The COVID-19 pandemic has severely stressed the US health care system, with Indigenous communities experiencing disproportionately high COVID-19 infection and mortality rates. While the factors associated with these disparities are multifactorial, initial provision of emergency and critical care services outside of major urban centers and appropriate transfer to tertiary care are essential to health outcomes in Indigenous communities. Motivated by our experience as emergency medicine clinicians practicing in the Southwestern US, in this Viewpoint, we describe how the systems for delivering emergency care for Indigenous and rural communities were strained during the pandemic and propose policy solutions to advance health care equity.

Most Indigenous individuals live in rural areas and small towns. These communities are predominantly served by the Indian Health Service as well as tribally managed and small community hospitals. Because of limited access to intensive care unit (ICU)-level and/or specialty care, these facilities highly depend on interfacility transfers to provide definitive care for patients with high-acuity and critical illness. However, during COVID-19 surges, some rural hospitals faced substantial challenges in transferring patients, as the surrounding network of tertiary care centers experienced a rapid decline or loss of inpatient capacity. Such transfer difficulties have persisted owing to ongoing health care staffing shortages.

This has been the experience in the Southwest for hospitals serving rural-dwelling Indigenous communities. In response to the multiple stressors imposed on hospitals and patients, leaders at rural branches of the Indian Health Service, tribally managed and community hospitals, and New Mexico’s only academic medical center established a weekly regional coordination meeting in the Southwestern region of the US. This meeting was led by the academic medical center and facilitated communication between facilities that were navigating unprecedented circumstances. Through this meeting, participants identified difficulty transferring high-acuity patients with time-sensitive conditions as a major shared challenge in delivering quality care to served communities.

During the COVID-19 pandemic, several states, including New Mexico and Arizona, established coordination centers to assist with load-balancing transfers across tertiary referral centers. These centers provided a promising model for streamlining transfer processes, with more than 50% of transfers in Washington, Minnesota, and Arizona originating from rural hospitals despite these serving less than 10% of the combined population of these states. However, these coordination centers often had limited scope. For example, Arizona’s center focused solely on patients with COVID-19, and New Mexico’s served only general medical ICU-level patients, excluding patients who required specific specialty care to address their critical illness (eg, upper endoscopy or emergency dialysis). At times, the centers became ineffective, unable to place patients at appropriate facilities when no bed capacity remained within the state. Under the US Emergency Medical Treatment and Labor Act, hospitals are not obligated to accept additional patients when at capacity. Seeking an accepting facility across state lines then became necessary, which state-level transfer coordination centers could not facilitate. The concept of Federal Regional Medical Operations Coordination Centers spanning multiple states has been described; however, they were not implemented in the Southwest.

As a result, outlying hospitals bore the burden of locating specialty and critical care resources for patients in need of transfer. For the first time in decades, rural clinicians in the Southwest had to
burnout have been well documented.10 Negative associations of ED crowding with quality of care, patient experience, and clinician and staff was exacerbated by long transfer distances in the Southwestern US.6 As with much of the country, multiple separate emergency medical services agencies provided transport services across the Southwest without a centralized mechanism for prioritization of higher-acuity patients, requiring outlying facilities to again make multiple calls to arrange for transport.

The inability to transfer patients was also associated with increased emergency department (ED) overcrowding in outlying facilities, with frequent boarding of unstable patients or patients with critical illness and increased total ED workload, straining nursing, clinician, and other resources.8 The negative associations of ED crowding with quality of care, patient experience, and clinician and staff burnout have been well documented.10

Additional complications associated with a need to transfer to distant facilities when nearby institutions were at capacity included separation from family and the complex process of coordinating repatriation to the patient’s community. In multiple instances, patients from tribal communities were transferred to facilities more than 400 miles away. The cost of transportation over such distances to return home at the time of discharge can represent a substantial financial burden for patients of limited financial means.

In the Box, we propose priority actions for emergency management planning and overall health system strengthening that would support and improve care for rural, Indigenous communities, as well as other hospitals with limited ICU and specialty care in rural or urban settings. The COVID-19 pandemic has exacerbated inequities in access to specialty and critical care services for Indigenous communities at capacity included separation from family and the complex process of coordinating repatriation to the patient’s community. In multiple instances, patients from tribal communities were transferred to facilities more than 400 miles away. The cost of transportation over such distances to return home at the time of discharge can represent a substantial financial burden for patients of limited financial means.

