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IN DEPTH

Wildfire Response and Recovery: The Importance of Coordinated Care and Social Support

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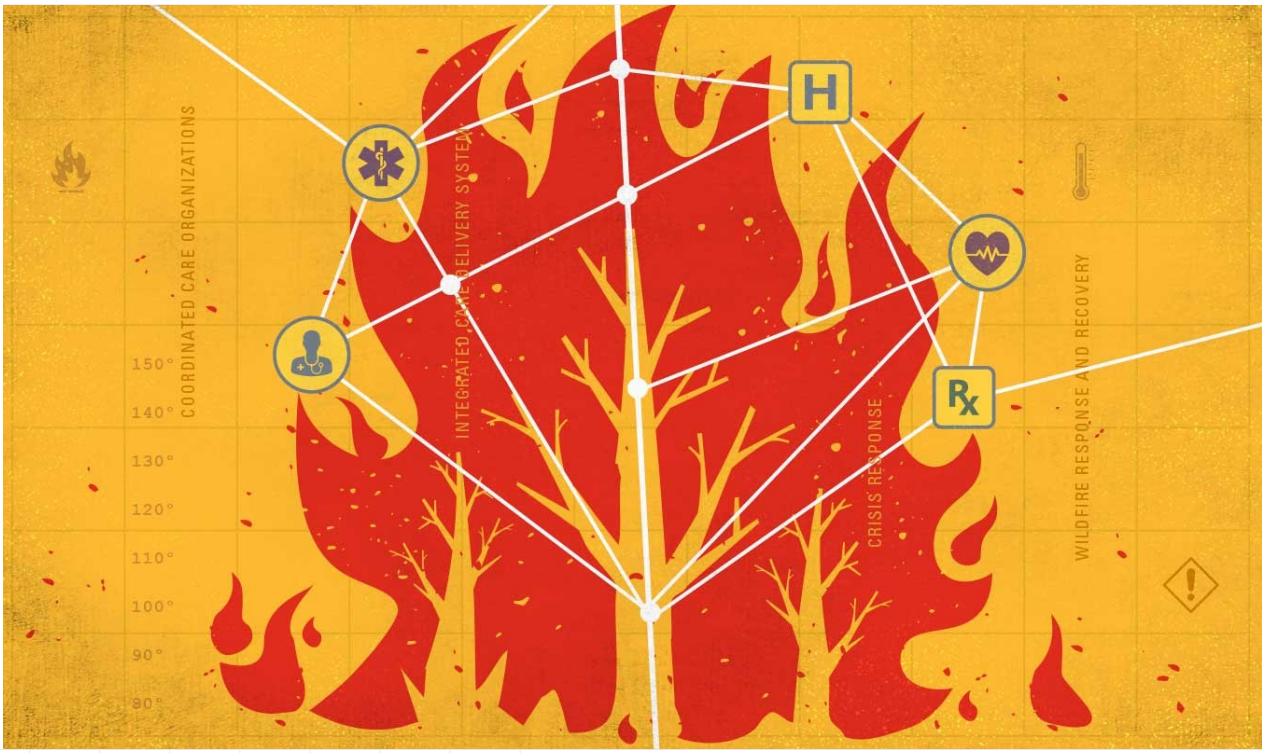


Summary

A decade ago, the Oregon legislature created coordinated care organizations (CCOs) through a Medicaid 1115 Demonstration waiver as a way of integrating physical, behavioral, and oral health in a single funding stream. The intent of the legislation was to facilitate the development of regional organizations that would coordinate comprehensive care for their Medicaid populations. AllCare Health, through AllCare CCO, serves approximately 61,000 members in the Southern Oregon region by partnering with providers and community organizations and stakeholders. As a participant in this community network beginning in the mid-1990s, prior to CCO legislation — and having developed the infrastructure to support community development and the trust to reinforce relationship management — AllCare Health was able to help facilitate the local response to the destructive wildfires affecting Southern Oregon in the fall of 2020. Using geographic information systems technology, AllCare Health identified members at risk in the fire zones and coordinated evacuation, health care services, and social needs in the immediate crisis. AllCare Health's experience with integrating social determinants of health (SDOH) and preexisting relationships developed over many years allowed the organization to be a catalyst in the community response to the wildfires, which, given the changing climate, have become more frequent. Further, the CCO model supports care delivery that recognizes SDOH and supports the Triple Aim of improved patient experience of care, improved health of populations, and reduced per capita cost of care.

