Climate change is impacting health care provision – and community health centers are taking note. At the recent Patient-Centered Climate Resilience Learning Collaborative, offered by Migrant Clinicians Network, Harvard T.H. Chan School of Public Health’s C-Change, and the National Association of Community Health Centers, clinical and administrative teams from across the United States and Puerto Rico spoke of facing droughts, tornados, wildfires, heat, hurricanes, and other climate-fueled disasters. These challenges are of course on top of their pre-existing stressors, from serving new migrant populations, to lacking sufficient staff, to the pandemic, to patients’ uncontrolled chronic illnesses, to social determinants of health. As health centers grapple with disaster upon disaster, some are seeking new organizational pathways to better prepare. In this article, we review some of the concerns that were recurrent among participants, plus promising approaches and numerous resources to help health centers begin to manage the challenging, and often deadly, effects of the climate crisis in their own communities.

Shared Experience: Climate Crisis Across the Country
The type of disasters that communities were experiencing varied according to geography, with West Coast wildfires and drought in contrast with East Coast hurricanes and flooding, among other disasters. Yet, despite their differences, many health centers encountered similar constraints to providing care during and after a disaster.

Infrastructure – both at the community level and within the health center – was regularly noted to be unstable during disasters, which reduced staff ability to serve patients. “With the extremes of weather… the infrastructure of the community breaks down,” noted one participant from Oregon. When roads close or public transportation shuts down, patients are unable to reach the clinic – and, often, staff are not able to, either. Clinics may be cut off from supplies, addi-
tionally impacting care. One participant noted that their valley location can easily be isolated by wildfires when the main road is closed; another in Hawaii relies entirely on airplanes for supplies and staff, which are grounded in poor weather. In such situations, some staff choose to leave the clinic walls, providing urgent care in the community directly, yet there are funding limitations to direct community care, since such services may not be eligible for reimbursement despite a disaster, and may be felt more acutely if the clinic’s revenue is already impacted due to closure.

Staffing is a perennial concern at health centers. During a disaster, many – or all – staff members may be personally affected, needing time to take care of emergency needs for themselves and their families, including evacuation. After the exodus of many health professionals from their professions during the COVID-19 pandemic, some health centers continue to be unable to hire enough people to be fully staffed. Turnover – which reduces staff knowledge and cohesion when a disaster plan needs to be implemented – further degrades emergency response. Meghan Peck, Emergency Management Specialist for the Community Health Center Association of Connecticut noted that emergency plans are dependent on a full staff: “We have a roadmap – but do we have the bodies to fill it?”

The indirect effects of disaster may spread over wide geographic areas. Clinics in the San Francisco Bay Area were hundreds of miles away from the dangerous paths of recent California wildfires, but the extremely thick smoke – visually evident in the orange skies and falling ash – heavily affected Bay Area residents. Within health centers, HVAC systems struggled to consistently keep air clean, while brown outs and black outs threatened consistent electrical supply. Communities and their health centers were exposed to hazardous conditions for many weeks, causing a health emergency, even if the communities were not at direct risk from fire. In Connecticut, Peck’s community saw an influx of Puerto Rican migrants in the months after Hurricane Maria. “Because of staffing issues, our concern at this point is, if we were to have that again – say, this summer, a hurricane hits the Atlantic basin – do we have the appropriate resources and staffing levels” to care for an increase in patient population, of people fleeing a disaster?

The First 48 Hours: Community & Health Center Preparation
Marysel Pagán Santana, DrPH, directs Migrant Clinicians Network’s Puerto Rico office, and the multitude of community mobilization projects aimed at equipping health centers and their communities ahead of climate disasters. In Puerto Rico, numerous devastating hurricanes, coupled with an economic crisis, a set of deadly earthquakes, and the COVID-19 pandemic, drastically impacted Puerto Ricans’ health. MCN’s efforts on the Island seek to empower communities to care for themselves when a disaster occurs, partnering closely with the health center, and keeping those most likely to be negatively impacted – like people with chronic illnesses, very remote residents, or people experiencing overlapping social determinants of health – at the forefront. While community mobilization planning happens primarily at the community level, community health centers play a critical role, Dr. Pagán Santana says. Additionally, those health centers can greatly benefit from a mobilized and organized community.

