detrimental in the face of COVID-19.

Populations Under Chronic Stress and the Pandemic

Regarding the pandemic, key interviewees shared, that some residents of Flint felt they were treated as though they were more likely to be contagious. Respondents reported experiencing adverse physical and mental health effects personally and for family members, friends, and acquaintances due to the Flint Water Crisis and the pandemic. Additional stress was reported due to past and present unfair treatment.

FINDINGS

PRE/POST-CRISIS PERIOD

KEY INTERVIEWS

Community Engagement and Relationships

The importance of academic partners establishing respect, trust, and commitment through consistent community engagement and building relationships was emphasized. This includes acknowledgment and use of community expertise, longevity in involvement, and commitment to the community and its needs. The following is a summary of the key interview suggestions regarding partnership development related to this theme.

- **Success Linked to Having Trusted Connectors From the Community** – The importance of trust was almost universally emphasized. Having a known, trusted connector within the community was viewed as vital. A trusted person from the community that can bring together the community and academic teams could also help prioritize communication and community voice. The person should not be an outsider, but come from the community and be identified by the community. This will increase the likelihood of success, as a person who is recognized by the community will have a degree of established trust.

- **Building Trust by Intentional Presence in the Community** – By showing up in person in the community, academics demonstrate that they are invested in the interests of the community. The act of being present in person and staying involved instilled confidence in a greater likelihood of bringing about positive change. Visibility in the community helps academics to be viewed as approachable and committed to community issues. These benefits are hard to reproduce via other forms of contact.

- **Personal Relationships Build Trust** – Getting to know people on a personal level, not purely in a transactional way, was viewed as vital to reversing historical mistrust. One comment stated, *"When you get to know people, then you start to look at them as a person and not as an agency. When you can relate to people…it's a little bit easier to listen when they say that they have a new need."* Another advised academics to *"emphasize partnerships, not just with organizations, but with the people they serve."*

- **Broad Variety of Perspectives is Needed to Achieve Optimal Results** – Respondents highlighted the need to be included, involving various sectors of the community to provide academia with a better grasp of community expectations, priorities, and points of view. One respondent said, *"a vast number of different individuals coming from different backgrounds and different life experiences…[are needed for] a better picture of exactly what the community needs are."* The general public should be at the table and in particular *"Include the people who are being affected on the everyday level."* Resident advisory groups were recommended along with multidisciplinary teams in which members could learn from and about each other.

FINDINGS

PRE/POST-CRISIS PERIOD

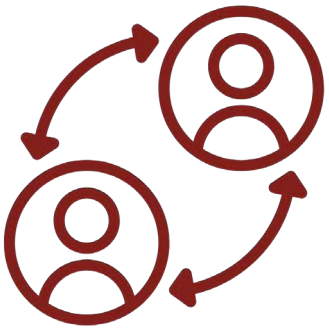
KEY INTERVIEWS

Bi-Directional Communication

Establishing clear and bi-directional communication in community-academic relationships is central to the success of the research and the partnership itself. Forms of communication and expectations regarding communication should be established early by all parties. This will facilitate a favorable response from partners and all-around trust if there is a need for an emergent response. The suggestions listed below to enhance the communication were emphasized during the key interviews.

- **Direct-to-Community Communication is Needed to Build Trust** – Direct contact with all partners ensures unfiltered information is conveyed and that everyone gets the same message/information. This direct, in-person form of message delivery was of value due to the frequently stated belief that *"information is power."* Providing clear, comprehensive information can help with trust as suggested by this statement, *"Because we have such a lack of trust here in the community because of the social ills that we've been dealing with over the last few years, and even years past, if you're just getting bits and pieces of information then that's where we have that mistrust."*

- **Communication Should Enhance Optimal Collaboration** – Partnerships that prioritized equal power-sharing and decision-making were important to the majority of respondents. In keeping with this priority, respondents noted the need to ensure community wisdom/input is acknowledged and appreciated for its importance. Reciprocal respect was emphasized, particularly as it relates to communication regarding financial decisions and practices that require transparency (e.g., about the ways universities benefit from partnerships). Education about the language and processes of academia was suggested as a means of facilitating cooperative partnerships in this statement, *"As the research process itself can be complicated when unfamiliar, offering a third party to educate community stakeholders on the process, requirements, and other procedural components is necessary to play an equal part in the partnership."* Another respondent stated, *"Give as much as we get from the community. Until you begin to do that, there's always going to be an imbalance in the relationship."*



In summary, respondents indicated that information should be presented directly to the community in accessible ways that provide opportunities to ask questions (e.g., via community forums). Communication should occur with sincerity and humility and should promote optimal collaboration. Expectations should be established at the onset regarding how the information will be shared with regular follow-up to evaluate consistency and effectiveness. Community involvement is required *"early and often"* to ensure projects are set up for the right community impact as the *"community must care about the research"* for it to be successful.

FINDINGS
CRISIS PERIOD
KEY INTERVIEWS

Dissemination of Information

In light of community members viewing information as power, respondents highlighted the critical need for accurate, trusted, and timely information sharing during the onset of a crisis. Respondents indicated that communication in a crisis should be:

- Optimally distributed to all sectors of the community
- Utilized to incorporate trusted partners in content development and dissemination
- Rapidly updated in real-time
- Shared via multiple channels (e.g., social media, snail mail, face-to-face)
- Accessible to all community members (regardless of educational level or language preference)
- Involve all in the community, particularly hard-to-reach groups (e.g., deaf and hard of hearing and non-English speaking populations)

Resource Allocation

While the need for research in the midst of a crisis was recognized as important, respondents underscored the fact that residents have higher priorities during a crisis. Helping to address basic needs should be a first step that is given precedence by academic institutions before even considering moving forward with research. Important steps academia should take include the following:

- Dedicate resources to non-research-related community needs
- Consider the additional cost to communities that participate in research during a crisis
- Provide equal compensation for community partners participating in research teams and as participants in studies

Maintaining Trust in Community-Academic Partnerships

A crisis often strains resources and could fracture relationships. Thus, respondents emphasized the significance of maintaining community-academic partnerships during traumatic times. Particularly during extreme circumstances, respondents suggested the health of a partnership would be enhanced by:

- Transparency in decision-making
- Honesty about what is possible and the limitations that exist
- Acknowledgment of the extra burden placed on community members to respond rapidly to research needs
- Remaining present in the community

FINDINGS
DIGITAL PLATFORM
KEY INTERVIEWS

Digital Platform vs. In-Person Communication

In-person communication was acknowledged as a necessary and optimal component of bi-directional communication. However, it was noted that the use of digital platforms could enhance bi-directional communication for those with access. The digital divide presents a hurdle but this is decreasing as an issue over time. Considerations for implementing a digital platform are presented below.

Digital Platforms for Younger Residents

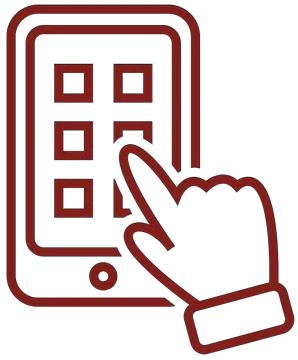
Particularly for younger people, mobile apps were viewed as a way to facilitate contact that would not be possible otherwise. For example, one respondent stated, *"I think they would probably do an app before they would explore a website."* While another noted "*The younger folks would definitely love the app. Some of the seasoned individuals, who know how to do text messages now, they would use that. And then you have some people that are good on the social media aspect. So, I think all three would be beneficial. And to some extent even snail mail."*

Recommendations for Developing Digital Platforms

For a digital approach to be helpful the following suggestions were shared by study respondents:

- A digital platform should use language that is digestible to the community at large (i.e., avoiding jargon and terms that might not be clearly understood.
- It should be developed with the input and buy-in of the community to increase the likelihood that it will meet the needs of the community and that it will be used by the community.
- Due to the availability of many digital tools, any new options should create synergy rather than duplication and it is vital that they are updated regularly.
- In addition, it was emphasized that efforts should be made to include all sectors of the community including those with differing abilities.
- Due to the expense associated with the development of mobile applications, foundations might be considered as potential sources of funding.

Overall, a digital platform was viewed as a helpful tool to aid in the dissemination of valid information. This was summarized by a participant who stated *"Having a mechanism in place where all of these different organizations actually subscribe to it and then there's one button you can hit and this information would go out to everybody and it would be a uniform piece of information so that everybody would be saying or be sharing the same thing. I think would be really important."*



FINDINGS

TRUST - AN ESSENTIAL COMPONENT

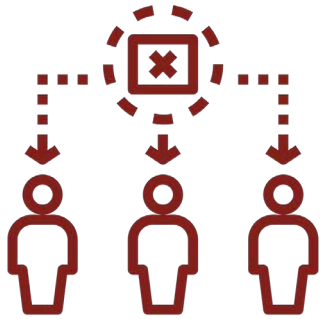
KEY INTERVIEWS

Trust

In general, when participants considered the development and dissemination of a readiness and partnership protocol, trust emerged as the major issue. Respondents identified three main factors that impacted the level of trust in Flint. Specifically, these were history, resource allocation, and communication.

A History of Mistrust

The lack of trust was frequently noted and emerged as an issue that would impact the creation, dissemination, and adoption of a readiness and partnership protocol. One respondent simply stated "*But as a person, as a resident, I just mistrust. I mistrust the government as far as that's concerned. So, lots of mistrust. At that particular time, I didn't do anything other than taking care of my own family."* Built upon a long history that includes fractures in the relationship between communities and institutions/agencies, participants expressed the need to address this issue in every aspect of a protocol and to take steps to build trust. This should include spending more time in the community to gain knowledge about the community and to understand the resources needed.



Trust and Resource Allocation

Allocation of resources and funding for community-engaged efforts was noted as a concern and frequently liked to the development of trust. A representative comment regarding funding stated that *"[we have] never received any significant funding."* Another respondent expressed that *"when a community experiences trauma, universities get funding to study that community, but the community does not get funding to deal with the trauma."* These discrepancies highlight the concerns communities have when engaging in research with academic institutions and undergird some of the issues of trust. The request for funding goes beyond research but extends to addressing true community needs such as mental/emotional support, and in the case of the water crisis, basic needs such as water and food. It was noted that *"budgeting for smaller issues that might not seem vital in the present will avoid larger problems in the future,"* problems that will cost much more to resolve.

Key interviews illuminated a salient idea that resource distribution referred to not only the streamlining of tangible, physical resources (e.g., food, water, supplies) but also the equal dissemination of "information" as a resource. Key interviews pointed to *"the lack of cooperation among [government] agencies and the lack of information sharing"* as a challenge faced during the water crisis. Respondents emphasized the importance of distributing information in a manner that reaches the entire community, as it is a resource that will help everyone and will build trust.