At 11 a.m. on Tuesday, September 8, 2020, a devastating wind-driven wildfire exploded in a densely populated corridor of southern Oregon's Rogue Valley. By early afternoon, the Almeda Fire had destroyed more than 2,600 homes and businesses along the major interstate highway between Ashland, Talent, Phoenix, and Medford and killed three people.[1] Shortly after, the South Obenchain Fire burned another 33 homes and businesses a few miles away.[2] This devastation centered on the region's low-cost housing communities, and more than 42,000 residents were suddenly without shelter, food, or access to medicines. Three thousand residents required long-term emergency shelter, and several hundred remained unhoused almost 2 years later.

Climate change, including the significant contribution by human causes, has increased by 40% the likelihood of hot, dry, windy autumn weather in western Oregon and California, setting the stage for severe fires, according to Oregon State University researchers and others.[3-5] Around the world, climate change and land-use change are making wildfires more frequent and intense, according to a United Nations study that predicts that the likelihood of catastrophic wildfires globally will grow by 9%–14% by 2030 and by 20%–33% by 2050.[6]

AllCare Health, based in Grants Pass, OR, is a physician- and provider-led integrated network with payer, provider, and practice management components (Figure 1).

In addition to the AllCare coordinated care organization (CCO; which provides physical, behavioral, and oral health to approximately 61,000 Medicaid members), the organization includes the AllCare Health Plan (offering a Medicare Advantage plan, serving 4,500 members), the AllCare Independent Physician Association, AllCare eHealth Services (providing electronic health records, billing services, and management support for provider practices), the AllCare Medical Group (a primary care employment-model practice launched in 2021), AllCare Programs of All-Inclusive Care for the Elderly, AllCare Management Services (which employs all staff), and AllCare Development (which owns the company's real property). The CCO component is one of several in the state formed after the Oregon legislature created the CCO infrastructure.[7]

FIGURE 1

AllCare Health Corporate Structure

CCO = coordinated care organization, PACE = Programs of All-Inclusive Care for the Elderly.
Source: The author

AllCare Health Corporate Structure

As this crisis unfolded, the leadership team of AllCare convened to act in support of all of its members and the community as a whole; the organization broadly incorporates a coordinated care philosophy/model, as well as managing the state-based CCO component for its Medicaid population. Leadership challenged our organization to leverage its position as a community health leader — which includes established relationships and an ability to innovate — to help facilitate the wildfire response in our community.

Coordinated Infrastructure

As Oregon developed the CCO program in 2012, 16 CCOs were tasked with integrating physical, behavioral, and oral health care services within each organization, with the goal of reducing silos and coordinating care for Medicaid beneficiaries. Although an underlying goal of this legislation was to facilitate this Triple Aim in health care — to improve the patient experience of care, to improve the health of populations, and to reduce the per capita cost of care[8] — the development of CCOs created the foundation for locally managed integrated care networks. These networks can bridge traditional barriers between the health care industry and social services; the governance model is specified by state law and is structured to facilitate alignment and engagement between CCOs and their community partners.[9]

AllCare Health was formed in 1994 as the Mid Rogue Independent Physician Association with the aim of providing quality, cost-effective health care and improving the health of our communities; in 2015, the organization rebranded as AllCare Health, and, in 2017, AllCare Health became a certified Benefit Corporation.[10] AllCare Health is governed by a 14-member board, made up of nine clinicians and five community members. The organization holds a CCO contract with the Oregon Health Authority; the CCO is governed by a 21-member board currently comprising 10 clinicians and 11 stakeholders including: one consumer representative from each of our three community advisory councils, two public members, two educators, a local hospital representative, a representative of a federally qualified health center, an equity director, and a

representative from a local behavioral health provider.