For example, during Hurricane Maria, Dr. Pagán Santana noted, Hospital General Castañer, a rural health center in a mountainous area in central Puerto Rico, suddenly became the disaster hub. With the community’s only helipad, the health center became the sole source of clean water and supplies that were flown in. It also acted as the de facto headquarters of local agencies coordinating response, like the health department and FEMA. Of course, many members of the community gathered at the health center for supplies, which removed some staff focus from the health center’s core tasks of caring for the community. “They suddenly needed to be the one to distribute supplies in the community, but how do you plan to do that if you don’t know the health center needs?”

Resources:
MCN’s Climate Justice page (Available in English and Spanish): https://www.migrantclinician.org/climate-justice
“Deepening the Divide: Health Inequities and Climate Change among Farmworkers,” written by MCN’s Marysél Pagán Santana, Amy Lieberman, and Claire Seda and published by the Journal of Agromedicine: https://doi.org/10.1080/1059924X.2022.2148034

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Securing access to medical care for migrant agricultural workers is complicated, difficult, and sometimes impossible, especially when it comes to expensive services such as sub-specialist care, non-emergent surgery, and cancer treatment, to name a few. Migration, especially international migration, multiplies the odds that something will go wrong, impeding or disrupting care and leading to a negative outcome. As migrant clinicians at Keystone Health in Pennsylvania, we are familiar with and become frustrated by the many things that can and often do go wrong. Yet we remain hopeful, because every once in a while, everything goes right.

Gerardo* came to our evening clinic in the fall of 2020 to seek evaluation and treatment for bilateral knee pain and fatigue. At the time, he was a 22-year-old, otherwise healthy young man with a memorable smile and an air of optimism and gratitude about him. He had arrived just weeks before in Pennsylvania on an H-2A visa for the apple harvest season. His journey became a triumph of the human spirit and proof that migrant clinicians can help make miracles happen. Here, we recount the story, in which the advocacy of a migrant health center, the conscientiousness of a local health system, the generosity of an agricultural employer, the care coordination of MCN’s Health Network, and the gift of a brother came together to make everything go right and, ultimately, to save the life of this young man.

One thing goes right: A migrant health center enrolls the patient in a health program, provides high quality primary care and exceptional enabling services.

Gerardo was seen on a Tuesday evening at our migrant clinic by Physician Assistant Grant Meckley. The Pennsylvania apple harvest was in full swing. One might have assumed that his fatigue was from toiling outdoors for 10 hours per day and his knees hurt from spending much of the day on an orchard ladder. Grant, however, suspected something more complicated. Bloodwork was done, and the next evening, we received an emergency call from a local hospital with critical lab results. Our young patient was found to have a creatinine level of 7.4 mg/dL (normal range: 0.7 - 1.3 mg/dL) with a critical calcium level of 5.8 mg/dL (normal range: 8.6 - 10.3 mg/dL), both indicating critically poor kidney function. Unable to contact the patient, who resided in migrant housing in an area with no cell phone reception, we contacted our outreach team who was finishing outreach on a nearby farm. Despite the dark, fog, and poorly marked road, they were able to locate our patient and to transport him to the local emergency room. While relieved that he would receive emergency care, we assumed that his fatigue was from toiling outdoors for 10 hours per day and his knees hurt from spending much of the day on an orchard ladder. Grant, however, suspected something more complicated. Bloodwork was done, and the next evening, we received an emergency call from a local hospital with critical lab results. Our young patient was found to have a creatinine level of 7.4 mg/dL (normal range: 0.7 - 1.3 mg/dL) with a critical calcium level of 5.8 mg/dL (normal range: 8.6 - 10.3 mg/dL), both indicating critically poor kidney function. Unable to contact the patient, who resided in migrant housing in an area with no cell phone reception, we contacted our outreach team who was finishing outreach on a nearby farm. Despite the dark, fog, and poorly marked road, they were able to locate our patient and to transport him to the local emergency room. While relieved that he would receive emergency care, we

* Name and some identifying details have been altered or generalized to protect the patient’s identity.

