U.S. Department of Health and Human Services

Office of Inspector General

Indian Health Service Use of Critical Care Response Teams Has Helped To Meet Facility Needs During the COVID-19 Pandemic

Suzanne Murrin
Deputy Inspector General for Evaluation and Inspections
September 2021, OEI-06-20-00700

U.S. Department of Health and Human Services

Office of Inspector General

Report in Brief

September 2021, OEI-06-20-00700

Indian Health Service Use of Critical Care Response Teams Has Helped To Meet Facility Needs During the COVID-19 Pandemic

Why OIG Did This Review

Coronavirus disease 2019 (COVID-19) is a highly contagious, sometimes fatal, disease that has disproportionately affected American Indians and Alaska Natives (AI/ANs). The Indian Health Service (IHS) and Tribal health care facilities are the main health care providers for the AI/AN population. Prior OIG work found that IHS facilities often lacked sufficient staff and had limited access to clinical specialists, as well as finding other quality-of-care concerns. One recent IHS effort to address staffing and quality concerns is its development of Critical Care Response Teams (CCRTs) to support IHS and Tribal facilities in caring for critically ill COVID-19 patients. This study examines IHS's first five deployments of the CCRTs, which provided services to six IHS facilities and three Tribal facilities from June through September 2020.

How OIG Did This Review

We based our findings on document reviews and interviews with 74 key officials and staff at IHS headquarters, IHS Area Offices, IHS-operated facilities, and tribally operated facilities, as well as with contracted providers who served on the CCRTs. We conducted data collection in December 2020 and January 2021. We reviewed contracts and other documents related to IHS's deployment of the CCRTs. Topics for the interviews included processes for deploying the teams; roles and expectations; and strategies used to address any challenges encountered during the deployments.

Key Takeaway

IHS developed the CCRT program as an innovative capacity-building tool to strengthen IHS and Tribal facilities' response to the COVID-19 pandemic. The program is a positive step in IHS's efforts to promptly respond to the immediate needs of facilities. The CCRT model also holds promise for addressing longstanding challenges facing some facilities related to quality of care and staffing.

What OIG Found

IHS designed and launched the CCRT program within a few months of COVID-19's reaching the United States. IHS awarded a contract in May 2020 to pilot the program and began receiving facility requests for CCRT deployments shortly thereafter. IHS expedited the credentialing and onboarding process, and the first team arrived onsite at a tribally operated facility in June 2020. CCRT teams consisted of a critical care physician, one or two critical care nurses, and a respiratory therapist, all deployed on short notice. At the time of our review, IHS had fulfilled all requests for CCRTs in a timely manner.

While onsite, the CCRTs provided hands-on training to strengthen staff skills and capacity to handle surges of COVID-19 patients. Facility administrators found the deployments, which typically lasted 2 weeks, valuable. In interviews, IHS officials and staff credited the CCRT training with saving lives and stated that the teams' presence boosted staff's confidence and skills. Although the CCRTs focused mostly on training staff, the teams also provided direct patient care, particularly during patient surges.

Throughout each CCRT deployment, facilities provided close oversight and communicated frequently with IHS headquarters and Area Offices about CCRT activities. In January 2021, IHS awarded two contracts to extend the program through the pandemic. Although none of the facilities in our sample planned to request another CCRT deployment, all facilities reported a need for similar resources to assist with non-COVID-19-related care.

What OIG Recommends

To further leverage the successes of the CCRT model in support of IHS's broader care improvement efforts, we recommend that IHS (1) solicit feedback from CCRTs regarding their observations of potential need for broader IHS-wide improvements beyond COVID-19-related care; (2) share the CCRTs' recommendations across all IHS and Tribal facilities; and (3) assess whether IHS could use the CCRT model to provide support and training for non-COVID-19-related care. IHS concurred with our recommendations.

TABLE OF CONTENTS

BACKGROUND 1

Methodology 6

FINDINGS 8

IHS designed and launched the CCRT program as a capacity-building resource to meet IHS and Tribal facility needs during the COVID-19 pandemic 8

CCRTs assessed facility needs and trained staff on COVID-19-related care, which strengthened facilities' ability to handle patient surges and reaped benefits beyond the deployment 11

Facility administrators provided close oversight of the CCRTs during the deployments, and communicated frequently with IHS HQ and Area Offices about CCRT activities and progress 17

IHS awarded new CCRT contracts in January 2021, extending the program through the pandemic, and facilities expressed the need for a similar program for non-COVID-19-related care 18

CONCLUSION AND RECOMMENDATIONS FOR IHS 19

Solicit feedback from CCRTs regarding their observations of potential need for broader IHS-wide improvements 19

Compile the CCRTs' recommendations to individual facilities and share them across all IHS and Tribal facilities 20

Assess whether IHS could use the CCRT model to provide support and training to facilities needing assistance with non-COVID-19-related care 20

AGENCY COMMENTS AND OIG RESPONSE 21

APPENDIX 22

Agency Comments 22

ACKNOWLEDGMENTS AND CONTACT 24

ABOUT THE OFFICE OF INSPECTOR GENERAL 25

ENDNOTES 26

BACKGROUND

Objective

To assess Indian Health Service (IHS) use of Critical Care Response Teams to support IHS and Tribal health care facilities during the coronavirus disease 2019 (COVID-19) pandemic.

Indian Health Service

IHS is responsible for providing Federal health services to American Indians and Alaska Natives (AI/ANs) and has an annual budget of approximately $6 billion.[1] In partnership with Tribes, IHS provides primary and preventive health care services to approximately 2.6 million AI/ANs who are members of the 574 federally recognized Tribes in the United States.[2] IHS provides these services directly to AI/ANs through IHS-operated facilities or provides funding to Tribes through self-determination contracts and self-governance contracts to operate their own health care systems.[3] IHS also supports contracts and grants to Urban Indian Organizations (UIOs), which provide medical, dental, mental health, and other services to AI/ANs living off-reservation in urban locations.[4, 5]

Health care challenges caused and exacerbated by the COVID-19 pandemic, such as staffing shortages and outdated equipment, have raised concerns about ensuring safe and accessible health care for AI/ANs.[6] According to the Centers for Disease Control and Prevention (CDC), the incidence of laboratory-confirmed COVID-19 cases, as well as hospitalization and death rates, are higher among AI/ANs than among non-Hispanic white persons.[7] As a response to those concerns, IHS took steps to bolster the capacity of IHS and Tribal facilities and developed the Critical Care Response Team (CCRT) program to assist facilities in caring for COVID-19 patients, among other efforts.[8] The CCRTs are small teams of contracted critical care providers that can deploy, as needed, to support IHS and Tribal facilities that are experiencing or need assistance in preparing for surges of COVID-19 patients.[9]

Organizational Structure

IHS headquarters (HQ) provides general direction, policy development, and support for each of the 12 IHS Area Offices and their service units. Area Offices oversee the delivery of health services and provide administrative and technical support to the service units' health care delivery sites, which may include hospitals, health centers, and health stations, among other facility types.[10, 11, 12, 13] As of August 2020, there were a total of 170 service units operated by IHS or Tribes, and within these service units were 24 IHS-operated hospitals, mostly in remote locations, and 22 tribally run

hospitals, among other facility types.[a] (See Exhibit 1 for a list of the number and type of facilities operated by IHS and Tribes.[14])

Exhibit 1: IHS and Tribal health care facilities by type

Type of Facility	IHS	Tribal
Hospital	24	22
Health Center	51	279
Health Station	24	79
Alaska Village Center	0	59
School Health Center	12	6
Youth Regional Treatment Center	6	6
Total	**117**	**451**

Source: IHS, *IHS Profile*. Accessed at https://www.ihs.gov/newsroom/factsheets/ihsprofile/ on September 30, 2020.