FINDINGS

TRUST - AN ESSENTIAL COMPONENT

KEY INTERVIEWS

Trust and Communication

Participants underscored that communication should be open and honest. One representative comment about communication and trust stated, *"You can't go in judgmental. You have to go in with an open mind. And then you have to almost use baby steps when you're dealing with them because you don't want to over-talk those individuals. Because when they feel like they're being overtalked or talked down to they become defensive. So, I think that it's all about your tone and your delivery. If you're sincere, and you're showing humility, I think that goes a long way in being able to stem the tides of the mistrust."*

Recommendations included developing structured ways of disseminating information (e.g., having an extensive list of contacts to aid in dissemination) and using multiple pathways to adequately address specific groups. For example, one key interviewee stated, *"We have videos that are archived for various scenarios, be it a tornado or a flood...to communicate with deaf and hard of hearing communities who may not be able to get the same information out of a news report that somebody else might get. Developing communication pathways for emergent situations so that those various populations can be taken care of."* Another key respondent noted, *"We go into some of our senior centers. I think that is an avenue. You go to the east side of Flint. You go to north Flint. I think to be able to encompass the greater community would be key. To go into some of the rural areas because they have their challenges as well. So, I think that you just have to think outside the box as it relates to this, but you have to bring everybody to the table. Everybody has a voice."*

Faith-based organizations, particularly churches, were repeatedly highlighted in the interviews as a community hub for resource sharing and information exchange. One respondent proposed leveraging churches *"...as a media outlet...I'm not talking about a computer room with a bunch of computers in it. We're talking about a media outlet that shoots out information. So, if we have them in different places like it's easy to get their information out."*

The key interviewees also stressed the importance of following up once information is shared, especially in rapidly changing circumstances *"to give people timely resources and information based on the emerging information."*

Photo by Master Sgt. Daniel Griego, "Loading Bottled Water," 2016, U.S. Army National Guard/AB Forces News Collection / Alamy Stock Photo.

PROTOCOL STEPS & RECOMMENDATIONS

MICHIGAN INSTITUTE FOR CLINICAL & HEALTH RESEARCH
UNIVERSITY OF MICHIGAN

PROTOCOL

GUIDELINES AND RECOMMENDATIONS

Based on the results of the extensive literature review and key interviews, the Workgroup summarized the findings and identified key principles, from which they developed guidelines and recommendations to inform a rapid research response to public health emergencies. This section includes a protocol with steps to be taken prior to and during a crisis. In addition, detailed recommendations on the following key elements are presented: C.L.E.A.R Communication, Community Collaboration and Academic Promotion (CCAP), Transparency, Populations Under Chronic Stress, establishing a Front Door, and Building Mutual Trust.

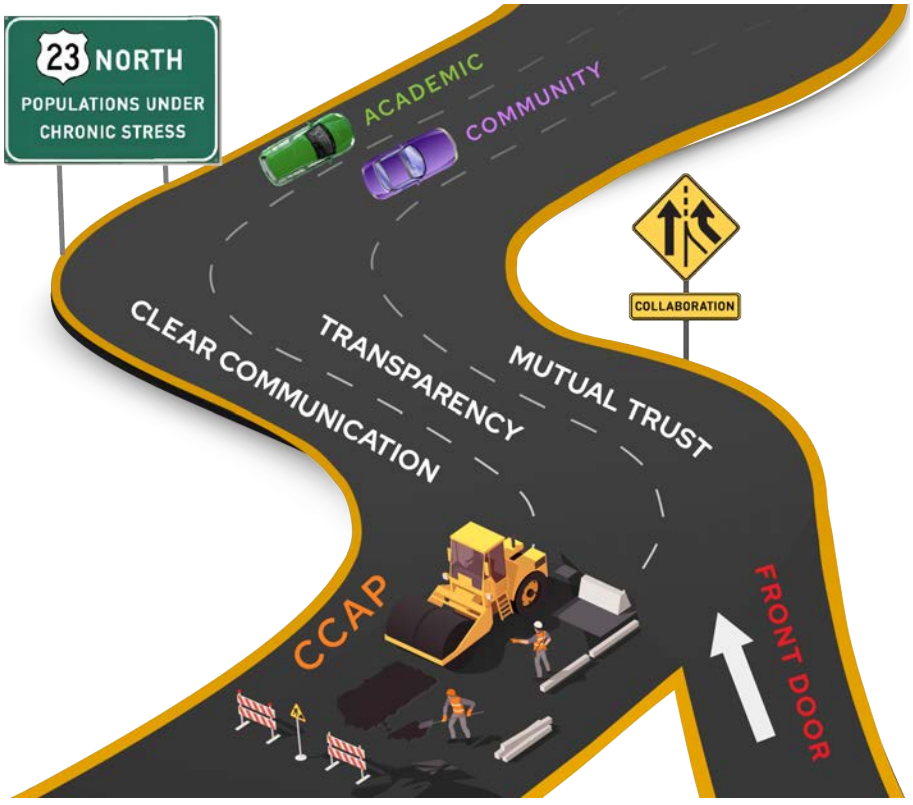


Figure 3: R2P2 Key Elements

PROTOCOL PRINCIPLES

PRIOR TO A CRISIS

INVEST IN LONG-TERM PARTNERSHIPS WITH RECIPROCAL RESPECT AND TRUST

(SEE "TIPS FOR PARTNERSHIP" UNDER RESOURCES | PAGE 69)

- Intentionally incorporate community input from the inception of any initiative
- Institutions should consider locating offices in the communities served
- Plan for continued investment beyond specific projects (not just a 3 to 5-year commitment)
- Employ a trusted community-academic connector (preferably from the community)
- Academics should be approachable and visible in the community (i.e., spend time physically in the community)
- Academics should partner with trusted organizations in the community
- Networks should be established for timely resource distribution
- Engage a variety of academic disciplines (e.g., infectious disease, environmental science) as community-engaged research investigators

SECURE FUNDING

- Resources should be secured to support partnerships not just for specific projects (e.g., building capacity and maintaining relationships)
- Access to funds should be secured ahead of time to address needs likely to occur during a crisis
- Funding for evaluation of partnership initiatives should be obtained (consider foundation funding)

DEVELOP A COMMUNICATION PLAN

- Invite wide and varied input and value all voices
- Invest time in developing a shared language
- Create a safe space for sharing, such as a resident advisory group
- Identify multiple channels of communication including avenues beyond traditional media (e.g., faith-based networks and grassroots organizations)
- Establish a mechanism for communities to "sound the alarm" to researchers regarding a potential impending emergency for which they are seeking a research and/or public health response

ESTABLISH GUIDELINES FOR TRANSPARENCY AND OPTIMAL COLLABORATION

- Distribute open and honest information to all parties involved in the partnership
- Share data openly and in accessible ways
- Invest in leveling the playing field (e.g., providing education, financial support, etc. as needed)
- Ensure community benefits from the research (e.g., community health, manuscripts, and financial gain)

PROVIDE TRAINING AND EDUCATION

- Increase community capacity and foster sustainability through relevant training and education
- Orient community on the procedures and processes of the academic institution
- Educate academic partners on relevant community history (e.g., community strength and past challenges)

IMPLEMENT REGULAR EVALUATION AND ASSESSMENT PLANS

- Decide upon evaluation tools collaboratively and set a schedule
- Share results openly and determine ways to improve

PROTOCOL STEPS

CRISIS PERIOD

STEP 1 — ASSESS COMMUNITY NEEDS

- Reach out to partners in the affected community to determine urgent needs
- Ensure connection is made with often overlooked populations (e.g., non-English speaking residents and the deaf and hard of hearing)
- Ensure community members are aware the connection is not for research but to help, where possible, with urgent needs

STEP 2 — RESPOND TO COMMUNITY NEEDS

- Collaborate with established community partners to promote synergy in disaster response
- Utilize institutional resources to assist the community
- Leverage community assets and determination

STEP 3 — REINFORCE LONG-TERM PARTNERSHIPS

- Maintain contact by continuing regular meetings, if possible
- Utilize technology to facilitate ongoing connections

STEP 4 — WHEN APPROPRIATE, IDENTIFY COMMUNITY RESEARCH PRIORITIES & DETERMINE WHICH RESEARCH INITIATIVES CAN BE SUPPORTED DURING THE CRISIS

- Co-develop a plan of action for research to help in the crisis
- Develop new research questions that should take precedence over ongoing research
- Determine safest ways to continue any research that is deemed necessary

STEP 5 — IMPLEMENT A COMMUNICATION PLAN DIRECTLY BETWEEN ALL PARTNERS TO ENSURE UNFILTERED INFORMATION IS SHARED

- Assess and adapt the communication plan to the current crisis
- Update and expand communication network
- Reciprocal responsive sharing of information using accessible language

STEP 6 — ENSURE TRANSPARENCY & OPTIMAL COLLABORATION

- Prioritize community access to information and resources
- Set expectations for the manner in which information will be shared, ensuring consistent follow-up

STEP 7 — EVALUATE & ASSESS RESEARCH PARTNERSHIP ACTIVITIES

- Consistent reinforcement, follow-up, and evaluation of shared research agenda
- Evaluate the impact of the partnership response to the disaster
- Assess partnership dynamics and respond to changing needs
- Periodically revisit the original aims of the study to minimize mission creep

IMPLEMENTATION OF THE R2P2 STEPS DURING THE COVID-19 CRISIS

PRE-PANDEMIC: The Aim 2 Workgroup met bi-monthly for most of the CTSA funding period: February 2018 – February 2022. These action-orientated two-hour sessions were used to strengthen and diversify the capacity of communities in crisis to engage in, and benefit from, the translational research enterprise. During this time reciprocal respect and trust were fostered.

PANDEMIC

STEP 1 ASSESS COMMUNITY NEEDS

These ongoing meetings were repurposed in March 2020 to assess community needs for Flint residents facing the new pandemic, while still navigating challenges from the Flint Water Crisis. The Workgroup was able to address two major needs that were identified. Residents faced with difficulties accessing clean water were particularly in need of alcohol-based sanitizer for hand hygiene. Additionally, community partners requested up-to-date educational information to distribute, at a time when misinformation was rampant.

STEP 2 RESPOND TO COMMUNITY NEEDS

MICHR's Community Engagement program in collaboration with academic and community partners created educational flyers about COVID-19 and translated them into multiple languages (www.michiganceal.org/resources/resource-library). The University of Michigan's School of Pharmacy, in response to the crisis, used its chemical supplies to produce sanitizer and donated almost two hundred gallons to MICHR's Community Engagement program. These resources were distributed to community agencies across the state.

STEP 3 REINFORCE LONG-TERM PARTNERSHIPS

During the unprecedented days early in the pandemic the Workgroup elected to continue on its regular schedule. Due to COVID-19 restrictions, the meetings transitioned to a virtual platform (e.g., Bluejeans, Zoom, and conference calls). Time was devoted during each session for a "wellness check" where partners could share their personal and community experiences.

STEP 4 WHEN APPROPRIATE, DETERMINE WHICH RESEARCH INITIATIVES CAN BE SUPPORTED DURING THE CRISIS

At the onset of the pandemic, the Workgroup pivoted from its focus on developing R2P2, to addressing a new priority of understanding Michigan residents' perceptions of COVID-19 (Tanti et al, 2021). Once the University allowed a return to non-COVID-specific research (if it could be conducted remotely), the Workgroup resumed its original work. However, due to the pandemic, the planned focus groups were eliminated, and interviews were converted to a virtual platform. Furthermore, Michigan Medicine implemented a financial freeze. Therefore, in the absence of being able to offer participant incentives, the Workgroup opted to conduct interviews with executive leaders in the community.