How a Migrant Agricultural Worker Patient with Kidney Failure Found Care Despite the Odds
Melanie Finkenbinder, MD, MPH, and Grant Meckley, PA-C, Keystone Health Agricultural Worker Program

continued on page 7
Despite wide availability of information on COVID-19, including evidence-based guidance on how to prevent infection, dissemination of this information to low-literacy Spanish-speaking communities like migrant agricultural workers has been uneven. Consequently, many people still do not understand some of the basic public health strategies that have been successfully employed throughout the pandemic, nor do they have access to newer information about ongoing and evolving COVID-related concerns, like long COVID and changing vaccination schedules.

Migrant agricultural worker communities frequently have poor access to health information as a result of overlapping barriers like language, isolation, and poverty. Health organizations tasked to serve their health needs, like community health centers, frequently lack organizational capacity to implement effective and relevant health strategies for these communities. Some health centers, however, have prioritized health outreach teams comprised of Community Health Workers (CHWs) or promotores de salud. CHW teams are widely recognized as important members of the care team, providing public health messaging and services to communities that have been historically marginalized in public health outreach and health care overall, and making key bridges between these communities and the health center. CHWs have been shown to improve health outcomes when engaged in the care team. Studies demonstrate that the integration of CHWs help clinical teams meet the “triple aim”: improved population health, improved patient experience, and reduction in the cost of care. Many CHWs, however, lack access to clinical training, and have limited access to linguistically and culturally appropriate materials that they can use with their specific communities.

In order to guide and support CHW teams in providing evidence-based and up-to-date COVID-19 content, Migrant Clinicians Network (MCN) has developed a new low-literacy, Spanish-language comic-based rotafolio, or flip chart, and an accompanying CHW guide to ensure effective program delivery, with funding from the Thoracic Foundation. Critically, much of the guide provides basic clinical information on the spread of any infectious disease, ensuring that the guide is useful beyond the scope of COVID-19 as well.

"Migrant Clinicians Network believes in the role of the CHW as an extension of the
health team,” said Alma Galván, MHC, Director of Community Engagement and Worker Training for MCN. Galván, supported by MCN’s education and communications teams, worked with longtime MCN collaborator Salvador Saenz, illustrator, to build the *rotafolio*, which consists of 26 pages of full-page color comic images with minimal and simple language. One colorful page illustrates the mRNA vaccines as a trumpet declaring the arrival of the virus, so white blood cells can arrive and defeat the virus, which may prompt the CHW to provide some basics on how the vaccines work. Another page clarifies that the mRNA vaccine does not contain products from blood, fetuses, eggs, or pigs, with images of each, allowing the CHW time to engage with participants on misinformation they may have heard. The final page in the guide includes a seated woman in distress, rubbing her forehead, while images of past-due bills, checks, and news on COVID fill the space around her. Here, the CHW can address the many ways that COVID can affect someone – not just physically, but emotionally and mentally as well.

The *rotafolio* also addresses long COVID, with one page dedicated to the many ways that COVID can affect the body after its acute phase. “The *rotafolio* is intended for CHWs to cover the basics of COVID, but also incorporates newer information like about long COVID, boosters, and treatment,” Galván added. “Information might continue to change – but the pictures are long lasting in the sense that they can cover a lot of ground without a lot of text.” CHWs can edit the information they share as understanding of long COVID, for example, changes.

The characters in the *rotafolio* include the entire family, from toddlers to grandmothers, along with a worker in a hardhat, a protein processor, a person using an oxygen tank, and many others. “It’s colorful, it’s appealing, and it’s for the whole family,” Galván noted.

The accompanying guide helps the CHW lead conversations on the content of the *rotafolio*, answering basic questions that are applicable to all infectious diseases, like, “What are infectious diseases?”, “What are vaccines?”, and “What is the immune system?”, as well as COVID-specific questions like, “What is COVID-19?”, and “How is COVID transmitted?”, before covering in-depth questions around misinformation, bivalent vaccines, ventilation, and proper respirator use. Motivational interviewing is a key component. “We need to be cognizant of who is in front of us. We need to listen more about what their issues are, what their hesitancies are, and then ask if they want to hear information from us,” Galván said. Providing time for the participant to articulate hesitancies grows trust and ensures that the participant is engaged.