> **When the 2020 wildfires started, our IT staff recognized the ability to use GIS to help AllCare's response to our members' crisis-related health and well-being needs. From the preexisting relationship with county emergency management officials, AllCare IT staff were able to access live updating fire and evacuation maps, on which we overlaid a deidentified member map."**

To facilitate care, AllCare has partnered with behavioral health and oral health organizations and has developed an interdisciplinary liaison team connecting health care and the larger community to better address social determinants of health (SDOH). Additional key community associations include education, housing, food, transportation, child and family welfare, equity, law enforcement, domestic violence, and local government. Also, for nearly 10 years, AllCare has financially subsidized programs and employee salaries at Josephine County Public Health, including for a registered dietician, a direct care nurse practitioner, and a county Public Health Officer. Funding public health supports AllCare's mission and aids the county, which, on the basis of 2021 estimates, has a population of 88,346, a median household income of $47,733, and a poverty rate of 15.8%.[11] These efforts have supported programs and services for Medicaid and dually eligible AllCare members and for the greater community. These various community alliances are essential in developing services, resources, and relationships that reflect the specific and evolving health-related needs of our communities outside medical offices. Our collaboration with community agencies has facilitated the training of our staff in key support strategies and has helped us better understand and serve our members and providers, which is especially valuable when responding to a disaster, such as we saw in the 2020 wildfires.

Wildfire Response

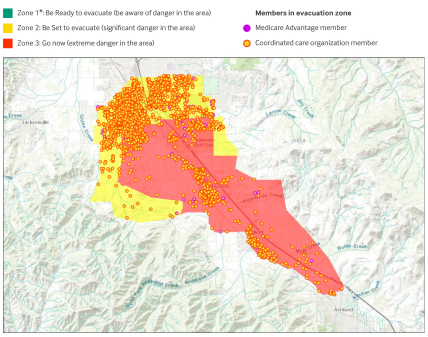
Within hours of the fires igniting locally, AllCare Health staff began the planning process for responding to members' needs. The following day, AllCare deployed ArcGIS (Esri, Redlands, CA), a software tool that brings together geographic information systems (GIS), mapping, and analysis, to identify our members who were living within the fire zones (Figure 2). The tool relies on existing addresses for our members and readily identified those at risk, enabling prompt action during the crisis.

GIS have been used in epidemiology and health care trends,[12,13] and emergency services use GIS in assessing disasters. Prior to the 2020 wildfires in southern Oregon, community leaders were considering the potential for wildfires in our region, after watching what happened during the Camp fire, which destroyed Paradise, CA, in 2018.[14,15] During this time, Josephine and Jackson counties hosted meetings with community partners related to this planning process. One of these meetings was held at the AllCare community room, during which our IT department developed a relationship with county employees who were using GIS. When the 2020 wildfires started, our IT staff recognized the ability to use GIS to help AllCare's response to our members' crisis-related health and well-being needs. From the preexisting relationship with county emergency management officials, AllCare IT staff were able to access live updating fire and evacuation maps, on which we overlaid a deidentified member map. Using internal identification keys, we were then able to initially identify more than 8,300 affected Medicaid and Medicare members, including approximately 700 elderly, 700 disabled, and 51 expectant

FIGURE 2

Utilization of Geographic Information Systems Technology to Support Wildfire Response, 2020 Almeda Fire

AllCare Health obtained geolocation information for active evacuation zones from local management operations. Using this information and the already-known geolocations of members based on address, exact population counts were obtained for those directly impacted, and individual members were identified. Care coordinators then reached out directly to those identified members to learn of any immediate needs or concerns.



*Green tint for zone 1 is not shown; it would cover everything other than the yellow and red.
Source: AllCare Health; ArcGIS; County of Jackson, OR; Bureau of Land Management, State of Oregon; State of Oregon Department of Transportation; State of Oregon Geospatial Enterprise Office; Esri Canada; Esri; HERE Technologies; Garmin; INCREMENT P; U.S. Geological Survey; Ministry of Economy, Trade, and Industry (Japan)/U.S. National Aeronautics and Space Administration; Environmental Protection Agency; and U.S. Department of Agriculture

mothers. AllCare's IT staff then forwarded the names of affected individuals to other internal staff, who began calling those members to inquire about their well-being and needs (Table 1). A total of 9,630 affected members were eventually identified.