Impact of COVID-19 Pandemic on IHS and Tribal Facilities

SARS-CoV2 is a highly contagious coronavirus that causes the disease COVID-19, which can be fatal in some cases.[15, 16] Common COVID-19 symptoms include fever, cough, shortness of breath, fatigue, and loss of taste or smell.[17] The first U.S. patient with COVID-19 was reported on January 20, 2020, and on March 11, 2020, the World Health Organization declared COVID-19 to be a pandemic.[18, 19] As of September 1, 2021, there had been more than 39 million confirmed cases in the United States, with over 638,000 deaths.[20]

The COVID-19 pandemic has disproportionately affected racial and ethnic minority groups in the United States, including AI/ANs.[21] As of August 28, 2021, IHS had reported 226,953 cumulative positive COVID-19 tests and a 7-day rolling average positivity rate of 10.2 percent across IHS, Tribal, and UIO facilities.[b, 22] According to CDC, the incidence of laboratory-confirmed COVID-19 cases was estimated to be 1.6 to 3.5 times as high among AI/ANs than among non-Hispanic white persons.[23, 24] Similarly, hospitalization rates were 3.5 times as high and death rates were 2.4 times as high for AI/ANs than for non-Hispanic white persons.[25] Moreover, for individuals aged 20-49 years, death rates are estimated to be 8 to 12 times as high for AI/ANs than for non-Hispanic white persons.[26] However, CDC acknowledged limitations to

[a] A service unit is an administrative subunit of an IHS Area, operated by IHS or a Tribe, with responsibilities for providing IHS services within a particular geographic area. Each service unit may contain one or more health care facilities.

[b] Tribes and UIOs are not required to report COVID-19 testing data to IHS; therefore, the number of positive tests may not represent the total number of positive COVID-19 cases across IHS, Tribal, and UIO facilities.

these findings because of racial and ethnic misclassifications in epidemiologic and administrative data sets, and it has concluded that the numbers may underestimate actual AI/AN morbidity and mortality rates.

The COVID-19 pandemic created and exacerbated challenges for the U.S. hospital system, including IHS and Tribal facilities.[27, 28, 29] As front-line responders, hospitals have significant responsibilities in identifying and treating patients with COVID-19. IHS and Tribal facilities often serve as the main health care providers for AI/ANs, making them an integral part of the COVID-19 response, but many of those facilities have experienced challenges during the pandemic—from difficulty in accessing personal protective equipment (PPE) to capacity limitations as a result of outdated buildings and equipment and staffing shortages.[30, 31]

Historically, IHS has had sizable vacancy rates among its health care providers (e.g., physicians, nurses, dentists, and other clinical staff), with limited access to clinical specialists—a challenge that could worsen as providers become sick with COVID-19 or leave their positions for any other reasons. For physicians alone, IHS has had vacancy rates of 25 percent.[32, 33, 34] The inability to secure sufficient staffing has been a concern for hospitals nationwide during the pandemic, and staffing shortages are expected to grow for years to come.[35] It is estimated that by 2033, there will be a shortage of between 54,100 and 139,000 physicians in the United States, which could lead to further vacancies for IHS.[36]

COVID-19 Funding

As of March 2021, IHS had received approximately $9 billion in total supplemental funding to support its response to the COVID-19 pandemic, including funding from the Coronavirus Aid, Relief, and Economic Security (CARES) Act; the Paycheck Protection Program and Health Care Enhancement Act; the Families First Coronavirus Response Act; the Coronavirus Preparedness and Response Supplemental Appropriations Act; the Coronavirus Response and Relief Supplemental Appropriations Act; and the American Rescue Plan Act of 2021.[37, 38, 39, 40, 41, 42, 43] In deciding how to allocate the funding, IHS engaged in Tribal Consultation and Urban Confer sessions to ensure that funds would meet the needs of AI/ANs.[44] IHS has used funding to purchase supplies and to support COVID-19 testing, contact tracing, and vaccine distribution, as well as to hire and support staff and maintain or improve facilities, among other efforts.[45, 46, 47, 48] IHS has also used funding to expand and improve telehealth and has plans to use some of the funding to update its electronic health record system.[49, 50]

IHS Response to COVID-19 Pandemic

IHS has undertaken several efforts to support IHS and Tribal facilities during the pandemic, sometimes in collaboration with other Federal and State agencies. These efforts have involved assisting facilities in coordinating emergency response activities;

supplementing staffing; acquiring and distributing COVID-19 tests and supplies; and distributing and administering vaccines. IHS established a section on its website dedicated to the agency's COVID-19 response, where it has provided frequent updates on its activities throughout the pandemic.[51]

Incident Command and Coordination. In March 2020, IHS activated its Incident Command Structure to respond to COVID-19 using the agency's pandemic response plan and facilities' disaster plans.[52] The purpose of the Incident Command Structure is to establish communication protocols to ensure comprehensive situational awareness and efficient deployment of resources across the agency.[53] The Incident Command Structure is led by the Deputy Director of IHS and consists of leadership in IHS HQ and representatives from Area Offices, facilities, and other groups within the agency. To enhance coordination during the pandemic, IHS trained staff in the Area Offices to serve as Emergency Management Points of Contact to facilitate the flow of resources, such as PPE and test kits, from centralized systems to the facilities.[54] Area Offices also provided technical assistance and support to IHS, Tribal, and UIO facilities. In addition, IHS HQ held regular conference calls with Tribal leaders and UIOs to provide updates, answer questions, and hear concerns from Tribal communities to better coordinate response efforts.[55]

Supplemental Staffing. To alleviate staffing shortages during the pandemic, IHS took several steps to bolster staffing in facilities. Those steps included using direct hire authority and instituting interim procedures for onboarding personnel.[56] IHS also acquired temporary deployments from the Department of Veterans Affairs (VA), the Department of Defense (DoD), and the U.S. Public Health Service (USPHS) Commissioned Corps.[57] IHS signed interagency agreements with VA and DoD that arranged for coordinated delivery of health care and other services from those agencies, including for IHS use of VA and DoD medical personnel and hospital beds.[58, 59] IHS has a long history of receiving assistance from the USPHS, which comprises approximately 6,100 public health and safety professionals (e.g., doctors, nurses), assigned to various Federal agencies, and is available to the President and the HHS Secretary to rapidly respond to any public health emergency or crisis within or outside the United States.[60, 61, 62]

Tests and Supplies. To assist facilities in obtaining COVID-19 test kits and supplies, IHS used its National Supply Service Center, which manages the purchase and distribution of pharmaceuticals, medical, and other health-care-related supply items, and provides advice, consultation, and assistance to IHS, Tribal, and UIO facilities on supply management.[63, 64] Tribes could also follow their usual processes for ordering supplies.[65] As of April 14, 2021, IHS had distributed over 84 million units of PPE and other COVID-19-related products to IHS, Tribal, and UIO facilities, and as of August 28, 2021, those entities had performed nearly 2.8 million tests.[66, 67] To administer the tests and vaccines, some facilities partnered with State National Guard units.[68, 69, 70, 71]

Vaccines. As of August 30, 2021, IHS had distributed more than 1.9 million COVID-19 vaccine doses to IHS, Tribal, and UIO facilities. As of the same date, these entities had

together administered over 1.5 million of those doses.[72] As of September 1, 2021, approximately 46 percent of all AI/ANs were fully vaccinated (i.e., had received one dose of a single-shot COVID-19 vaccine or the second dose in a two-dose COVID-19 vaccine series)—a higher vaccination rate than that of any other racial or ethnic group in the United States.[73] In an effort to reduce the spread and impact of COVID-19 across the country, many IHS, Tribal, and UIO facilities also provided vaccinations to nonbeneficiaries (i.e., individuals who are not members of a federally recognized Tribe), such as first responders, teachers, and other community members.[74, 75, 76]

Critical Care Response Teams

In May 2020, IHS awarded a contract to form the CCRT program to assist IHS and Tribal health care facilities in preparing for and responding to the pandemic.[77, 78] The CCRT program is designed to provide facilities with short-term assistance focused on providing urgent medical care for COVID-19 patients through hands-on clinical training and consultation on facility operations by a small team of contracted staff.[79] IHS designated $5.8 million of its CARES Act funding to pilot the CCRT program and deployed the first team in June 2020. During June through September 2020, IHS deployed five CCRTs that provided services to a total of nine facilities. In January 2021, IHS extended the CCRT program by awarding two Indefinite Delivery Indefinite Quantity contracts to continue assisting IHS and Tribal facilities with COVID-19-related care throughout the pandemic.