STEP 5 IMPLEMENT A COMMUNICATION PLAN DIRECTLY BETWEEN ALL PARTNERS TO ENSURE UNFILTERED INFORMATION IS SHARED

The Flint Communication Group formed a sub-committee to expand existing communication networks. The Genesee County Health Department requested assistance to establish an up-to-date directory for faith-based organizations in Genesee County. Staff and students from the Workgroup led these efforts with additional community leaders. The directory included full confirmed contact information for over 650 houses of worship. This directory was used to disseminate operational guidelines surrounding the COVID-19 federal mandates.

STEP 6 ENSURE TRANSPARENCY & OPTIMAL COLLABORATION

During the pandemic, new federal community-engaged grant opportunities emerged, and efforts were made to ensure fair compensation for community partners. Following the pause in Michigan Medicine research funding, retroactive compensation for community partners was dispersed. Sanitizer and COVID-19 educational flyers in multiple languages were distributed in collaboration with the Food Bank of Eastern Michigan to reach the most underserved residents in the region.

STEP 7 EVALUATE & ASSESS RESEARCH PARTNERSHIP ACTIVITIES

In an iterative process, the Workgroup reassessed the scope of its original project and included a focus on the response to COVID-19. Furthermore, the pandemic highlighted the numerous community health present in our society. Thus, the Workgroup elected to explore communities in crises as a public health crisis. In the absence of a tool to fully evaluate all aspects of community-academic partnerships viewed as important by the Workgroup, a partnership dynamics assessment tool was created and pilot tested, in conjunction with MICHR's Evaluation and Metrics team.

C.L.E.A.R. COMMUNICATION

Community members should be integrally included in communication initiatives in the community. As trusted messengers, their involvement increases the likelihood that information will be understood and accepted.

Long-term/Longitudinal communication that provides a consistent source of trusted information should be established with predictable frequency (weekly, monthly etc). Thereby, providing a stable resource that community members can access for updated, reliable data.

Easily understood content should be created that explains challenging concepts using simple, relatable terms allowing those outside of academia to grasp the information needed to help them make decisions. To achieve this community members should be involved in co-developing shared language for use in all communication channels.

All community members should have access to accurate information. Efforts should be made to ensure that groups such as the deaf, those for whom English is a second language, and the homeless are included in the dissemination of information.

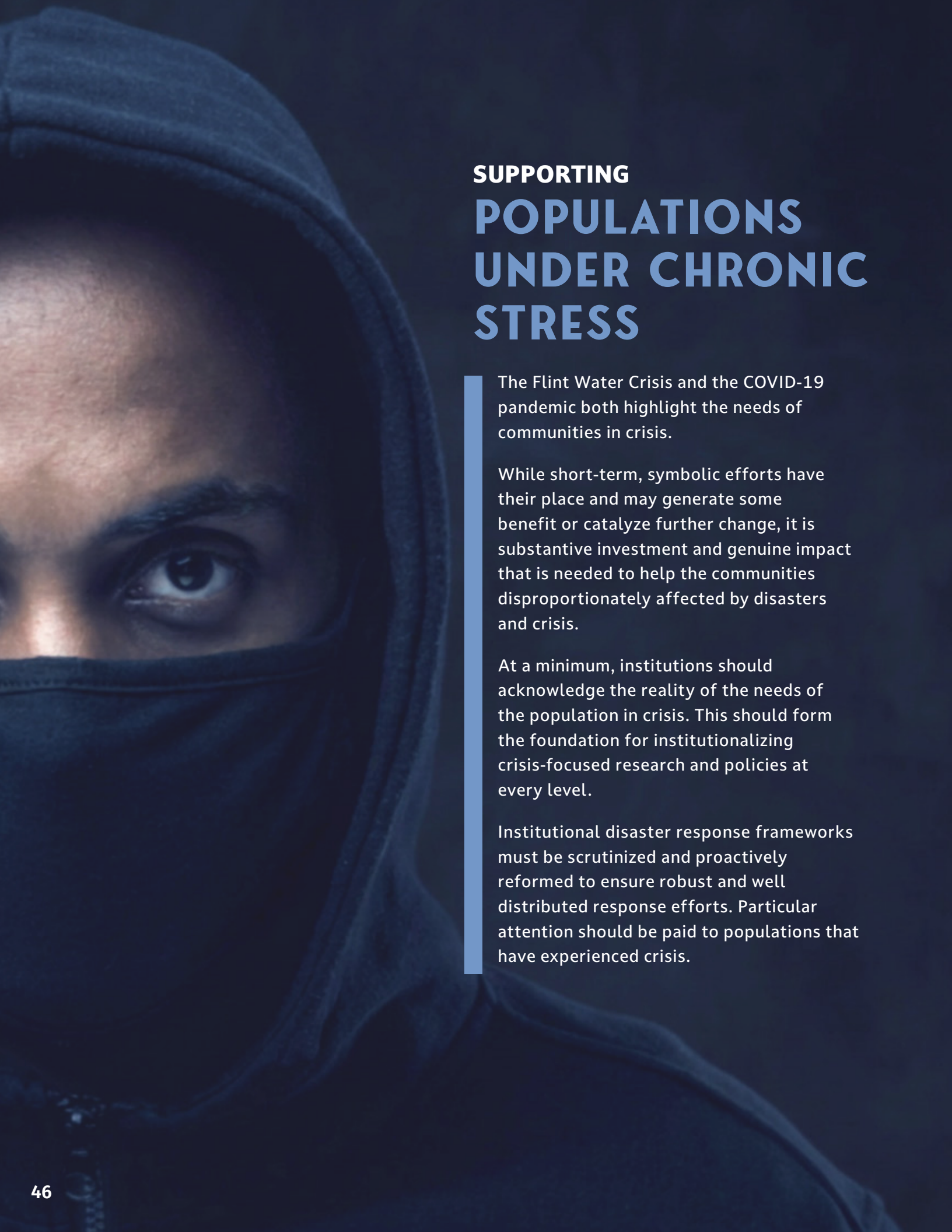
Reciprocal/Responsive communication that allows feedback and questions between academics and the community should be the goal. Town hall meetings, hotlines, and webinars are potential ways of sharing credible information and inviting input/questions from the community.

COMMUNITY COLLABORATION & ACADEMIC PROMOTION (CCAP)

There is a recognized need for researchers to be involved in the community for the long-term community projects that do not lead to the outcomes traditionally rewarded in academic institutions. In order for faculty to build the partnerships necessary for research readiness and form the required connections between the community and academia, a culture change is needed at universities.

To achieve an environment in which community-engaged research can flourish, universities should:

- **INVEST** in a paradigm shift that places the same value on community-engaged work as other forms of research, such as basic science
- **PURSUE** the involvement of community in all research (e.g., seeking patients' input in framing research questions across the translational spectrum, funding community principal investigators, and engaging in dissemination to community groups)
- **INCENTIVIZE** community-engaged research to ensure it provides a path to promotion and tenure (with metrics pertinent to community engagement such as community impact being a measure of merit, along with traditional criteria including the number of publications and grants)
- **PROVIDE** the infrastructure to support community-engaged studies (for instance networks that will help junior faculty conduct research in partnership with community-based organizations)
- **PROVIDE** training for researchers in preparation to conduct community-engaged work



SUPPORTING

POPULATIONS UNDER CHRONIC STRESS

The Flint Water Crisis and the COVID-19 pandemic both highlight the needs of communities in crisis.

While short-term, symbolic efforts have their place and may generate some benefit or catalyze further change, it is substantive investment and genuine impact that is needed to help the communities disproportionately affected by disasters and crisis.

At a minimum, institutions should acknowledge the reality of the needs of the population in crisis. This should form the foundation for institutionalizing crisis-focused research and policies at every level.

Institutional disaster response frameworks must be scrutinized and proactively reformed to ensure robust and well distributed response efforts. Particular attention should be paid to populations that have experienced crisis.

TRANSPARENCY

Transparency is essential for the development of trust. Community-academic partnerships bring together diverse collaborators who potentially possess limited information about the other partner's institution. These gaps in knowledge can lead to erroneous assumptions and ultimately impede trust. Open, honest communication about all aspects of the joint project is often uncomfortable but it is essential for the health of a long-term partnership.

KEY AREAS OF TRANSPARENCY INCLUDE:

- **FINANCES** - The differences between amounts budgeted for community organizations compared to academic institutions are often significant and can lead to concerns about lack of transparency and fairness. Honest discussions regarding the budget should occur early in the partnership and should be revisited regularly.

- **GOALS AND EXPECTATIONS** - Academic goals generally include a need to publish and secure grants as a means of achieving the milestones required by the academic institution. Community partners are naturally particularly invested in the outcomes for the local population. Aligning goals and expectations is necessary for the longevity of the partnership.

- **LIMITATIONS** - An association with a large institution may suggest the ability to exert more influence on factors affecting the community than an individual may in fact be able to achieve. Frank discussions of what is possible will help avert future disappointments and aid in the consideration of other ways to realize the desired goals.

- **DATA** - The data collected in community-engaged research is generally about the community and a lack of transparency, particularly during a crisis, can be deeply troubling. Community partners should have full access to data and should be involved in the analysis and interpretation of the data.

FRONT DOOR

One of the largest concerns of the community during the Flint Water Crisis was the inability to get the message of their experience to the right people with the power to intervene and the will to do so.

Establish a "front door" by which community members can communicate with academic institutions. Universities should:

- Provide a simple method such as a 1-800 number or specific website (though this alone is not sufficient due to those who do not readily access or use the internet)
- Create a procedure to link callers with a department/division/faculty member that might be able to address their concern
- Define a feedback and evaluation plan to determine if the community members received the desired results from their contact with the university
- Assess metrics to identify patterns that may indicate an emerging urgent issue or crisis

Ultimately, a way to "raise the alarm" and escalate the callers' communication is to ensure crises are noted and an appropriate response is mounted.

BUILDING MUTUAL TRUST

Building a foundation of trust is a long-term process that is impacted by the historic repeated mistreatment and inferior treatment of distressed populations. While "we have to remember that people come to a situation with different experiences" being worthy of trust and creating safe spaces requires attention to the following elements:

"Trust every human being explicitly until given a reason for distrust."

TRACK RECORD

- Of following through
- Of excellence

"Trust is difficult to build, but easy to lose."

THOUGHTFULNESS

Actively ensuring community/ academic members' needs and benefits are satisfied throughout the partnership, *"giving each other grace."*

TIME AND THOROUGHNESS

Trust is built not earned *"Walking together over time, not just helicoptering in."*

"Separate personal from procedure and practice synergy."