Utilization of Geographic Information Systems Technology to Support Wildfire Response, 2020 Almeda Fire

TABLE 1

Time	Event
September 8, 2020	Almeda Fire starts; AllCare leadership begins discussing how to intervene for affected members.
September 9, 2020	AllCare begins locating members who reside in the Almeda Fire area.
September 10–11, 2020	8,350 AllCare members are identified as residing in an evacuation zone, including: • 699 total Medicare

EXPAND TABLE

Timeline of AllCare Health Wildfire Response

CCO = coordinated care organization. Source: AllCare Health

Evacuation was an urgent first step. Following GIS identification of members, AllCare coordinated with ReadyRide, its nonemergency medical transportation (NEMT) partner. ReadyRide provides transportation exclusively to AllCare CCO and Advantage members in our four counties, including not only NEMT for clinical services, but also nonmedical ("flex") rides for health-related needs. In the context of the fires, ReadyRide provided evacuation, transport to shelters, and other transportation services for 32 individuals, including nine who were medically fragile. We extended this no-cost service beyond AllCare members to other affected individuals by paying for ReadyRide to evacuate an assisted living facility at the request of the state.

AllCare's care coordinators provide a wide range of services. During the wildfire, they contacted at-risk members regarding needs for transportation, medication refills, durable medical equipment (DME), eyeglasses, dentures, and other services, including behavioral health support. Staff often simply listened and supported traumatized individuals. In total, coordinators reached more than 600 members. In the chaos of the fire and immediate aftermath, many members were displaced and/or on the move and could not be reached for a variety of reasons. This created some concern on the part of care coordinators, who often form attachments to the members on their panels. For members who could not be contacted, care coordinators left voice mails; in addition, contact numbers were posted on AllCare Health's website for members to call for support if needed. AllCare also alerted network provider offices to direct members with needs to contact AllCare care coordination staff. Care coordinators traveled to shelters, offering emotional support, aiding with health care access and personal documents (lost personal driver's licenses, birth certificates, etc.), and supplying timely information regarding available community resources.

GIS identification also allowed pharmacy directors to preauthorize nearly 300 early refills of prescriptions for fire-affected members. We coordinated the transfer of prescriptions to non–fire affected pharmacies and preauthorized the replacement of destroyed DME items, such as oxygen, wheelchairs, and continuous positive airway pressure. AllCare also suspended certain internal authorization processes to provide prompt service.

AllCare's Behavioral Health team cross-referenced GIS data with its list of *high-needs* patients and contacted facilities (including substance abuse and serious and persistent mental illness clinics) in the evacuation zones for these vulnerable members. We arranged for members to get care at another facility if needed, and ReadyRide was alerted to potential changes in the usual NEMT routes for specific individuals. At local shelters, licensed behavioral health professionals from AllCare and partner agencies provided *walk-in* crisis interventions, suicide assessments, and referrals to local resources.

AllCare's Behavioral Health team cross-referenced GIS data

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AllCare's Oral Health director collected personal dental supplies from several dental care organizations and private offices and delivered them to shelters. The Oral Health team also coordinated with various dental plans to replace destroyed dentures or other oral appliances, again eliminating the prior authorization process. This was a high-impact intervention for those whose nutritional status was threatened.

AllCare CCO also took advantage of Flexible Spending provisions in Oregon's CCO legislation that allow plans to pay for health-related services and items that are not part of members' direct health care expenses but that support health needs (e.g., food and clothing). This included paying for hotel stays for at least three displaced members. We were able to relax ordinary internal rules and timelines to promptly approve valuable flexible services for members during this traumatic time.

Throughout the fire crisis and its aftermath, AllCare has served as a resource hub for social media inquiries on fire status as well as community response, and we posted fire response updates and available community resources on our website. Because of the preexisting relationship with our public health colleagues, AllCare integrated and coordinated clear public health communications. Additional communication issues included a need for language support. AllCare was able access its network of interpreters in Josephine and Jackson counties to provide language services for public messaging, for county Emergency Management Operations, and at emergency shelters. The interpreters spoke Spanish and facilitated services in four other languages with iPads equipped with Video Remote Interpretation.