Related OIG Work

OIG has a substantial body of work related to IHS and Tribal programs. Since 2016, OIG has focused primarily on IHS management of hospitals. Our work has included issuing reports describing lack of quality oversight and a number of challenges that affect IHS hospitals' ability to provide quality care and maintain compliance with Federal requirements.[80, 81, 82, 83] Recently published reports include a study examining the sufficiency of IHS policies for preventing, reporting, and addressing patient abuse and facility implementation of those policies; a medical record review examining adverse events (patient harm resulting from medical care) in IHS hospitals; and a companion report focusing on labor and delivery care.[84, 85, 86, 87]

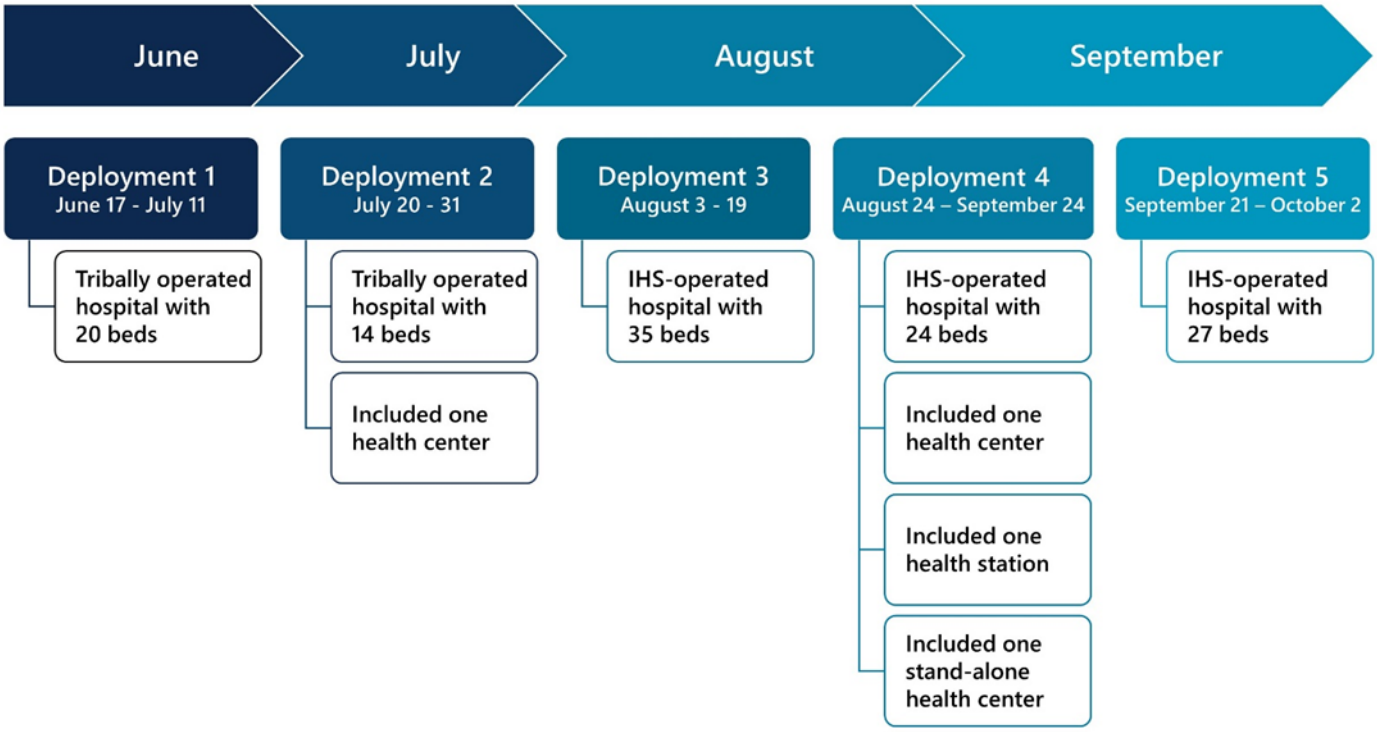
OIG has also undertaken extensive oversight work related to COVID-19. See the OIG COVID-19 Portal for more information. Two reports—one released in April 2020 and the other in March 2021—outlined the challenges that a sample of U.S. hospitals reported facing in response to COVID-19 during the early weeks of the pandemic and 1 year into the pandemic, respectively.[88, 89] Other work includes toolkits detailing lessons learned from OIG reports published from 2002 to 2020 about health care facility and community emergency response.[90, 91]

Methodology

Scope of Inspection

For this evaluation, we purposively selected a sample of IHS's CCRT deployments, which included the first five deployments. During June through September 2020, these five CCRT deployments provided services to six IHS-operated facilities and three Tribal facilities. (See Exhibit 2 for details about the facilities that received the five deployments.) We collected data through interviews with selected key IHS officials; IHS and Tribal facility leadership and staff; and members of the CCRTs, as well as through document reviews, in December 2020 and January 2021. We examined IHS's use of the CCRTs to meet facility needs; its management and oversight of the teams; any challenges encountered during the deployments; and lessons learned that IHS could apply to future CCRT deployments.

Exhibit 2: Facilities that received a CCRT deployment during June through September 2020



Source: OIG compiled this table using data obtained from IHS during September 2020 through January 2021.

Data Collection and Analysis

Interviews. To assess IHS's use of the CCRTs to support facilities during the pandemic, we conducted in-depth telephone interviews with 74 respondents, individually or in small groups in December 2020. The interview respondents included

key officials and staff at IHS HQ and the five Area Offices that received the deployments (Billings, Great Plains, Nashville, Oklahoma City, and Tucson); leadership and staff at the selected IHS and Tribal facilities; and members of the CCRTs.

During these interviews, we discussed the development of the CCRT program; the process for requesting deployments; and onboarding and oversight of the CCRTs at the facilities. We also asked about the roles and expectations of the deployments; any challenges encountered and strategies used to address them; and facility needs for future CCRT deployments. We employed semistructured interview protocols that allowed us to modify questions, as needed, and to follow up on additional issues as we learned new information and identified key issues.

Document Reviews. To determine the CCRTs' responsibilities and obligations, we reviewed contracts, including statements of objectives; debriefing materials, including recommendations that CCRTs provided to facilities; and other documents related to the deployments. To better understand the context surrounding the deployments, we also reviewed facility staffing data, capacity data, and other data obtained from IHS HQ and the facilities.

Data Analysis. We conducted a qualitative analysis of interview data and documents to identify themes and describe the IHS processes for developing, deploying, and managing the CCRTs; facilities' perspectives on the effectiveness of the deployments; and any challenges in or lessons learned from the deployments. We present this data in both aggregate analysis and individual quotations in this report.

Limitations

We did not independently verify the information reported by interview respondents or assess the extent to which facilities incorporated the CCRT recommendations provided to facilities during the deployments. Further, in our review of the CCRT contract, we did not assess IHS invoices, cost estimates, or compliance with Federal Acquisition Regulations. Lastly, this study focused only on the five deployments that occurred during June through September 2020 and did not include facilities that received deployments outside of that timeframe. IHS has contracted with different staffing agencies since November 2020, and we recognize that the experiences of facility staff and CCRTs for those deployments may not reflect those described in this report.

Standards

We conducted this study in accordance with the *Quality Standards for Inspection and Evaluation* issued by the Council of the Inspectors General on Integrity and Efficiency.

FINDINGS

IHS designed and launched the CCRT program as a capacity-building resource to meet IHS and Tribal facility needs during the COVID-19 pandemic

In March 2020, shortly after the World Health Organization declared COVID-19 a pandemic, IHS began to explore ways in which the agency could help prepare IHS and Tribal health care facilities in responding to the pandemic. IHS officials reported that at the time, there were few COVID-19 cases in IHS and Tribal facilities, but there were concerns about facilities' ability to adequately care for COVID-19 patients and handle a potential surge of such patients. IHS officials and staff were concerned that as infections began to spread across the United States, it would become difficult for facilities to secure sufficient staffing, particularly critical care providers, especially because staffing was already a challenge in many facilities prior to the pandemic. IHS officials and staff were also concerned that some facilities would experience difficulty in transferring critically ill patients to higher-level care because of limited availability of beds in intensive care units at receiving hospitals.