TRUTH

- About what can be achieved
- About expertise/resources brought to the table
- About the goals of the partnership

TRANSPARENCY

- Open communication to the point of clarity
- Access to all information not just some

TRUSTWORTHINESS

Be a person of integrity, be *"someone who people can trust to give truthful answers"*, and someone to whom, *"people can take their problems." "You build trust when your word is your bond!"*

RESEARCH READINESS PARTNERSHIP PROCESS

Upon the recommendation of community members, the community-academic workgroup endeavored to create a graphic model to conceptualize the way in which community-academic partners developed synergy in research teams.

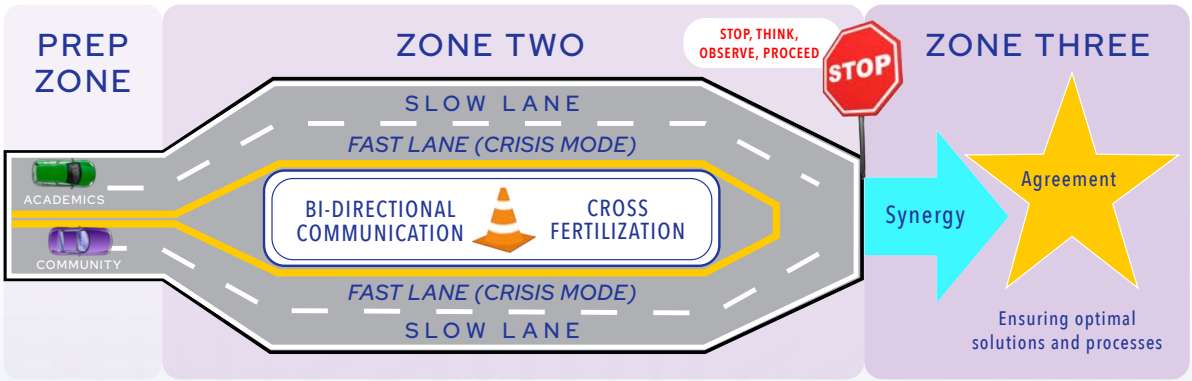


Figure 4: Research Readiness and Partnership Protocol Community-Engaged Research Implementation Process"

PREP ZONE

This model displays community and academics entering into partnerships at varying stages. Both face industry-specific challenges. Community-based organizations (CBOs) often struggle with limited operational and programming budgets. Academics are faced with institutional restrictions, tenure requirements, and heavy teaching loads. CBOs are centered in the community as resource providers, are boots on the ground, and help amplify community concerns. They have important insights that may be outside of the academics' experience. Academics provide research expertise and tools, an abundance of human capital from the student population, funding, and international recognition.

ZONE 2

This phase emphasizes bi-directional communication and cross-fertilization to build synergy. Partners need to establish a common language, expectations, and enhance their understanding of the aims and objectives of the project, along with the processes the team will utilize to communicate. Teams must STOP: Stop, Think, Observe, and then Proceed throughout the duration of the partnerships, thus allowing time to celebrate small successes, pivot when necessary, realign resources, and assess the temperature of the team, community, and impact of the work.

ZONE 3

The model ultimately leads to creating synergy to sustain long-term community-academic partnerships that impactfully engage in community-identified research projects/priorities to develop interventions that address the needs of the community.

COMMUNITY QUOTES

*"The partnerships don't get built if the community doesn't care what you're researching; **you have to be relevant**."*

- Key Interview Participant

~

*"Just to **be transparent** and put the information out and be able to stand on the information, I think is going to be key."*

- Key Interview Participant

Photo by Jake May, titled "Family of Six," 2016, Flint Water Crisis Collection. MLive.com.

DIGITAL MODEL

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DIGITAL MODEL

The workgroup sought ways to assist teams in implementing the R2P2 recommendations. Creating a digital model was viewed as a potential tool to achieve this goal. The team enlisted students from the University of Michigan's School of Information to develop a framework for a potential digital platform for both community and academics to report community concerns and alert others of the potential risks to the affected population. Prototypes designs for the CANARRRE (Community-Academic Network Alarm & Research Readiness Response) can be found on pages 55-57.

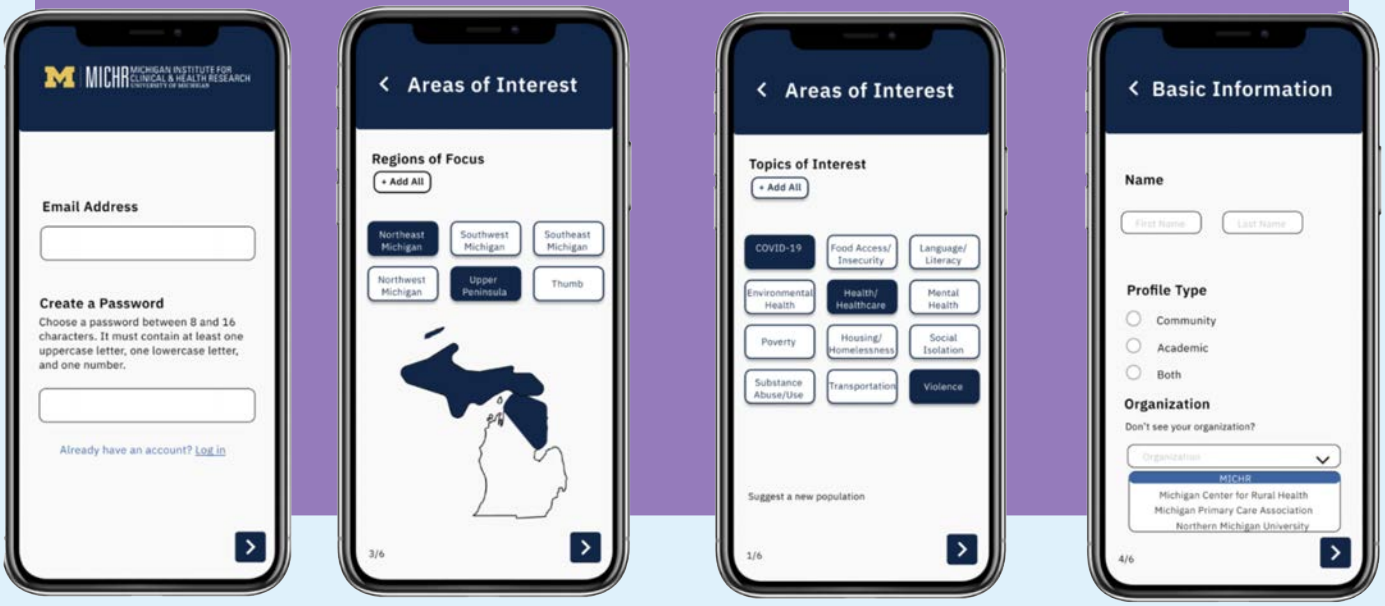
COMMUNITY-ACADEMIC NETWORK ALARM & RESEARCH READINESS RESPONSE (CANARRRE)

A PROTOTYPE OF AN INTERACTIVE DIGITAL DISSEMINATION TOOL.

Upon entering the app, users may navigate to any of their research groups, here MICHR and AIM 2 are examples. An indicator badge will alert users of new messages within the system. The app also provides suggestions of open groups that users may wish to join.

ONBOARDING

The app would be designed to be easy to use even by those who are not "tech savvy." Minimal information is collected to help tailor the content to the users' interests and to connect them with content and other users that are most relevant to their research focus.

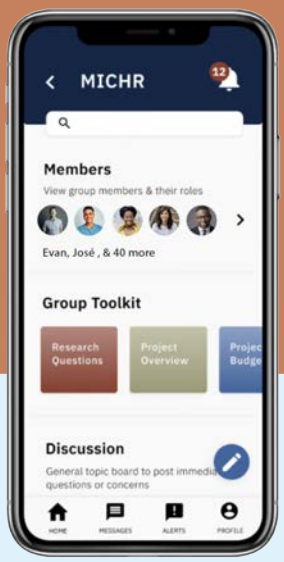


COMMUNICATION

To facilitate communication between team members, the app would include the option to list contact information, preferred means of communication, and a discussion board that is unique (closed) to each research team. Understanding that there are benefits to open communication between teams, general discussion boards by theme are also available (see page 48).

TRANSPARENCY

Transparency, particularly about finances is often a thorny issue in community academic partnerships. Thus, the app includes spaces to share documents, specifically budgets and deliverables.

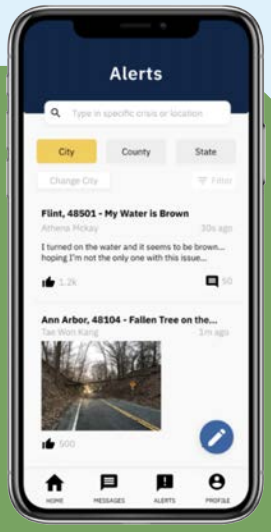


COMMUNITY-ACADEMIC NETWORK ALARM & RESEARCH READINESS RESPONSE (CANARRRE)

A PROTOTYPE OF AN INTERACTIVE DIGITAL DISSEMINATION TOOL.

OPEN DOOR

One of the most frequent requests from the community is a means to readily communicate with academic institutions about community needs. The app aims to assist with this request by providing a feature whereby community members can indicate specific needs, research questions, concerns, and observations that they would like academics to be aware of and explore. These issues are geocoded thus allowing users to be aware of clusters of similar concerns. It is hoped that this would allow emerging issues to be identified rapidly and for early intervention to be possible.



The team is actively working to development this app and hope to release in the future, check MICHR.UMICH.EDU for updates.