In addition to the care coordinators' support of affected individuals and the community engagement staff's outreach to the larger community, the county Public Health Officer coordinated AllCare's primary care providers to help staff emergency shelters, and AllCare employees served at local shelters, providing more than 400 hours of service (Table 2). Leadership staff also spent significant time in wildfire support, including AllCare's HR department, which developed a new payroll code to track staff time spent in wildfire activity, reported these data to the board, expanded the volunteer policy, and developed companywide communications to encourage employees to be involved in serving people in need in our community.

TABLE 2

Staff	Hours
Community Health Worker	93.0
Interpreter	97.0
Children's Health Insurance Program Team	93.8

EXPAND TABLE

AllCare Health Staff Hours Devoted to Certain Wildfire-Related Support

AllCare staff's initial hours during the Almeda Fire Response of September 2000 spanned a period of approximately 3 weeks. Source: AllCare Health

The 2020 wildfire left a burn scar across a significant area. The impact on the natural and man-made environments is lasting. Also, we are facing wildfires in our area again in 2022.[16] But since the 2020 fires, AllCare has continued to partner with and fund local housing and nutritional support initiatives, as well as other health and well-being–related supports, and community preparedness programs through community-based

partners, including local shelters, the United Way, Rogue Food Unites, and others, to aid many families, including seniors, minorities, and disabled persons.

Success Factors

GIS

AllCare's prior experience with ArcGIS was limited to identifying distances between members and provider offices and similar uses. Our success with ArcGIS has encouraged our staff to use the technology in new ways, including determining network capacity, locating the best sites for needle-exchange services, and understanding health care equity and disparities in our service area. Additionally, we used the technology again in the 2022 fire season to locate members and make sure that their health-related needs, including transportation, medication, and DME, were met. The county has now made ArcGIS mapping of fire zones public, resulting in AllCare having more seamless access to the data and maps for the 2022 fire season. A new opportunity is using ArcGIS to identify members who may be at risk of power outages as the state of Oregon considers cutting power to certain areas to reduce the risk of fires associated with high winds and power lines.

SDOH AND EQUITY STAFFING

AllCare staff who focus on SDOH facilitated outreach into the community. Their knowledge of both community needs and AllCare's capabilities gave us confidence in promptly fulfilling funding requests with known and trusted community partners.

INFRASTRUCTURE AND COMMUNITY DEVELOPMENT

The challenge of facilitating the development of the Southern Oregon infrastructure required the education (over years) of AllCare's board, executives, and staff to understand the impact of SDOH on the health of our communities. This understanding enabled leadership to promptly pivot and respond to various fire demands and recovery solutions. At various times in the past, our clinician leaders have been skeptical about their role in SDOH, but they have remained open to learning how we can address social needs through the larger organization, outside the traditional clinical model. A key factor in AllCare's organizational learning about nonclinical determinants of health was a board retreat in 2013 that included an outside speaker who addressed the effects of housing on health outcomes. At the conclusion of this retreat, the board decided to focus on the areas of housing, education, and community engagement as the foundation for AllCare's SDOH outreach.

> **"During the wildfire, [care coordinators] contacted at-risk members regarding needs for transportation, medication refills, durable medical equipment, eyeglasses, dentures, and other services, including behavioral health support. Staff often simply listened and supported traumatized individuals."**

TRUST AND RELATIONSHIP MANAGEMENT

AllCare leadership had spent many years developing relationships and trust with community partners. This laid the foundation for integrating care coordination with the crisis response and aided the recovery process over the ensuing months, as trust facilitates faster solutions in a crisis. Early in the development of the CCO, we expanded the inclusion of partner organizations in committee structure and board leadership, allowing a greater voice from community advisory councils on the board. Calling partners to a common mission was essential in helping the extended health care community to work together, and the previous establishment of trust facilitated innovative solutions during the crisis. Our IT department had preexisting relationships with county Emergency Management staff, which resulted in the ability to access fire maps for use in locating members with the ArcGIS system. Additionally, our partnership and trust previously established with public health allowed the county Public Health Officer to call upon the primary care community in Grants Pass to provide medical oversight at local shelters.