Strategy for Success: Expedited Development
IHS tasked internal experts to quickly develop the CCRT program and deploy the teams.

To assist IHS and Tribal facilities in preparing for and responding to the challenges posed by COVID-19, IHS assembled a team of experts from within the agency who developed the CCRT program, a capacity-building resource aimed at strengthening facilities. In interviews, IHS officials described how the team designed the CCRT program to provide facilities with short-term assistance and hands-on training, based on previous experience with hospital management and leadership development teams and the USPHS Rapid Deployment Forces.

IHS awarded a contract in May 2020 to pilot the CCRT program and began receiving facility requests for CCRT deployments shortly thereafter

In May 2020, IHS contracted with a staffing agency to pilot the CCRT program and worked with the contractor to finalize the specifics of the program before deployments could begin. IHS designed the CCRTs to be small, typically consisting of a critical care physician; one or two critical care nurses; and a respiratory therapist. As outlined by the contract, the CCRTs were to be deployed on short notice and to be available 24 hours a day, 7 days a week for no less than 3 to 5 consecutive working days per deployment. To serve on the CCRTs, the team members had to have

academic knowledge and professional experience treating patients who were suspected or confirmed as having COVID-19.

Strategy for Success: Accelerated Timeline

March 2020
World Health Organization declared COVID-19 a pandemic

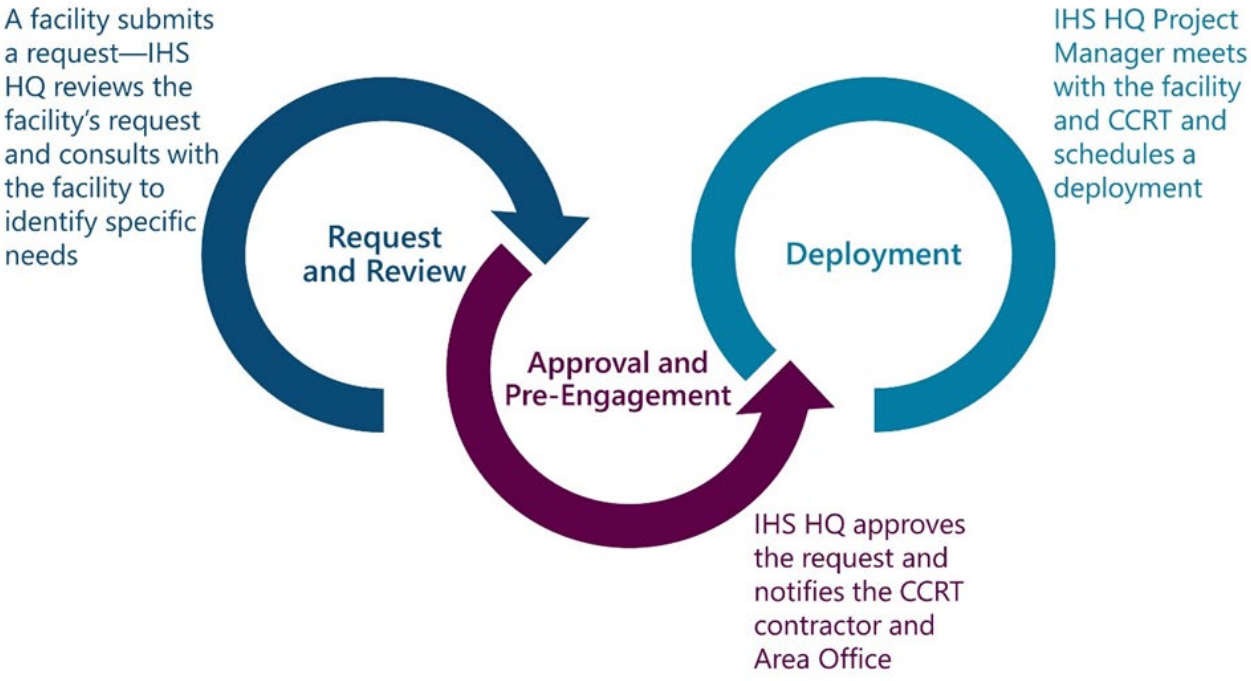
May 2020
IHS awarded the first CCRT contract

June 2020
IHS announced that CCRTs were available and deployed the first team

In early June 2020, IHS leadership made agencywide announcements about the newly established CCRT program and informed IHS and Tribal facilities that they could begin requesting deployments as needed. IHS instructed facilities that to request a deployment, they should go through the Emergency Management Point of Contact in the Area Office, who would then forward the request to IHS HQ. Officials and staff in IHS HQ would then review the request and consult with the facility to identify specific needs and determine whether a CCRT deployment would meet those needs or whether other resources would be better suited for the facility. (See Exhibit 3 for details about IHS's process for requesting a CCRT deployment; reviewing and approving requests; and deploying a CCRT.)

IHS officials reported that the agency received a request for a CCRT deployment almost immediately after making the announcements. In interviews, one facility reported requesting a deployment because it was experiencing a surge of COVID-19 patients at the time and needed help with caring for those patients. Other facilities explained that they wanted CCRT deployments to help prepare for anticipated future surges.

Exhibit 3: The process for requesting a CCRT deployment, reviewing and approving requests, and deploying a CCRT



Source: Documents provided by IHS to OIG, 2020.

Facility administrators generally described the process for requesting and receiving approvals for deployments as quick and efficient and said that the timing of the CCRT deployments was helpful, as patient surges often occurred during or shortly after the deployment. IHS officials reported that the agency had a process for prioritizing CCRT deployments if needed, but that it had been able to fulfill all requests in a timely manner without placing facilities on a waiting list.

IHS expedited the credentialing and onboarding process to quickly deploy the CCRTs, and the first team arrived onsite in June 2020

Strategy for Success: Streamlined Credentialing
IHS and facilities streamlined and expedited credentialing and onboarding of CCRTs to quickly begin deployments.

To quickly get CCRTs onsite to facilities that requested deployments, IHS HQ reported working closely with Area Offices and facility administrators to expedite credentialing, privileging, and onboarding of the CCRT members.[c] In interviews, IHS officials and staff credited IHS's new centralized credentialing system, implemented in the last few years, for facilitating quick information-sharing (e.g., resumes, licenses) across facilities, which sped up the credentialing process for CCRTs. IHS had previously stored provider credential files at facilities or Area Offices, which did not allow for easy agencywide access. IHS HQ also reported that Area Offices held more frequent governing-board meetings with facilities to review CCRT candidates.[d] One Area official noted that the credentialing approach used for CCRTs improved the agency's overall credentialing and privileging process because it forced IHS to examine its processes and make necessary adjustments.

Facilities could also use emergency/disaster credentialing and privileging to get CCRT providers on board quickly if they were experiencing a surge and had activated their facility emergency plans. To use emergency/disaster credentialing and privileging for CCRT providers, IHS required facilities to verify licensure and identification and check references and hospital affiliation as they would under normal circumstances, but—unlike in the normal process—IHS allowed facilities to complete those verifications up to 72 hours *after* the provider arrived onsite. Two of the facilities in our sample reported using emergency/disaster credentialing and privileging, and IHS officials stated that several of the other facilities that received deployments after our study period used this type of credentialing and privileging process.

To familiarize the CCRTs with the facilities, each facility provided new-employee orientation to the teams before or shortly after they arrived onsite. The orientation

[c] During credentialing, IHS verifies the provider's education, training, licensure, and experience. During privileging, IHS identifies the scope of the provider's expertise and determines which medical functions the individual is permitted to perform at a particular facility. IHS, *Indian Health Manual*, pt. 3; ch. 1; sections 3-1.1 (Introduction) and 3-1.4 (Procedures).

[d] Each IHS-operated facility has a governing board that is chaired by the Area Director and includes leadership from the Area Office and the facility. The governing board is the only authority that can grant full medical staff membership and clinical privileges, and it has the ultimate authority and responsibility for the oversight and delivery of health care rendered by practitioners who are credentialed and privileged. IHS, *Indian Health Manual*, pt. 3, ch. 1, sections 3-1.2 (Responsibilities).

included trainings that covered facility-specific and agency-specific topics. With the help from IHS HQ, facilities streamlined the trainings, which allowed providers to take the trainings virtually before they arrived or to complete them within 1 day when they arrived onsite.