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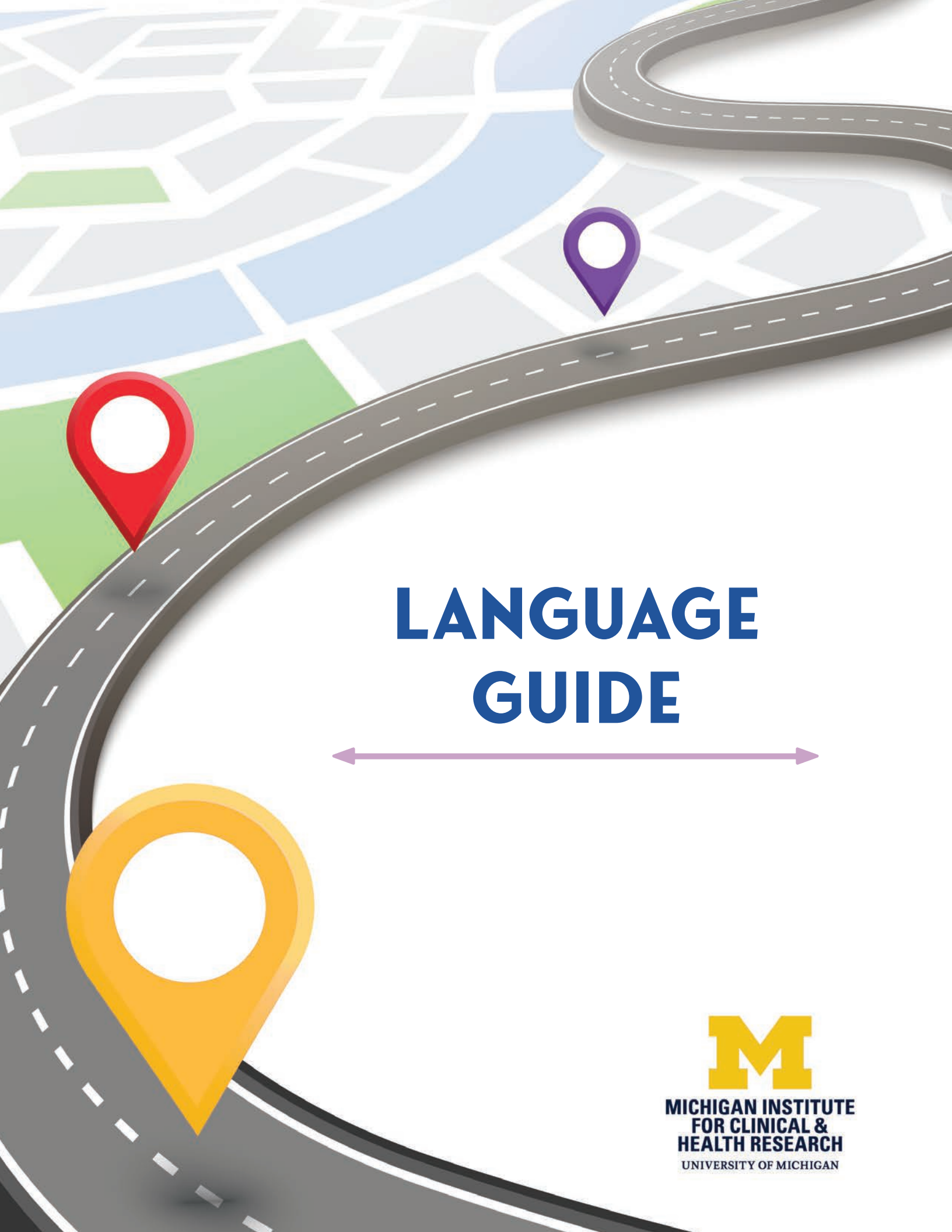
Photo by Jake May, titled "Praying," 2016, Flint Water Crisis Collection. MLive.com.



LANGUAGE GUIDE

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COMMON TERMS USED FOR THE FLINT WATER CRISIS NARRATIVE

ABBREVIATION	DEFINITION
ACLU	American Civil Liberties Union
ARPA	American Rescue Plan Act
AG	Attorney General
AJPH	American Journal of Public Health
AWWA	American Water Works Association
BCRA	Building Capacity for Research and Action
CAC	Citizens Advisory Committee
CCT	Corrosion control treatment
CDC	Centers for Disease Control and Prevention
CLPPP	Childhood Lead Poisoning Prevention Program
Cu	Copper
DBPs	Disinfection byproducts
DEQ	Department of Environmental Quality
DHHS	Department of Health and Human Services
DNR	Department of Natural Resources
DPW	City of Flint Department of Public Works
DWSD	Detroit Water and Sewerage Department
EBLL	Elevated blood lead level
EFM	Emergency financial manager
ELL	Elevated lead level
EM	Emergency manager
EPA	U.S. Environmental Protection Agency
FAQs	Frequently Asked Questions
FOIA	Freedom of Information Act
FWATF	Flint Water Advisory Task Force Department of Health and Human Services
FWICC	Flint Water Interagency Coordinating Committee
GCBOH	GCHD Board of Health
GCDC	Genesee County Drain Commission
GCHD	Genesee County Health Department
GCMS	Genesee County Medical Society

Source: Flint Water Advisory Task Force Final Report

COMMON TERMS USED FOR THE FLINT WATER CRISIS NARRATIVE

ABBREVIATION	DEFINITION
GFHC	Greater Flint Health Coalition
GM	General Motors
HMC	Hurley Medical Center
KWA	Karegnondi Water Authority
LAN	Lockwood, Andrews, & Newnam, Inc.
LCR	Lead Contaminant Rule
LSL	Lead service line
MCIR	Michigan Care Improvement Registry
MCL	Maximum Contaminant Level
MDCH	Michigan Department of Community Health
MDEQ	Michigan Department of Environmental Quality
MDHHS	Michigan Department of Health and Human Services
mgd	Million gallons per day
NAN	National Action Network
NDWAC	National Drinking Water Advisory Council
NRDC	National Resources Defense Council
O&M	Operations and maintenance
OAG	Office of the Auditor General
OCCT	Optimal Corrosion Control Treatment
ODMWA	Office of Drinking Water and Municipal Assistance
Pb	Lead
ppb	Parts per billion
SDWA	Safe Drinking Water Act
TAC	City of Flint/Veolia Technical Advisory Committee
TTHMs	Total trihalomethanes
TYJT	Tucker, Young, Jackson, Tull Inc.
UAW	United Auto Workers Union
VT	Virginia Tech (Virginia Polytechnic Institute and State University)
WTP	Water Treatment Plant
µg/l	Micrograms per liter

LANGUAGE GUIDE

To achieve clear communication within community-academic partnerships, a common language guide was needed. One main aim of this guide was to avoid the use of jargon and traditional terms frequently used in academic communication but which were viewed as problematic by community members. The terms presented below were mutually negotiated by the community and academic partners in the R2P2 workgroup and are examples of ways to avert the use of derogatory terms or terms that might be viewed as negative in a community context.

OFFENSIVE TERMS	ALTERNATIVES
BULLET POINTS	Specific Points
CAPTURE	Obtain
DO RESEARCH ON	Engage in Research
INFORMANT/ SUBJECT	Participant
MINORITIZED	Under-recognized, Underpaid
SHOOT FOR	Make an attempt
STAKEHOLDER(S)	Partner(s)
TARGET POPULATION	Study Population
TROUBLESHOOT	Brainstorm
USE	Utilize

COMMUNITY QUOTES

*"[We] actually began with a canvass of the Spanish-speaking community because **they didn't know it was a crisis.** The only reason they found out was when it became international news and their families were calling from their countries of origin telling them to not drink the water." - Key Interview Participant*

~

*"I want folks to actually be willing to say, you know what, these **relationships are so important** that you know what, on an ongoing basis, we're going to invest in neighborhood organizations and groups." - Key Interview Participant*

Photo by Brittany Greeson. "Virus."

RESOURCES

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RESOURCES

The Michigan Institute for Clinical & Health Research (MICHR) was founded in 2006 to enable clinical and translational research in order to improve the lives of individuals and their communities. In collaboration with community partners, MICHR's Community Engagement unit has developed numerous resources for individual communities and community-academic study teams. The following pages list resources and programs to prepare and sustain optimal community-academic relationships prior to a crisis, in a crisis, and during recovery.

MICHR

Accelerating health solutions to those who need them through innovation and discovery.

The Michigan Institute for Clinical & Health Research (MICHR) is leading the way in building the field of translational science with the intent of extending life and reducing the impact of illness and disability.

MICHR is developing and demonstrating scientific and operational innovations in the translational process and disseminating these solutions nationally.

michr.umich.edu

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Tips For Partnerships

MICHR

The Michigan Institute for Clinical and Health Research (MICHR) is utilizing translational science to identify and remove roadblocks that slow progress in healthcare research, ensuring that health solutions reach all people more quickly.

In support of MICHR's mission to improve the efficiency, quality, innovation, and impact of clinical and translational science, **Community Engagement (CE)** advances the science of community-engaged research (CEnR) by improving the methods, processes, and systems that support it.

Community-engaged research (CEnR) clarifies shared goals with communities, grounds studies in local culture/history/power dynamics, and builds trust through sustained relationships with partners. These principles, grounded in optimal research practices, respect collective self-determination by sharing decision-making, identifying and mobilizing community assets, and remaining flexible enough to release control as needs evolve. As a result, CEnR creates stronger partnerships that improve health and produce more relevant, actionable, and durable outcomes through long-term collaboration.

Building Relationships and Trust
Lay the foundation for sustainable partnerships by investing time, respect, and effort to build mutual trust.

Communication and Shared Language
Ensure clear, inclusive communication by developing a common language and encouraging open, honest dialogue.

Collaborative Decision-Making and Power-Sharing
Empower all partners and share decision-making to foster true collaboration and shared ownership.

Conflict Management and Sustainability
Address challenges openly and proactively to resolve conflict, maintain partnership health, and support long-term success.

Alignment and Flexibility
Align goals and approaches with community priorities while remaining adaptable to changing needs and contexts.

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Each theme lays the groundwork for partnership success.

Building Relationships and Trust

Take time to get to know partners; build trust and relationships ~ Establish a relationship before the project ~ Give yourself time to develop partnerships ~ Learn about culture of partnering organization ~ Show up for each other ~ Be in it for the long run ~ Demonstrate impact before moving to next project ~ Don't put the project above all else ~ Be willing to stay engaged ~ Set realistic goals for each other ~ Commit to relationship and not just the research agenda

Communication and Shared Language

Open communication ~ Face-to-face ~ Develop a shared language ~ Take time to develop common language so everyone can take part ~ Translate and interpret: language, academic jargon, culturally relevant examples ~ Listen to understand ~ Active, open, exploratory listening ~ Transparently discuss the challenges and concerns up front ~ Have open, honest conversations discussing the elephants in the room ~ Communicate in form understood by all

Collaborative Decision-Making and Power-Sharing

Share governance ~ Involve community immediately when an idea forms ~ Work together as a collaborative team to identify roadblocks and plan solutions ~ Acknowledge advantages ~ Give value to all partners' knowledge and experiences regardless of academic achievements ~ Recognize community's time and knowledge/wisdom ~ Don't get hung up on the lack of letters after your name ~ Learn to find value in other people's opinions ~ Find common ground ~ Build the relationship with a shared vision ~ Mutual generosity

Alignment and Flexibility

Review how research agenda fits with community values/agenda ~ Start research process with listening sessions, centering voices of the most impacted ~ Share research visions, expectations, and concerns right from the start ~ Get professional development in teamwork, collaboration, etc. ~ Be sensitive to organizational needs and contexts ~ Positive attitude

Conflict Management and Sustainability

Say "no" to partnerships without benefit to your organization ~ Discuss money, trust, and feelings Effective resolution of interpersonal conflicts and mistrust ~ Take each opportunity to demonstrate trustworthiness ~ Speak up and push back ~ Get a professional facilitator to help build working relationships ~ Don't let all the work fall on one or two people ~ Breaking bread ~ Get a good night's rest!