If they don’t want to hear the information but the CHW provides it anyway, the division between the participant and the CHW may grow, Galván added. The guide is built to enable CHWs to incorporate motivational interviewing into their approach, be it with an individual or group, to build rapport with the community, specifically to acknowledge their concerns and fears, before introducing new information.

The *rotafolio* and accompanying guide will soon be available on the MCN website. Visit www.migrantclinician.org/es/resource/covid-19-y-nuestra-comunidad-rotafolio.html to download and print.

References
Migrant Voucher Programs, supported by the Health Resources and Services Administration (HRSA), provide health care to agricultural workers through a unique service delivery model that focuses on referral, case management, and collaboration with health care service providers. This model is especially well suited to serving large geographic areas. Each voucher program – what services it provides, what area it covers, what providers it partners with — is unique, tailored to the agricultural worker communities that it serves and the available resources in its service area. Two examples of voucher programs are described here.

Every summer, thousands of agricultural workers harvest crops like strawberries, cucumbers, and potatoes at farms across the Connecticut River Valley. Some agricultural workers live in the region year-round, picking up work at the height of the season. Others migrate to the area specifically during the harvest from other parts of the United States, and then continue to move north as the season progresses. Some are guest workers, flown in by farm owners through the H-2A program from the Caribbean, Mexico, and Central America, to work and live on a farm for a limited time, before returning to their countries of origin. These agricultural workers fill different roles — harvesting in the fields, tending plants in nurseries and greenhouses, or packing produce in warehouses. Regardless of how they entered the agricultural system or in which area of agriculture they work, these agricultural workers face similar health-damaging determinants, like hazardous working conditions, limited income, substandard housing, social isolation, lack of health insurance, and linguistic and cultural barriers. In the Connecticut River Valley, these determinants of health amount to significant barriers to access health care: despite numerous community health centers in the region, agricultural workers are often unable to get to the clinic when they need care.

The Connecticut River Valley Farmworker Health Program (CRVFHP) was developed specifically to fill the gap in care in the region by providing vouchers to agricultural workers for their health needs. As a 330g Migrant Voucher Program, CRVFHP does not provide services at a brick-and-mortar location, but instead their contracted Health Center Partner Agency outreach teams travel to the agricultural workers directly, provide health education and screenings, and provide primary care vouchers to their six part-ner community health centers in Massachusetts and Connecticut, so that agricultural workers can access the services they need. In 2022, CRVFHP Partner Agencies served 2,515 agricultural worker patients, with roughly 68% seasonal and 32% migratory, and 75% of patients best served in a language other than English.

Outreach is a central component of the program. Partner Agency outreach teams provide health education, transportation to medical appointments, interpretation services, and referrals for other needed services. CRVFHP has supported Partner Agencies in building out their mobile health programs to bring health services to the farms. Transportation is one of the largest barriers that agricultural workers encounter, says Erica Hastings, Senior Manager of CRVFHP. To address this need, the CRVFHP has supported the purchase of vans to transport patients to the health centers for their appointments. Recently, CRVFHP secured funding to purchase and equip mobile clinics, further expanding their partner health centers’ ability to provide care to agricultural workers.

“We promote access to care, encouraging and educating around ag worker identification, as well as identifying new farms,” including through partnerships with stakeholders, that alert CRVFHP of incoming H-2A workers, explained Hastings. When incoming workers are identified, CRVFHP’s Partner Agency outreach teams mobilize to reach them and help them re-engage in care. “The thing that really elevates our program is the relationships,” says Alysse Rourke, Clinical Data and Billing Manager for CRVFHP. Outreach workers collaborate with their clinical teams in the health centers, and with each other at other Partner Agency health centers. “Every health center is so different – the way they operate, how they collect data, what their practices are for patients. I think having that collaboration… has supported [CRVFHP Partner Agency teams’] growth, so they can learn from each other what outreach tactics work… It’s not competitive – it’s collaborative.”