In June 2020, IHS deployed the first CCRT, which was to a Tribal facility that requested assistance because of to rising numbers of COVID-19 patients. The team arrived at the facility within days of the request. During June through September 2020, IHS deployed the CCRTs a total of five times, providing services to nine facilities—six IHS facilities and three Tribal facilities. (See Exhibit 2 on page 6 for details about the nine facilities.)

The teams typically arrived onsite within a few weeks after facilities made their requests. However, two facilities experienced slight delays in getting the full teams onsite. An administrator at one of those facilities explained that the deployment was delayed, and had to begin virtually, because of overlap with the previous deployment and because one of the CCRT members had contracted COVID-19.

CCRTs assessed facility needs and trained staff on COVID-19-related care, which strengthened facilities' ability to handle patient surges and reaped benefits beyond the deployment

The CCRTs served several functions throughout the deployments to bolster facilities' ability to care for COVID-19 patients and to protect staff and other patients from infection. CCRT members reported that one of those functions was to assess facility needs and make recommendations to optimize patient flow and strengthen staff skills and capacity. The CCRTs used these assessments to develop trainings specific to each facility's needs, which they conducted for staff while onsite. During some of the deployments, the CCRTs also assisted facilities in providing direct patient care, particularly if the facilities were experiencing a surge in patients. The deployments, which typically lasted a couple of weeks, were well-received by facilities, a perspective that the CCRTs also shared.

The CCRT assessments helped guide facilities in making changes to more effectively respond to the pandemic, such as revising policies and agreements; acquiring equipment and supplies; and conducting system updates

Strategy for Success: Tailored Services
CCRTs assessed facility needs, layout, staff, and other logistics to tailor support and training.

CCRT members reported that when they arrived onsite, they immediately began to assess facilities' capacity to handle COVID-19 cases. During the assessments, the CCRTs examined the facility layout and other logistics; reviewed facility policies and procedures; and inventoried facility equipment and supplies. In interviews, facility administrators described these assessments as thorough, as they included most departments and examined a wide range of policies and procedures, from patient

care and infection control to emergency codes and equipment use. CCRT members reported using the assessments to make recommendations to facilities for improvement and as a baseline to develop training for facility staff on COVID-19-related care. Some of these recommendations included replacing outdated equipment; purchasing additional oxygen supply; reconfiguring space and erecting divider walls between patient beds; and instituting temporary ventilation systems.

The CCRTs also helped revise facility policies and procedures. For example, one Area Office reported that CCRT members helped a facility write policies for using Vapotherm, a noninvasive high-flow respiratory support system used to treat respiratory failure that the facility had not used before.[92] In another facility that operated as an urgent care clinic, the CCRT helped establish a transfer agreement with a nearby IHS-operated hospital. In interviews, the facility and the CCRT members described how the hospital had previously refused to accept patients from the facility, incorrectly believing that the facility—which was also operated by IHS—provided the same level of care and had the same capability as the hospital.

The hospital's refusal to accept patients forced the facility to keep critically ill patients longer, without adequate equipment and staff, before the facility could locate another hospital further away that would accept the patients. According to the CCRT members, this delay in care led to an adverse event (patient harm resulting from medical care or lack of medical care) for one patient. To remedy this problem, the CCRT brought the facility and the hospital together along with the Area Office to clarify the capabilities and responsibilities of each and to establish a transfer agreement between them. Under the agreement, the urgent care facility would transfer its critically ill patients to the hospital, which would care for the patients until they could be transferred out to higher-level care.

Strategy for Success: Standardized EHR Templates

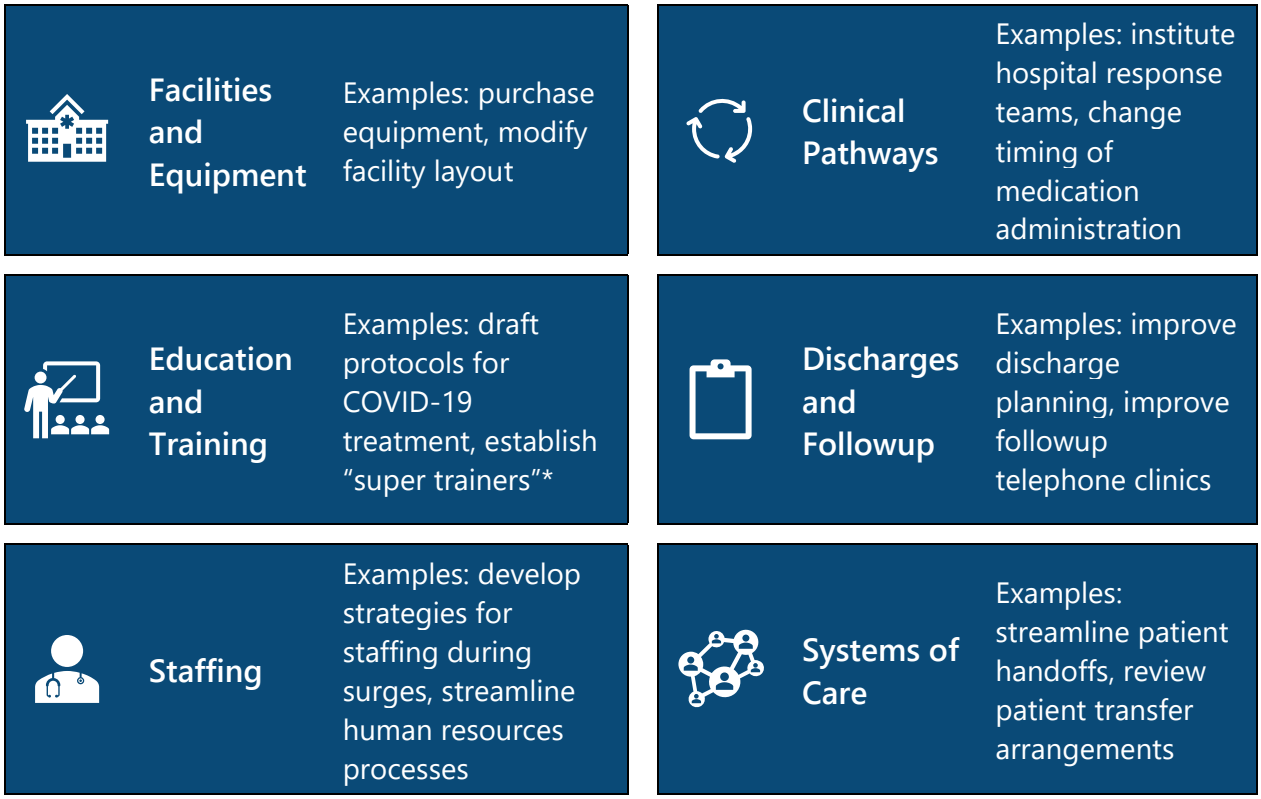
IHS developed standardized EHR templates for COVID-19 treatment to provide easy access and use for CCRTs and facility staff.

The CCRTs also assisted facilities in conducting system updates to better handle suspected or confirmed COVID-19 cases. Before IHS began deployments of the CCRTs, the agency developed a new COVID-19-specific graphical user interface in its electronic health record (EHR) system. This new interface included templates with instructions for admissions; transfers; discharges; medications; and other interventions, such as ventilator treatment. One IHS official noted that these templates, which have been standardized across the facilities that received deployments, could be updated as the best practices for treating COVID-19 patients continue to evolve. Officials also explained that having a standardized template allowed easy access and use for the CCRT members as they deployed to different facilities. When the CCRTs arrived onsite, they worked with the facilities to train staff on the new EHR templates; facilities indicated that this training was helpful. One official in IHS HQ reported that the agency's response to COVID-19 and the CCRT

deployments was a catalyst for the agency to pursue EHR standardization across facilities and that the EHR templates helped drive the success of the CCRT program.[e]

Throughout the deployments, CCRTs provided feedback to the facilities regarding their assessments and observations. The CCRTs formalized this feedback into recommendations that they shared with facilities and IHS HQ both mid-deployment and later—during a debriefing presentation—at the end of each deployment. The recommendations covered an array of topics, which the CCRTs grouped into six categories: facilities and equipment; clinical pathways; education and training; discharges and followup; staffing; and systems of care. (See Exhibit 4 for a depiction of the CCRT categorization of the recommendations and related examples.)