RESEARCH READINESS & PARTNERSHIP PROTOCOL TIMELINE

TIMELINE LEGEND

GOVERNMENT · FEDERAL · STATE · COUNTY · CITY
COMMUNITY · COMMUNITY ACADEMIA · ACADEMIC · CORPORATE

JAN 1983 • Governor James Blanchard (D) takes office

1988 • Michigan state legislature approves emergency managers for local governments and school districts in fiscal distress (1988-90)

JAN 1991 • Flint Mayor Woodrow Stanley (D) takes office

MAR-AUG 2002 • Flint Mayor Darnell Earley (D) takes office (temp)
AUG 2002-2003 • Flint Mayor James Rutherford (D) takes office (temp)

JAN 2003 • Flint Mayor Don Williamson (D) takes office

FEB-AUG 2009 • Flint Mayor Michael Brown takes office (Temp)
AUG 2009 • Flint Mayor Dayne Walling takes office

JAN 2011 • Governor Rick Snyder (R) takes office

JUN 2013 • Emergency Manager, Ed Kurtz and State Treasurer, Andy Dillon decide to use the Flint River as the interim water source

AUG 2012 • Ed Krutz returns as Flint's Emergency Manager

JAN 2014 • Suzanne Selig, University of Michigan-Flint professor, and community members develop and implement a course on the Flint Water Crisis

MAY 2014 • Flint community resident start complaining of discolored, foul-smelling, and foul-tasting water

AUG 2014 • First community demonstration to protest weeks of poor quality Flint water and extraordinarily high water rates

AUG 2014 • First semi tractor-trailer donation of clean water arrives from church in Kansas City, MO

SEPT 2014 • Second boil water advisory issued

NOV 2014 • Independent consultants detect high levels of chlorine causing secondary contamination of the water with TTHMs.

FEB 2015 • Flint community leaders begin hosting townhall meetings to alert the residents about the water

FEB 2015 • EPA Region 5's Regulations Manager Miguel Del Tora alerts MDEQ of elevated lead in sample collected, 104 parts per billion, which was later found to be due to absence of corrosion control treatment (OCCT)

JUN 2015 • The only attorney to respond early on was Attorney Trachelle Young, who filed the first complaint, which was thrown out of court in Flint and Detroit

AUG 2015 • Michigan Department of Environmental Quality (MDEQ) requires corrosion control treatment for the City of Flint water

SEP 2015 • Dr. Mona Hana-Attisha comes forward with evidence of lead poisoning in Flint children. Among the findings, nearly 80% of the children she tested may need special education services due to the effects of lead poisoning

JAN 1987 • Flint Mayor Matthew Collier (D) takes office

JAN 1991 • Governor John Engler (R) takes office

JAN 1997 • Ken Hardin becomes County Drain Commissioner

JAN 2003 • Governor Jennifer Granholm (D) takes office

JAN 2003 • Jeff Wright becomes County Drain Commissioner

OCT 2010 • KWA is created as a separate water authority

JAN 2013 • Emergency Manager law strengthen/enhanced by State Legislature

MAR 2013 • Emergency Manager Ed Kurtz approves the switch from Detroit Water (DWSD/GLWA) to KWA. Flint City Council approves switch by symbolic vote 7-1

OCT 2013 • Darnell Earley starts as Flint's emergency manager, reporting directly to Governor Snyder and State Treasurer Dillon

APR 2014 • Flint River becomes water source for Flint, MI

JUN 2014 • An outbreak of Legionnaire disease begins in Flint, killing 12 people and causing 87 to fall ill

JUL 2014 • Flint community activist Arthur Woodson alerts the Flint City Council of total trihalomethanes (TTHM) and E.coli in the Flint Water

AUG 2014 • First boil water advisory issued

AUG 2014 • Bottled water was disseminated by community volunteers

OCT 2014 • General Motors announces switch from Flint River water to pre-treated Lake Huron water supplied by GLWA, due to concerns regarding machinery damage from high levels of chloride in treated Flint River water

FEB 2015 • Representative Sheldon Neeley organizes a group of residents and leaders, including the Concerned Pastors for Social Action, to meet with the Governor's Chief of Staff

FEB 2015 • The EPA detects toxic levels of lead in the home of Lee-Anne Walters that are nearly 7 times the EPA's limit

APR 2015 • Governor Snyder announces control of City of Flint's finances returned to Mayor and City Council under supervision of Receivership Transition Advisory Board

AUG 2015 • Sheryl Thompson, deputy director of Field Operations Administration, for the Michigan Department of Health and Human Services (MDHHS) oversaw the provision of water filters to Flint residents

SEP 2015 • The community engages Dr. Marc Edwards from Virginia Tech to perform a series of water quality tests. The findings of high lead levels were reported to the city

SEP 2015 • MDHHS enlisted to provide bottled water and premixed formula to families until corrosion control is optimized

SEP 2015 • The City of Flint temporary switched back to DWSD water

NOV 2015 • Flint Mayor Karen Weaver (D) takes office

JAN 2016 • President Obama declares a health crisis in Flint

JAN 2016 • Executive of Oakland County, L. Brooks Patterson, denies severity of the Flint Water Crisis in a comment to Fox News

FEB 2016 • Olivia West and her two children, residents of Rochester, New York, collect and donate 172 cases of water (two semi-trucks donated by United Trucking), to Shiloh Missionary Baptist Church, after hosting a large-scale fundraising event

MAR 2016 • Flint Water Advisory Task Force final report released

MAR 2016 • Under expedited review, the Centers for Medicare and Medicaid Services (CMS) approves an expanded Medicaid waiver

MAY 2016 • President Obama visits Flint and drinks the water. This is viewed as a publicity stunt and lead to backslash from community

SEP 2016 • Researchers from all three campuses of the University of Michigan; Ann Arbor, Dearborn and Flint, Michigan State University, and Wayne State University, all flocked to Flint to discuss research possibilities, without involving members of the Flint Community

DEC 2016 • President Obama signs the "Water Infrastructure Improvements for the Nation (WIIN Act)". The purpose of this act is to facilitate improvements in the waterways in the United States; when the President signed the act, he earmarked $174 million for Flint

APRIL 2017 • Replacement of lead-tainted pipes in Flint begins

MAR 2018 • MICHR's Building Capacity for Research and Action (BCRA) funding mechanism awards $65,000 to community-academic research teams focused on health disparities in Flint

JAN 2019 • Governor Gretchen Whitmer (D) takes office

JUN 2019 • Attorney General Dana Nessel initiates a new criminal probe, citing problems with the integrity of the investigation, and ordering a new inquiry of nine government officials connected to the water crisis

NOV 2019 • Flint Mayor Sheldon Neeley takes office

JUN 2020 • The Flint City Council, Genesee County Board of Health, and Genesee County Commissioners all declaring populations under chronic stress as a public health crisis

JUL 2021 • MICHR's BCRA funding mechanism awards $40,000 to community-academic research teams focused on health disparities in Flint

JAN 2022 • Governor Gretchen Whitmer signs the Filter First Program into law, ensuring safe drinking water for kids

SEP 2022 • ARPA funds were utilized to provide a $300 water credit; proposed by Mayor Neeley and approved by Flint City Council

Long-term effects: community still not drinking water, thousands of kids with special needs... (ongoing)

OCT 2015 • Governor Snyder announces that Flint's drinking water was contaminated with dangerous lead levels

DEC 2015 • Dr. Karen Weaver, newly elected mayor of Flint, declares a water crisis and demands a permanent return to DWSD/GLWA

JAN 2016 • General Motors orders special industrial filters for their drinking fountains. The filters are supposed to last a year, but only lasted approximately one month

JAN 2016 • University of Michigan-Flint uses campus-wide water filters to protect students, staff, and faculty

FEB 2016 • Flint-Based entity, Rowe Professional Services is contracted by the Governor's Office to replace lead service lines

MAR 2016 • Emergency manager, Flint mayor, and EPA executive testify in congress

JUL 2016 • Dr. George Mashour of MICHR comes to Flint to meet with Community Based Organization Partners (CBOP). Aim 2 programming is created to support Flint after the meeting

2016 • Lawyers flock to the Flint community at the 11th hour, hoping for a piece of the action. Flint activists had long sought legal representation for environmental justice issues for years, approaching attorneys in Flint, Detroit, New York, Atlanta, and Chicago

FEB 2017 • The Michigan Civil Rights Commission releases an article about the Flint Water Crisis that appeared in The New York Times.

2018 • Activists travel to Ann Arbor, Lansing, and Washington DC to advocate

MAR 2019 • MICHR's BCRA funding mechanism awards $45,000 to community-academic research teams focused on health disparities in Flint

OCT 2019 • MI House Bill 5105 Bipartisan "Filter First" legislation is introduced by Representative Lynn Afendoulis, aiming to ensure safe drinking water for kids

MAR 2020 • The COVID-19 global pandemic takes the lives of millions. Black and brown communities are disproportionally affected due to existing non medical health needs.

MAR 2020 • Water bill moratorium issued by Governor Whitmer

FEB 2021 • MI Senate Bill 0185 is introduced by State Senator Jim Ananich, aiming to institute water supply quality assurance and control

NOV 2021 • United States District Court for the Eastern District of Michigan granted final approval of a landmark $626.25 million settlement resulting from the class action and individual lawsuits brought on behalf of more than 90,000 Flint residents and businesses

SEP 2022 • April Cook-Hawkins, Flint resident and former Genesee County Health Department secretary who claimed she was forced to resign after refusing to falsify the results of blood lead tests of Flint children, is awarded $100,000 in damages by a Genesee Circuit Court jury

OCT 2022 • Felony criminal charges tied to the Flint water crisis against seven former government officials are dismissed by a Genesee Circuit Court judge, Judge Elizabeth A. Kelly

WWW.MICHR.UMICH.EDU/RESOURCES/R2P2

BY: MICHR AIM 2 WORKGROUP (2022)

Community-Academic Research Partnership Checklist

Community-engaged research (CEnR) takes time. The process is challenged in times of crisis. Here is a checklist of key guidelines to consider when establishing and maintaining a community-academic research partnership. All parties should enter a partnership with the intent to be honest, transparent, accept truth beyond comfort, and remain respectful.