Another Migrant Voucher Program model, in Montana, takes a different approach. Ag Worker Health and Services Council started out as a voucher-only program, serving hundreds of square miles across the large and largely unpopulated state, but the program has since grown into a hybrid voucher program, with five primary care clinics across the state. At those clinics, nurse practitioners provide primary care, and if a patient needs any additional care – an ultrasound, a mammogram, mental health services, dental care, or any other specialty care – they are provided with a voucher for that care.

“I think the need was always there,” explained Vicki Thuesen, NP, Clinical Director for Ag Worker Health and Services Council, when explaining why the team expanded into a hybrid voucher program. “As we expanded, we had more patients and we realized, ‘wow, it’s a lot less expensive if we have our own provider doing most of the primary care.’”

An agricultural worker came to one of her clinics last year, for example, with blood in his urine. After initial lab work, his primary care provider determined that he had advanced-stage bladder cancer. The team worked together along with community advocates to help him return to his home in Mexico; meanwhile, the clinic gave him vouchers so he could obtain the medication needed before his journey home.

“We also issue vouchers for pregnant women for all their prenatal care,” Thuesen said. “We do their initial lab work and tests, and then transfer care to obstetrician.” The care is not complete, she admits; the vouchers pay for the OB for prenatal care, but do not pay for labor and delivery. “Only about 1% of patients have insurance,” she added. To receive vouchers, patients must be under 80% of poverty level to meet their sliding
Gerardo’s family lived in a rural town, hours away from the nearest dialysis facility. We knew that securing dialysis care for Gerardo within one to two days of his return home would be a monumental task. Thankfully, Deliana Garcia, MCN’s Chief Program Officer of International and Emerging Issues, who oversees Health Network, took on this case. Health Network is MCN’s virtual care coordination program for migrants with any ongoing health need, moving to anywhere in the world. Deliana worked with the Mexican consulate and was eventually able to locate a hemodialysis facility that was prepared to provide treatment for Gerardo within two days of his return home. Gerardo’s income from his work in Pennsylvania then helped him to receive regular care.

**Five things go right:** Gerardo’s brother donates a kidney to him and two generous foundations provide financial assistance for his surgery.

Chronic kidney disease is epidemic in Mexico, and care is prohibitively expensive for most. For many, end-stage kidney disease is a death sentence. Patients can often afford only infrequent hemodialysis treatments and thus live from crisis to crisis. Many more resort to peritoneal dialysis, which is somehow less expensive but fraught with the common and often deadly complication of peritonitis, or infection within the abdominal cavity. Transplant offers the best hope for long-term survival but is often financially out of reach and depends upon finding or waiting for a suitable donor.

Luckily for Gerardo, his brother decided to donate a kidney to him. With the help of the money that he made during his H-2A visa work, along with generous donations from two charitable foundations, Gerardo received a transplant in the fall of 2022. He recently contacted Grant Meckley, PA-C, his provider and advocate from Keystone Health, to share the good news and his gratitude for all who helped to save his life.

We are often numb to stories of immigrants facing discrimination, lack of services, and basic necessities. However, despite the changing political and cultural landscape, there remain individuals and organizations steadfastly dedicated to care and hospitality for newcomers to this country, which can be a “land of opportunity” for some.

This story defies the social determinants of health. Concerned providers, caseworkers, employers, and selfless family members came together not only to save a life, but to restore quality of life in a perilous situation. It is not just the health system and MCN’s care management that resulted in a positive outcome: Gerardo, like many migrants before him, displays the type of grit, determination, and unwavering hope that inspire us and that make migrants an essential part of our communities.

Learn more about MCN’s Streamline Enrollment: https://www.migrantclinician.org/our-work/health-network.html


Learn more about Keystone Health Agricultural Worker Program: https://keystonehealth.org/keystoneagworkerprogram/
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Migrant Clinicians Network
P.O. Box 164285
Austin, Texas, 78716
Phone: (512) 327-2017
Fax: (512) 327-0719
www.migrantclinician.org
E-mail: cseda@migrantclinician.org

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Financial, Operations Management, Technology (FOM/IT) Conference & Expo
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https://www.nachc.org/conferences/

2022 National Network for Oral Health Annual Conference
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