Exhibit 4: CCRTs made recommendations to facilities on the basis of their assessments, which they grouped into six broad categories.



Source: CCRT deployment debriefing documents, June–September 2020.
*Super trainers are facility staff who are trained to provide training to other staff.

Facility administrators and IHS officials expressed appreciation for the teams' assessments and recommendations. An administrator in one facility stated that having "an extra set of eyes" was beneficial because it provided a new perspective

[e] In April 2021, IHS's then-Acting Director testified before the Subcommittee on Interior, Environment, and Related Agencies of the Senate Appropriations Committee that the pandemic highlighted challenges and risks posed by IHS's decentralized EHR structure and that the agency had recently begun the process to modernize its EHR system. Accessed at https://www.appropriations.senate.gov/imo/media/doc/IHS%20Senate%20Interior%20Subcommittee%20COVID-19%20Hearing%20Testimony%20-%20Final%20042721.pdf on May 21, 2021.

different from that of the administrators and staff who may have worked at the facility for many years. Although the CCRT feedback was well-received, one Area official reported that the CCRT members' unfamiliarity with IHS made some recommendations difficult to implement, resulting in one facility's tweaking the recommendations to better align with the facility's needs and IHS processes. In interviews, an Area Chief Medical Officer credited the CCRTs' recommendations for helping facilities make long-term improvements to their processes and procedures, which had a positive impact on all patients and would likely continue beyond the pandemic.

The CCRTs provided hands-on COVID-19-related training across facility departments and designated staff to continue the training after the team left, which facility administrators reported enhanced staff confidence in handling COVID-19 patients

Shortly after the CCRTs arrived onsite and conducted their initial assessments of the facilities, the teams began to train facility staff on how to properly care for COVID-19 patients, using best practices and personal experiences that the CCRT members had gained from working in COVID-19 units prior to the deployments with IHS. The CCRTs tailored the training to address the needs of each facility and to enhance staff's individual and institutional knowledge. In interviews, CCRT members and facility administrators described how they typically began the training sessions with a basic overview of COVID-19 care and then transitioned into advanced training, focusing specifically on emergency, inpatient, and critical care. The training covered a wide range of topics, including handwashing; use of PPE; ventilation and airway management; Vapotherm therapy and other high-flow nasal oxygen therapy use; and "proning" of patients—the process of turning a patient from lying on the back to lying face down to reduce respiratory distress—among other topics.[93]

Strategy for Success: Hands-on Training
CCRT members had expertise on COVID-19 care and provided hands-on training to nearly all facility staff on how to properly care for COVID-19 patients.

The training was mostly interactive, with the CCRT members demonstrating and instructing staff at the bedside while attending to patients, or by using mannequins. The CCRTs also covered training material through mock drills and lectures, virtually or in-person. IHS officials and facility administrators reported that the hands-on training was the best way for staff to learn because it allowed them to observe and work side-by-side with providers who had experience caring for COVID-19 patients. IHS officials also stated that having the training in a team-based environment at the facility allowed the learning to occur collectively, which was more effective than having a few staff at a time attend training at an offsite location where the training modules might be different each time.

Although the CCRTs targeted specific departments, they also trained other clinical and nonclinical facility staff to increase the staff's understanding of the disease and treatment modalities and to strengthen the facility's ability to respond to a potential surge of COVID-19 patients. IHS officials and facility administrators explained that during a surge, facilities may need to pull staff from other departments to assist with

patient care, and therefore, those staff also had to be trained on skills that were essential to treating COVID-19 patients.

According to facility administrators, nearly all clinical facility staff received training on COVID-19-related competencies during the deployments. In interviews, a number of IHS officials and facility administrators noted that the training and the onsite presence of the CCRTs were crucial to instill skills and confidence in staff who often felt unprepared to manage COVID-19 patients. CCRT members reported that they were sometimes met with resistance from staff who did not want to move away from their normal responsibilities and assist with COVID-19 patients, and the team had to work with facility leadership to build understanding and gain buy-in. Several IHS officials and staff credited the CCRT training for saving lives because without it, the facilities would not have had the knowledge or skillset needed to adequately care for COVID-19 patients.

> *"The training was hugely valuable to staff in preparing for patients. [The] level of confidence our staff has now in handling this and the level of care they're able to provide… is much greater because of [the CCRT's] presence." – Facility Administrator*

Strategy for Success: "Super Trainers"
Facilities and CCRTs designated "super trainers" to continue staff training post-deployment and ensure retention of skills and knowledge over time.

To ensure that facility staff retained the new knowledge and kept up with COVID-19 competencies after the CCRTs left, the teams and facilities designated some staff as "super trainers" to carry on the training post-deployment. These super trainers received additional training from the CCRTs and were tasked with training other staff. Several facility administrators reported that by assigning super trainers—who were members of the facilities' core staff and were unlikely to leave the facility—the facilities could better ensure that staff's skills and comfort level were sustained over time. Facilities could also extend this training to neighboring service units as a way to strengthen the overall response to outbreaks in their geographic areas.

In some cases, the CCRTs also provided direct patient care and conducted community outreach on COVID-19 transmission and treatment, which helped relieve frontline staff and prepare Tribal communities for potential surges

Although the CCRTs focused mostly on training staff, sometimes they also provided direct patient care while onsite. In interviews, facility administrators and Area officials explained that in instances in which the CCRT provided direct patient care, the team would do so simultaneously with the training. Administrators in one facility that was experiencing a surge when the team arrived described how the CCRT members quickly joined the frontline staff and worked side-by-side to care for the rising number of COVID-19 patients presenting at the facility, while also training staff. Administrators and staff stated that having the team onsite was "a breath of fresh air"

that provided relief and helped build confidence in staff who were exhausted from handling the many COVID-19 cases.

> *"[We] consistently heard how appreciative [staff] were of the team being there to help, elbow to elbow… You feel more comfortable if you know you have an expert there next to you." – Area Chief Medical Officer*

The CCRTs also supported patient care through phone consultations with facility staff during deployment and post-deployment. In interviews, one of the CCRT providers reported giving her personal contact information to the facility physicians and said that she had received frequent calls from the physicians, requesting consultations or wanting to share their success stories, long after the deployment ended.

In addition to consultations with the CCRTs, facilities had access to a hotline if they needed advice on patient care. The CCRT staffing agency subcontracted with a telehealth service provider to operate the hotline, which was staffed with critical care physicians and nurses. All IHS and Tribal facilities had access to the hotline, which was available 24 hours a day, 7 days a week. However, during the time period we reviewed—June through September 2020—few facilities had used this resource. In July 2021, IHS officials reported that the hotline had been discontinued when the contract for the service ended in May 2021. Only one facility in our sample had used the hotline.

In addition to providing direct patient care and training, CCRT members reported extending their services beyond the facility to the Tribal community. Although community outreach was not part of the core responsibilities of the CCRTs, during one of the deployments, Tribal leaders invited the team to attend a Tribal council meeting to educate the community on COVID-19. The meeting was held virtually and was broadcast on the local radio. The team reported that they believed that similar meetings would be helpful to inform community members about the disease, and they said that they would have liked to conduct more outreach as part of their deployments. Like the CCRT members, an IHS official also said that there was a need for additional outreach and education in Tribal communities to help prevent further spread of the virus and to mitigate capacity issues in the facilities.

Facility administrators provided close oversight of the CCRTs during the deployments, and communicated frequently with IHS HQ and Area Offices about CCRT activities and progress

Strategy for Success: Consistent Oversight
IHS HQ held frequent meetings with facilities and CCRTs to monitor program challenges and successes.

To monitor the progress of CCRT activities and to identify needed program improvements, IHS provided oversight of the deployments both at the facility level and the agency level. Facility administrators reported providing direct oversight of the CCRTs, using the same chain of command as for other clinical staff in the facility. At the HQ level, IHS designated a core group of officials and staff responsible for overseeing the CCRT program; these individuals were available to answer questions and provide support to facilities throughout the deployment. Members of this core group reported that they held calls with the facilities and the CCRTs pre-deployment, mid-deployment, and post-deployment to discuss and monitor the deployments.