Developing a Partnership

- ☐ Bring many sectors and perspectives to the table
- ☐ Discuss expertise across the table to cross-fertilize ideas and skills
- ☐ Sustain a commitment to each other -- academics be present in the community before and beyond research
- ☐ Establish trust with each other through listening to understand, communicating clearly and honestly, and sustaining mutual respect and commitment
- ☐ Evaluate the project and partnership in the beginning, middle, and end

Managing the Research Team

- ☐ Define and list individual and team roles, responsibilities, and tasks
- ☐ Create a flow chart displaying equal accountability with the community and academic PIs
- ☐ Establish a contact person for appropriate issues/concerns
- ☐ Respect community expertise, influence, and power
- ☐ Discuss and budget for dissemination in both community and academic outlets
- ☐ Check in monthly, quarterly, annually, and post-project on alignment; realign project, if needed
- ☐ Ensure team's contact information is current and use preferred, agreed-upon communication methods

Forming Research Questions

- ☐ Identify community concerns and interest
- ☐ Clarify community-identified research priorities
- ☐ Validate academic interest and priority in alignment with community climate
- ☐ Establish limitations to narrow scope and develop obtainable project scope

Establishing Protocols

- ☐ Outline how power will be shared (i.e., money, staffing, dissemination)
- ☐ Define limitations of personnel, project, scope, internal and external factors
- ☐ Establish shared language through frank conversations
- ☐ Build an iterative glossary of agreed-upon terms including language that will and will not be used
- ☐ Create and adhere to protocols for communication including mode and frequency
- ☐ Decide and document in advance how you will resolve conflict in a way that honors both community and academy

Communicating Effectively

- ☐ Ask questions to clarify understanding and agreement (i.e., Do I understand you to say....?)
- ☐ Support C.L.E.A.R. communications (communication that includes Community members integrally, is Long-term, Easily understood, All community members can access, and is Reciprocal and Responsive)
- ☐ Adhere to communication protocols established bi-directionally by the team
- ☐ Be open, honest, active, and respectful when communicating -- even when it is uncomfortable

Connecting Resources

- ☐ Collaborate with internal resources researchers, students, community organizers, community volunteers
- ☐ Invest in community training, best research practices training, and communication training

CBOP
COMMUNITY BASED ORGANIZATION PARTNERS
MICHIGAN INSTITUTE FOR CLINICAL & HEALTH RESEARCH
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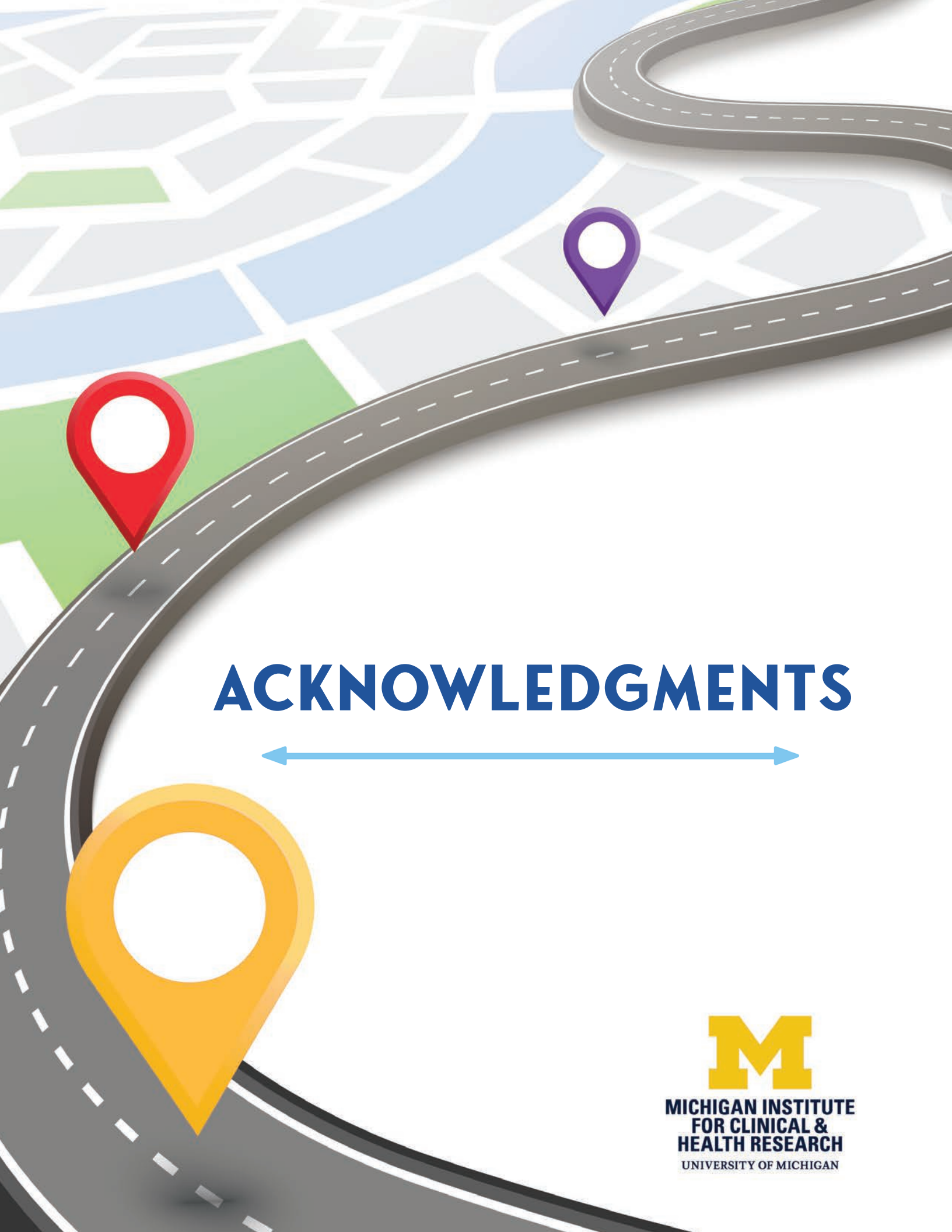
COMMUNITY QUOTE

*"I can't assume I know what you need…but I can **ask you what's best for you**…and then offer the resources or go out and look for resources to help meet your need, to help enhance your livelihood, to make it better for you." - Key Interview Participant*

Photo by Jake May, titled "Protest March," from the Flint Water Crisis Collection. MLive.com



ACKNOWLEDGMENTS

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ACKNOWLEDGMENTS

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COMMUNITY QUOTES

*"We have to recognize that **everybody has a piece of the puzzle** and if we don't all contribute those pieces and respect each of the pieces...we're never going to get to where we need to go."*

- Key Interview Participant

~

*"But if you're trying to solve a problem **from a distance**, there is absolutely no way that you can notice the severity of it. Your heart, your passion, you don't feel it, you don't feel the pain. **You see it but you don't feel it, so you cannot address it**."*

- Key Interview Participant

Photo by Brittany Greeson. "Power to the People - New Era Detroit," 2016, Vehicle City Collection.

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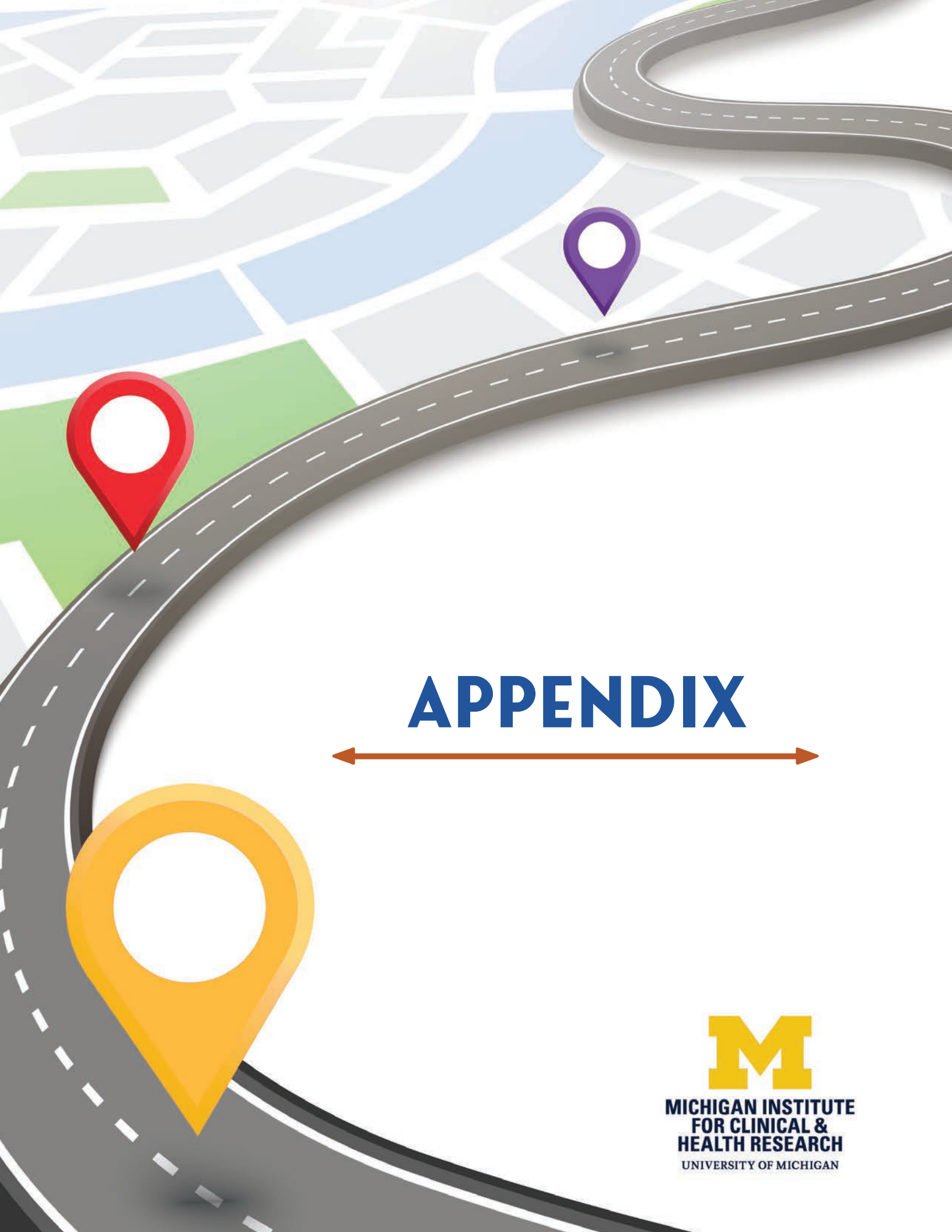

APPENDIX

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APPENDIX A

EMAIL INVITATION TO *PARTICIPATE* IN STUDY

Hello,

As an integral part of the Flint community, we're seeking your input as part of a research study being conducted by the Michigan Institute for Clinical & Health Research (MICHR) and the Community Based Organization Partners (CBOP) in Flint, Michigan.

Our team has identified and/or your organization as a Flint community stakeholder. We believe your personal and professional experience is relevant. Your feedback will help us create a protocol that ensures effective responsiveness by researchers to the needs of communities in crisis like what happened in Flint with the recent man-made disaster. We hope that you will join our effort to develop a Research Readiness Partnership Protocol (R2P2) by sharing your experience during the Flint Water Crisis, the COVID-19 pandemic, and population under chronic stress as a public health crisis.

For this study we would explore the priorities, resources, barriers to effective communication, and recommendations for future strategies in the development of our disaster protocol. We're also interested in hearing about your relationships or interactions with other organizations or researchers, especially in regards to establishing trust and communication. Should you, or another representative from your organization, be willing to participate in our initiative, please select one of the following options.

a) A one-hour virtual interview. b) A one-hour virtual focus group session.

To schedule your participation, please contact me directly at mathena@med.umich.edu or 810.336.4296. As project lead, I'm also happy to answer any questions you may have on our work, the protocol, or the interview process.

On behalf of the R2P2 Steering Committee, thank you for your time and consideration.