<table>
<thead>
<tr>
<th>Box. Proposed Policy Changes to Promote Health Equity in Rural and Indigenous Communities</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Adequately fund and support state-level transfer coordination centers. When individual states are near or at capacity for inpatient beds, implement a federal regional emergency response system to provide higher-level coordination of transfers for patients with critical illness and unstable patients in a system that spans state lines.</td>
</tr>
<tr>
<td>2. Where transfer coordination centers exist, prioritize transfer by clinical acuity, including need for specialty evaluation, rather than by specific disease.</td>
</tr>
<tr>
<td>3. When a state or region is at or near inpatient bed capacity, use a protocol to allocate transfers of patients with the most acute and critical illness who truly cannot be stabilized at the sending facility to receiving facilities with the services to provide definitive care even if no inpatient bed is immediately available.6</td>
</tr>
<tr>
<td>4. Ensure representation from Indigenous, rural, and small-town hospitals in groups leading health care system planning and emergency response at the state and interstate level.</td>
</tr>
<tr>
<td>5. Using the model of our regional coordination meeting, support communication networks among rural hospitals to address operational challenges and share solutions.</td>
</tr>
<tr>
<td>6. Use technological innovations to support care in rural facilities, such as teleconsultation services for critical care and other specialties and image sharing.</td>
</tr>
<tr>
<td>7. Adopt statewide centralized coordination centers for emergency medical services where hospitals can call to identify available flight or ground transport without having to call multiple agencies. Support rural emergency medical services in establishing protocols to guide emergency interfacility transport of patients with critical illness amid competing local priorities.</td>
</tr>
<tr>
<td>8. Support research to strengthen the evidence base regarding rural hospital transfer processes: delays, administrative burden on sending hospitals, and clinical association with patient outcomes and experiences. This should include investigation of common challenges experienced by all small, non-networked hospitals, as well as the specific needs of hospitals serving rural and Indigenous communities.</td>
</tr>
<tr>
<td>9. Provide support for patients and families traveling between distant receiving facilities and home when transferred because of medical necessity (eg, financial coverage of transportation services required for the return trip after discharge).</td>
</tr>
</tbody>
</table>
and rural patients seeking emergency care outside of major urban centers. Recognizing this vulnerability in the health care system provides an opportunity to strengthen systems of care proactively. This may benefit health care delivery during future stress (e.g., seasonal influenza) as well as during routine operations. Inequities associated with emergency care in rural, Indigenous communities can be addressed through our recommendations to improve health care equity.

ARTICLE INFORMATION
Open Access: This is an open access article distributed under the terms of the CC-BY License. © 2022 Bartlett E et al. JAMA Health Forum.
Corresponding Author: Emily Bartlett, MD, MS, Indian Health Service, 516 E Nizhoni Ave, Gallup, NM 87301 (emily.bartlett@ihs.gov).
Author Affiliations: Indian Health Service, Gallup, New Mexico (Bartlett); University of New Mexico, Albuquerque (Bartlett, Greenwood-Ericksen).
Conflict of Interest Disclosures: Dr Bartlett reported grants from the ZOLL Foundation outside the submitted work. Dr Greenwood-Ericksen reported funding from the New Mexico's State Opioid Response 2020 (H79 T081696-01) outside the submitted work.
Additional Contributions: Drs Bartlett and Greenwood-Ericksen would like to thank the members of the Emergency Medicine for Rural and Indigenous Communities (emRIC) writing group for substantial intellectual input and consistent support throughout the conceptualization, preparation, and review of this Viewpoint. This writing group was formed by participants of the Southwest Regional coordination call described in this article to document common challenges faced by these sites with the aim of improving systems of care for these communities. The information provided in this Viewpoint represents a compilation of first-hand experiences of these group members during the COVID-19 pandemic. In addition to Drs Bartlett and Greenwood-Ericksen, the emRIC writing group members are Paul Charlton, MD, MA, Indian Health Service; Shawn D'Andrea, MD, MPH, Indian Health Service; Naomi George, MD, MPH, University of New Mexico; Christopher Jentoft, MD, Indian Health Service; Jason Kurland, MD, Indian Health Service; Dominick Maggio, MD, Indian Health Service; Jeanie Ringelberg, MD, Indian Health Service; David Sklar, MD, Arizona State University; and Chelsea White IV, MD, University of New Mexico.

REFERENCES