IHS officials and facility administrators explained that the pre-deployment calls were used for planning purposes to determine facility-specific needs and CCRT responsibilities, while the mid-deployment calls focused on the progress of the CCRT activities and any challenges that facilities and CCRTs encountered and changes they made as a result. During the post-deployment calls, which were held at the end of each deployment, facilities and CCRTs gave debriefings on their experiences and the CCRTs presented their recommendations for facility improvements. Members of the core group reported using the information from these calls, as well as from other sources, to modify the CCRT program and to improve future deployments. For example, IHS officials noted that the CCRT program evolved over time to become more about building capacity of existing staff than about supplementing those staff.

In interviews, facilities said that they found the frequent and open communication with the core group to be helpful. The CCRT members also described the calls with the core group as valuable, but they said that they would have liked more opportunities to provide IHS with their overall observations and suggestions for improvements agencywide, beyond the individual facilities. One observation that CCRT members reported was that facilities used different equipment, and they suggested that it would be more efficient if the agency used a blanket purchase agreement to standardize equipment across facilities. The CCRT members noted that it was cumbersome for the teams and other temporary staff to learn and operate different equipment in each facility, particularly since the equipment was often old and outdated. CCRT members also reported observing—to their surprise—that IHS and Tribal facilities had many staff in administrative roles who were qualified to provide care but did not, and that facilities were quick to transfer patients to other facilities even though sometimes they had the capabilities to care for those patients themselves.

IHS awarded new CCRT contracts in January 2021, extending the program through the pandemic, and facilities expressed the need for a similar program for non-COVID-19-related care

Strategy for Success: Program Continuity
IHS awarded additional contracts to continue the CCRT program throughout the pandemic.

Shortly after IHS began piloting the CCRT program, it decided to extend the program through the pandemic, and in October 2020, IHS began soliciting proposals for an Indefinite Delivery Indefinite Quantity (IDIQ) contract. The IDIQ contract allowed IHS to provide an indefinite quantity of services to facilities needing assistance with COVID-19-related care through the duration of the pandemic. To ensure continuity of the CCRT program when the deployments of the initial CCRT contract ended in November 2020, IHS officials reported using a transitional contractor to provide CCRT deployments while the agency was reviewing proposals for the IDIQ contract.

In January 2021, IHS awarded the IDIQ contract to two separate staffing agencies and extended the CCRT program through at least the end of 2021. The contract includes provisions that can extend the program through 2025, if needed, using 1-year increments. In interviews, IHS officials and staff noted that having two contractors allows IHS to deploy multiple teams at the same time, and therefore, to better meet facility needs and train more staff on COVID-19 safeguards and treatment. As of March 8, 2021, IHS had deployed CCRTs a total of 21 times to IHS and Tribal facilities, using the initial, transitional, and IDIQ contractors. During these deployments, the CCRTs provided services to 15 IHS hospitals, 3 Tribal hospitals, and several satellite health centers and other facilities included in those deployments, and the teams trained a total of 1,255 facility staff.[f]

None of the facilities in our sample indicated at the time of our review that they had plans to request another CCRT deployment. However, we found that one of the facilities received a second deployment after our review period. Further, several administrators and staff expressed interest in receiving additional consultation and COVID-19 training from the CCRTs. Administrators in one facility reported that they wanted CCRT providers to review the facility's progress in implementing the recommendations that the CCRT had provided during the deployment.

In addition to reporting a need for more COVID-19 support, all facilities in our sample reported a need for resources similar to the CCRT program to assist facilities with training and consultation on non-COVID-19-related care, such as prevention, detection, and treatment of sepsis and high-risk obstetrics, among other topics. One facility reported that the CCRT's assistance in implementing the EHR templates for COVID-19 had been helpful, but more assistance was needed to standardize other IT-related templates in the facility. In interviews, IHS officials indicated that they were open to providing additional non-COVID-19-related support to facilities, but they acknowledged that recurrent funding was needed to establish such a program and that it would need to be tailored to accommodate specific needs.

[f] The 21 deployments that had occurred as of March 8, 2021, included the 5 deployments in our sample.

CONCLUSION AND RECOMMENDATIONS

The COVID-19 pandemic has been taxing on health care systems, and many U.S. hospitals have experienced shortages in both staffing and patient beds. Given these challenges and the disproportionate numbers of AI/ANs affected by the disease, IHS developed the CCRT program to strengthen IHS and Tribal facilities' response to the pandemic. IHS designed the CCRTs as a resource for IHS and Tribal facilities to maximize their capacity to care for COVID-19 patients and effectively manage patient surges, even with limited staff. The CCRT deployments provided facilities with assessments of their operations; hands-on training for staff; and assistance in implementing necessary changes to improve the care and outcome for critically ill COVID-19 patients. The CCRTs used a comprehensive approach to involve as many departments and staff as possible in the assessments and trainings, so that facilities could more easily pull staff from their regular duties to assist with patient care during surges.

Officials and staff across the agency and Tribal facilities have found this innovative resource to be successful, and IHS recently extended the program to continue deployments through the pandemic. The CCRT program is a positive step in IHS's efforts to respond promptly to the immediate needs of facilities, and it also holds promise as a model for addressing some of the longstanding challenges that facilities face related to quality of care and staffing.

To build on its successes and further leverage the CCRT model in support of IHS's broader care improvements efforts, we make three recommendations to IHS.

We recommend that IHS:

Solicit feedback from CCRTs regarding their observations of potential need for broader IHS-wide improvements

To supplement the recommendations that CCRTs made to individual IHS and Tribal facilities, IHS should solicit feedback from the teams regarding their observations of potential need for broader agencywide improvements, which may extend beyond COVID-19-related care. The frequent deployments and in-depth facility assessments provided the CCRTs with insight into common issues shared across facilities. During the deployments, the CCRTs typically provided recommendations for improvement, but those recommendations were specific to individual facilities rather than agency-focused. To help IHS modify future deployments and identify needs and solutions for agencywide improvements beyond COVID-19-related care, IHS should provide opportunities for CCRTs to share their broader observations. For example, IHS could host monthly or quarterly meetings with the CCRTs during which the teams could

present their observations and suggestions for improvements beyond the individual facilities.

Compile the CCRTs' recommendations to individual facilities and share them across all IHS and Tribal facilities

To further strengthen facilities' COVID-19 response, IHS should compile all CCRT recommendations into one resource and share it with facilities across the agency and Tribes. This could be particularly beneficial for facilities that have not requested or have not yet received a CCRT deployment. Although the recommendations are facility-specific, they could highlight improvement efforts that other facilities could replicate or use as guidance to make necessary changes that they might not otherwise have been aware of or considered.

Assess whether IHS could use the CCRT model to provide support and training to facilities needing assistance with non-COVID-19-related care

Given the program's success at helping meet facility needs during the pandemic and IHS's longstanding problems ensuring staffing and clinical expertise, IHS should consider the feasibility of building agencywide training on non-COVID-19-related issues using the CCRT model of hands-on training at the facility level. The training could be tailored to specific facility needs and cover topics identified as high-risk by facilities and previous OIG reports, such as emergency care and labor and delivery (e.g., high-risk obstetrics). Any new CCRT program should include components similar to those of the current CCRT program—such as facility assessments; recommendations for policy and process improvements; training at the bedside; and other types of interactive trainings—and could also include direct patient care during crises. We recognize that there might be budget constraints affecting IHS's ability to establish a similar program for non-COVID-19-related issues, as funding for the CCRT program is directly tied to the agency's COVID-19 response. To launch a similar program, IHS would have to seek additional funds or shift funds from other areas. However, it is important to note that deployments of small, highly experienced teams assigned to train existing staff may be an efficient and effective way for IHS to expand facility capacity without paying for contracted providers or specialists at each facility and without having to send staff to offsite locations for trainings.

AGENCY COMMENTS AND OIG RESPONSE

IHS concurred with our recommendations, and it reported its planned actions to implement the recommendations.

In response to our first recommendation—for it to solicit feedback from CCRTs regarding their observations of potential need for broader IHS-wide improvements—IHS stated that it plans to solicit feedback from the current CCRT deployments to identify issues that may be applicable more broadly and that could be addressed throughout IHS.