Sincerely,
Athena McKay, MSA
R2P2 Steering Committee, Lead
Flint Connector, MICHR, Community Engagement

R2P2 STEERING COMMITTEE

Sarah Bailey, PhD
Bridges into the Future, Community Based Organization Partners

Bettina Campbell, LMSW
YOUR Center, Community Based Organization Partners

E Hill De Loney, MA, DHL
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UM School of Public Health; MICHR, Community Engagement

Susan Woolford, MD, MPH
UM Department of Pediatrics, Susan B. Meister Child Health Evaluation & Research Center; MICHR, Community Engagement

APPENDIX B

CONSENT TO BE PART OF A RESEARCH STUDY

Title of the Project: Flint Forward Community Engaged Research Partnership Assessment Pilot

Principal Investigators: Susan Woolford MD, Donald Vereen MD – University of Michigan

Co-investigators: Patricia Piechowski MA, Athena McKay MSA – University of Michigan

Staff: Elias Samuels PhD, Noelle Gorka, Kendra Juliette, Vaishali Nambiar – University of Michigan

Study Sponsor: Michigan Institute for Clinical & Health Research (MICHR) – University of Michigan

INVITATION TO BE PART OF A RESEARCH STUDY

You are invited to participate in a research study. In order to participate, you must be 18 years of age. Taking part in this research project is voluntary.

IMPORTANT INFORMATION ABOUT THE RESEARCH STUDY

Things you should know:

- The purpose of the study is to explore the priorities, resources, barriers to effective communication, and recommendations for future strategies in the development of our disaster protocol; this work will be conducted in the context of the Flint Water Crisis, the COVID-19 pandemic, and populations under chronic stress as a public health crisis. Virtual interviews and focus groups will be conducted with key interviewees from the Flint and greater Genesee County community, lasting approximately one hour. Interview questions were drafted by and findings will be analyzed through in-depth discussions between the Flint Community Partners and MICHR.
- Risks or discomforts from this research include only the discomfort due to the time required for participation. We don't believe there are any other risks from participating in this research.
- The study may not benefit the participants individually but will produce a model for community organization and academia to establish meaningful relationships pre-crisis.
- There will be no financial compensation for your participation.
- Taking part in this research project is voluntary. You don't have to participate and you can stop at any time.

Please take time to read this entire form and ask questions before deciding whether to take part in this research project.

The University of Michigan Institutional Review Board Health Sciences and Behavioral Sciences has determined that this study is exempt from IRB oversight.

WHAT IS THE STUDY ABOUT AND WHY ARE WE DOING IT?

The purpose of the study is to explore the priorities, resources, barriers to effective communication, and recommendations for future strategies in the development of our disaster protocol; this work will be conducted in the context of the Flint Water Crisis, the COVID-19 pandemic, and populations under chronic stress as a public health crisis.

WHAT WILL HAPPEN IF YOU TAKE PART IN THIS STUDY?

If you agree to take part in this study, you will be asked to answer questions individually or collectively in a focus group, to explore the priorities, resources, challenges to effective communication, and recommendations for future strategies in the development of our disaster protocol; this work will be conducted in the context of the Flint Water Crisis, the COVID-19 pandemic, and populations under chronic stress as a public health crisis. We expect the interviews to take one hour to complete. The discussion will be audio recorded. None of the information collected through the interview or group discussion will be linked to other data describing you, your study team or the studies of which you are a part.

HOW COULD YOU BENEFIT FROM THIS STUDY?

Although you may not directly benefit from being in this study, others might benefit because a model for community organization and academia to establish meaningful relationships pre-crisis will be developed.

What risks might result from being in this study?
We don't believe there are any risks from participating in this research. The time required to participate in this study is the only potential discomfort associated with your participation. All of the data collected in this study will be anonymized to protect your confidentiality and no individuals will be identified in any reporting of the results.

HOW WILL WE PROTECT YOUR INFORMATION?

We plan to publish the results of this study. To protect your privacy, we will not include any information that could directly identify you.

We will protect the confidentiality of your research records by separating any personally-identifying information from your responses. Your name and any other information that can directly identify you will be stored separately from the data collected as part of the project.

This research holds a Certificate of Confidentiality (CoC) from the National Institutes of Health (NIH). A Certificate of Confidentiality (CoC) protects the privacy of research participants enrolled in health-related research that collects or uses identifiable, sensitive information. With limited exceptions, researchers may not disclose names or any information, documents or biospecimens containing identifiable, sensitive information. The CoC prohibits disclosure in response to legal demands, such as a subpoena.

It is possible that other people may need to see the information we collect about you. These people work for the University of Michigan, The Michigan Institute for Clinical & Health Research, and government offices that are responsible for making sure the research is done safely and properly.

WHAT WILL HAPPEN TO THE INFORMATION WE COLLECT ABOUT YOU AFTER THE STUDY IS OVER?

We will not keep your research data to use for future research or any other purpose. Your name and other information that can directly identify you will be kept secure and stored separately from the research data collected as part of the project. We will not share your research data with other investigators.

YOUR PARTICIPATION IN THIS STUDY IS VOLUNTARY

It is totally up to you to decide to be in this research study. Participating in this study is voluntary. Even if you decide to be part of the study now, you may change your mind and stop at any time. You do not have to answer any questions you do not want to answer. If you decide to withdraw before this study is completed, any data you provide will be excluded. There are no anticipated circumstances in which your participation may be terminated without your consent.

CONTACT INFORMATION FOR THE STUDY TEAM AND QUESTIONS ABOUT THE RESEARCH

If you have questions about this research, you may contact Susan Woolford, Woolford, swoolfor@med.umich.edu (734)904-1455.

CONTACT INFORMATION FOR QUESTIONS ABOUT YOUR RIGHTS AS A RESEARCH PARTICIPANT

If you have questions about your rights as a research participant or wish to obtain information, ask questions, or discuss any concerns about this study with someone other than the researcher(s), please contact the following:

University of Michigan
Health Sciences and Behavioral Sciences Institutional Review Board
2800 Plymouth Road
Building 520, Room 1169
Ann Arbor, MI 48109-2800
Phone: (734) 936-0933 or toll free, (866) 936-0933
Email: irbhsbs@umich.edu

YOUR CONSENT

By signing this document, you are agreeing to be in this study. Make sure you understand what the study is about before you sign. We will give you a copy of this document for your records. We will keep a copy with the study records. If you have any questions about the study after you sign this document, you can contact the study team using the information provided above.

I understand what the study is about and my questions so far have been answered. I agree to take part in this study.

_____
Printed Participant Name

_____
Signature Date

APPENDIX C

KEY INTERVIEW QUESTIONS– R2P2 PROJECT

1. Thinking back to your experience in the early days of the Flint Water Crisis . . .
    a. Can you describe any preliminary interactions that initiated or delayed disaster responses?
2. What strategies would you recommend for working together at the onset of crisis situations?
    a. What community-academic partnership elements would you recommend establishing ahead of disaster onset to facilitate this early response?
3. What steps do you recommend for establishing an early sense of mutual trust between community members, academics, elected officials, and community service providers?
    a. Are there any priorities/values you recommend all partners consider as they attempt to find common ground?
    b. What strategies do you recommend for partners as they attempt to understand each other's perspectives?
4. Are there any actions you recommend community members and academics take prior to entry into a research partnership that you feel would increase engagement on both sides?
5. A major goal of our project is to provide a roadmap for the development of strong community-academic relationships before a crisis begins, so the partnership is better prepared to respond when disaster strikes.
    a. Based on your experience in Flint, what advice do you have on building long-term relationships that will be sustainable in the event of a crisis?
    b. How would you define an collaborative community partner in research?
6. Can you identify any specific interactions that brought about a turning point (positive or negative) in the Flint Water Crisis?
    a. When did that turning point occur and why?
7. Can you describe any other community-researcher interactions or joint response attempts you feel were noteworthy/challenging/revealing?
    a. When did these interactions/attempts occur and why were they significant?
8. What recommendations do you have for streamlining the distribution of resources and dissemination of information throughout crisis response?
    a. Are there any tools or technologies that you think would be especially helpful?
9. You were selected for this interview based on your vocation or community involvement.
    a. If you are comfortable sharing, please describe the impact the Flint Water Crisis had or continues to have on you personally.
10. Do you have any other insights you would like to share that you feel are relevant to this topic?

APPENDIX D

REPRESENTATIVE QUOTES FROM THE KEY INTERVIEWS

- *"Having people from the university in the community. Having the community, like the university having a community person. And I'm quite sure they do, but if they do, that person should be known. That person should be coming to events, should initiate relationships or communication with community partners."*
- *"I guess all I could say is all across the board, the people who stayed and showed up in person, I think, were probably more likely to have some results."*
- *"It's very important that members of the general public be at the table. It can't just be all the leaders. It can't just be all of the organizations. It can't just be the people that's well known to everyone. It's got to be people who's actually going through this stuff when it happens."*
- *"The partnerships don't get built if the community doesn't care what you're researching. You have to be relevant to what's going on in the community or there's no reason to ask people to put the time into building the relationships that you need in order to do research that isn't going to benefit them."*
- *"But it's all just optics and rhetoric. For me, until I see dollars, policies, change and until we begin to see people who look like us in other positions, then we would know."*
- *Establishing clear community impact as the "Community must care about the research" for it to be successful.*
- *"(community organization) actually began with a canvass of the Spanish-speaking community because they didn't know it was a crisis. The only reason they found out was when it became international news and their families were calling from their countries of origin telling them to not drink the water."*
- *"I could even feel people making sure they were 12 feet away from me, but they were two feet away from somebody else, because they thought I might be a carrier."*
- *"But my grandchildren were also in daycare, and being kept by other extended family members, so they were all over the city, and I do believe that they both are suffering effects from that tainted water."*
- *"Even if you live outside of Flint, it could happen to you and you should care. That's still your community. On a personal level, that was really eye-opening that something like that could happen in Flint to our community, and it could be this many years and it's still not fixed."*
- *"I was horrified. We never got the report. We kept hearing from the community, "The water is brown." They said it to all of us. We kept hearing over and over, "The water is safe. The state tells us the water is safe," whatever."*
- *While we were under our emergency management, at that time, the emergency manager actually stopped allowing us to actually meet and be able to receive information. So, it was extremely difficult to be able to know exactly some of the nuances as it related to the water crisis going forward. Then when they decided to switch to the Flint River that information wasn't shared in a timely manner. Actually when I was on the council at the time I actually brought up questions related to that. Because I had gotten an opportunity to be able to read some of the DEQ reports and also the report that had did as it relates to being able to use the Flint River. And that information wasn't shared in a timely manner. They wanted the elected officials at the*

time to actually vote for something when we did not have all the information."

- *"One thing that they knew for sure is that we need water to help fight this disease."*
- *"I was privileged to be at the table with Governor Snyder's people early on in the process. I'm going to say probably around February of 2015, we went down to meet with the governor's people to discuss what was happening with the water. And that was during the time when they were in total denial. We were complaining about the water not being usable. We were complaining about people still paying high water rates. We were complaining about the color of the water, it was discolored, it smelled. And at that point, people were getting sick."*
- *"It gives you a chance to actually hire people who don't look like the average person that would work for the University of Michigan because there would be people from the community, trusted voices."*

Attendees participate in the 2019 Building Bridges, Breaking Barriers in Translational Research Statewide Retreat.
Photo courtesy of Michigan Institute for Clinical and Health Research Community Engage program.

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