LANGUAGE SERVICE SUCCESS

Over the past several years, AllCare has developed a language interpreter training program and, as a result, has a network of interpreters who work in clinical settings around the Rogue Valley. Many of the victims of the fires were Spanish speaking only, with challenges accessing services and food from local food banks. When AllCare became aware of this, we partnered with some of the existing language interpreters to provide services at these food banks. This was a repurposing of interpreters trained for clinical settings who could be used in social settings with the same goal in mind — improving the health of our communities.

Challenges

VOLUME AND URGENCY

Care coordination staff were faced with personally contacting a tremendous number of members at risk. It would have been much more efficient to have the ability to send out a mass cell phone text and/or email immediately to alert all members at once, then to proceed to individual calls. The scale and immediacy of the initial outreach was very stressful to involved staff.

INFORMAL SOLUTIONS IN A CRISIS

A crisis-driven challenge may require an innovative approach to meet the needs of the moment. For example, AllCare staff were aware of a significant unofficial private shelter network in the community that served marginalized individuals who did not feel safe in traditional public health–sponsored shelters. However, because we were not able to fund these directly because of regulatory limitations, our staff creatively worked directly with established partners, such as food banks and the Red Cross, to supply this grassroots network. Again, partnerships and trust throughout the community were key to quickly resolve the challenge.

HOUSING NEEDS

Before the fire, many houseless individuals were living in a greenway along a creek, with heavy vegetation. This served as a corridor for the fire, and many of the displaced are now living in urban campgrounds. AllCare staff continue to be in dialogue with the urban campground leaders and law enforcement to make sure that these individuals have their needs met. AllCare staff continue to coordinate the care of this often highly complex population in partnership with local community-based organizations. Having a health-oriented presence at community discussions provides additional insight into the needs of this community. AllCare continues to try to understand the ambiguous and evolving role of health care leadership in addressing housing-related issues in our communities.

HARDWIRING OF SOLUTIONS

As noted, we succeeded in using existing ArcGIS capabilities in an emergent situation and had successes in locating our members and directing care coordination. We were also prepared to implement similar strategies during more recent fires. However, we did not commit enough time to formalize this as an emergency management solution. Daily business, which was put on hold during the fires, fire response, and recovery implementation, demanded attention. Had we taken the time to optimize some of the digital interfaces between departments immediately following the fires, we might have been better prepared for the wildfire season of 2022, which again demanded a synergy between IT and frontline care coordination. Additionally, staffing changes have resulted in a loss of institutional knowledge, highlighting the need to formalize prior solutions. We have had to subsequently build better integrations between the ArcGIS system and care coordination software to make disaster outreach and response more seamless.

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crisis."

Looking Ahead

For several years prior to the fire, AllCare's SDOH staff had been discussing the environment and the "built environment"[17,18] as a strong driver of health outcomes. The fire served as a catalyst to increase the attention given to this concept among community partners, as the fires disproportionately affected low-income residents. For the past decade, southern Oregon has been regularly affected by wildfire smoke, and AllCare, along with other CCOs, is now coordinating the distribution of air filters provided by the State of Oregon to vulnerable members who may be affected by their proximity to wildfires.[19] As a result, environmental change is increasingly on our radar related to health outcomes in our communities.

The wildfires exposed many health disparities in our region. Those in marginalized communities, including those in temporary housing or older neighborhoods and non–English speakers, were more greatly affected, especially when it came to evacuation notices, announcements regarding support services, etc. AllCare's work with city and county emergency services during the wildfire strengthened our ability to interface with these organizations on community topics, including crisis response and social needs. An outgrowth of this was that during the intense heat wave of summer 2021, AllCare was able to provide input for the development of community assistance related to extreme heat, including facilitation for access to cooling centers for houseless people in the community.[20]

The legislators and creators of Oregon's CCOs envisioned innovative local companies able to address the triple aim in their communities. These CCOs have developed networks of care, coordination, and partnerships within local regions in Oregon, as well as the flexibility to utilize Medicaid funding in nontraditional and innovative ways. In establishing CCOs, these forward-thinking legislators also facilitated the development of the infrastructure and relationships required for community responses to unanticipated health-related needs, including those related to climate change.

NOTES

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Richard A. Williams is one of about 90 shareholders in AllCare Health.

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