In response to our second recommendation—for it to compile the CCRTs' recommendations to individual facilities and share them across all IHS and Tribal facilities—IHS noted that it has compiled a document, which is currently under review, that summarizes all recommendations from previous CCRT deployments. IHS stated that it plans to share this document with IHS and Tribal facilities, as appropriate, in October 2021.

In response to our third recommendation—for it to assess whether IHS could use the CCRT model to provide support and training to facilities needing assistance with non-COVID-19-related care, IHS stated that it will assess other ongoing non-COVID-19 initiatives to determine whether the CCRT model could be used for such efforts. IHS expects to complete its assessment by October 2021.

DEPARTMENT OF HEALTH & HUMAN SERVICES Public Health Service

Indian Health Service
Rockville, MD 20857

TO: Inspector General

FROM: Acting Director

SUBJECT: IHS Response to Draft OIG Report, (OEI-06-20-00700), *"Indian Health Service Use of Critical Care Response Teams Has Helped to Meet Facility Needs During the COVID-19 Pandemic,"* dated June 2021

We appreciate the opportunity to provide our official comments on the Draft Office of Inspector General (OIG) Report, (OEI-06-20-00700), *"Indian Health Service Use of Critical Care Response Teams Has Helped to Meet Facility Needs During the COVID-19 Pandemic*," dated June 2021. The Indian Health Service (IHS) concurs with the three OIG recommendations. Our responses and planned actions to the three OIG recommendations are discussed below.

Recommendation No. 1: IHS concurs with the recommendation
Solicit feedback from CCRTs regarding their observations of potential need for broader agencywide improvements.

Planned and completed actions:
Feedback will be solicited from the current Critical Care Response Team (CCRT) contracts to identify issues that may be implemented on a broader basis throughout the IHS. Feedback from current CCRT deployments will be shared within 30 days of the IHS receiving the CCRT contractor's recommendations.

Recommendation No. 2: IHS concurs with the recommendation
Compile CCRTs' recommendations to individual facilities and share them across all IHS and Tribal facilities.

Planned and completed actions:
The IHS compiled a document summarizing all recommendations from previous CCRT deployments, which could be used by other facilities. These recommended protocols are currently under Agency review and will be shared in October 2021, with IHS and Tribal facilities, as appropriate.

Recommendation No. 3: IHS concurs with the recommendation
Assess whether IHS could use the CCRT model to provide support and training to facilities needing assistance with non-COVID-19 related care.

Planned and completed actions:
The IHS will assess other ongoing non-COVID-19 initiatives to determine if using the CCRT model is appropriate for training and support activities by October 31, 2021.

Thank you for the opportunity to review and comment on this draft OIG report. Please refer any follow-up questions that you may have regarding our response to Ms. Athena Elliott, Chief Compliance Officer, IHS, by e-mail at athena.elliott@ihs.gov.

Elizabeth A. Fowler

ACKNOWLEDGMENTS AND CONTACT

Acknowledgments

Petra Nealy served as the team leader for this study, and Charis Burger and Savanna Thielbar served as the lead analysts. Office of Evaluation and Inspections staff who provided support include Joe Chiarenzelli, Althea Hosein, and Christine Moritz.

This report was prepared under the direction of Ruth Ann Dorrill, Regional Inspector General for Evaluation and Inspections in the Dallas regional office, and Petra Nealy, Deputy Regional Inspector General.

Contact

To obtain additional information concerning this report, contact the Office of Public Affairs at Public.Affairs@oig.hhs.gov. OIG reports and other information can be found on the OIG website at oig.hhs.gov.

Office of Inspector General
U.S. Department of Health and Human Services
330 Independence Avenue, SW
Washington, DC 20201

ABOUT THE OFFICE OF INSPECTOR GENERAL

The mission of the Office of Inspector General (OIG), as mandated by Public Law 95-452, as amended, is to protect the integrity of the Department of Health and Human Services (HHS) programs, as well as the health and welfare of beneficiaries served by those programs. This statutory mission is carried out through a nationwide network of audits, investigations, and inspections conducted by the following operating components:

The Office of Audit Services (OAS) provides auditing services for HHS, either by conducting audits with its own audit resources or by overseeing audit work done by others. Audits examine the performance of HHS programs and/or its grantees and contractors in carrying out their respective responsibilities and are intended to provide independent assessments of HHS programs and operations. These audits help reduce waste, abuse, and mismanagement and promote economy and efficiency throughout HHS.

The Office of Evaluation and Inspections (OEI) conducts national evaluations to provide HHS, Congress, and the public with timely, useful, and reliable information on significant issues. These evaluations focus on preventing fraud, waste, or abuse and promoting economy, efficiency, and effectiveness of departmental programs. To promote impact, OEI reports also present practical recommendations for improving program operations.

The Office of Investigations (OI) conducts criminal, civil, and administrative investigations of fraud and misconduct related to HHS programs, operations, and beneficiaries. With investigators working in all 50 States and the District of Columbia, OI utilizes its resources by actively coordinating with the Department of Justice and other Federal, State, and local law enforcement authorities. The investigative efforts of OI often lead to criminal convictions, administrative sanctions, and/or civil monetary penalties.

The Office of Counsel to the Inspector General (OCIG) provides general legal services to OIG, rendering advice and opinions on HHS programs and operations and providing all legal support for OIG's internal operations. OCIG represents OIG in all civil and administrative fraud and abuse cases involving HHS programs, including False Claims Act, program exclusion, and civil monetary penalty cases. In connection with these cases, OCIG also negotiates and monitors corporate integrity agreements. OCIG renders advisory opinions, issues compliance program guidance, publishes fraud alerts, and provides other guidance to the health care industry concerning the anti-kickback statute and other OIG enforcement authorities.

ENDNOTES

[1] IHS, *Justification of Estimates for Appropriations Committees*, Fiscal Year 2021, p. CJ-2, 8. Accessed at https://www.ihs.gov/sites/budgetformulation/themes/responsive2017/display_objects/documents/FY_2021_Final_CJ-IHS.pdf on April 2, 2020.

[2] IHS, *Justification of Estimates for Appropriations Committees*, Fiscal Year 2021, pp. CJ-1–2. Accessed at https://www.ihs.gov/sites/budgetformulation/themes/responsive2017/display_objects/documents/FY_2021_Final_CJ-IHS.pdf on April 2, 2020.

[3] Under the Indian Self-Determination and Education Assistance Act, P.L. No. 93-638, IHS contracts and compacts with Tribes or Tribal Organizations to deliver services.

[4] This support is given under the authority of Title V of the Indian Health Care Improvement Act, P.L. No. 94-437.

[5] IHS, *Office of Urban Indian Health Programs: About Us*. Accessed at https://www.ihs.gov/urban/aboutus/ on April 6, 2021.

[6] Mark Walker, "Pandemic Highlights Deep-Rooted Problems in Indian Health Service," *The New York Times*, updated January 3, 2021. Accessed at https://www.nytimes.com/2020/09/29/us/politics/coronavirus-indian-health-service.html on April 4, 2021.

[7] CDC, *Risk for COVID-19 Infection, Hospitalization, and Death By Race/Ethnicity*. Accessed (version updated April 23, 2021) at https://www.cdc.gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-by-race-ethnicity.html on May 21, 2021.

[8] IHS, *COVID-19 Response, 100 Day Review*. Accessed at https://www.ihs.gov/sites/coronavirus/themes/responsive2017/display_objects/documents/IHS_COVID_100DayReview.pdf on February 10, 2021.

[9] IHS, press release, *Critical Care Response Team Will Further Enhance Patient Care Across the Indian Health Service*, June 2, 2020. Accessed at https://www.ihs.gov/sites/newsroom/themes/responsive2017/display_objects/documents/IHSPressRelease_CriticalCareResponseTeam_06022020.pdf on April 4, 2021.

[10] IHS, *Justification of Estimates for Appropriations Committees*, Fiscal Year 2021, p. CJ-179. Accessed at https://www.ihs.gov/sites/budgetformulation/themes/responsive2017/display_objects/documents/FY_2021_Final_CJ-IHS.pdf on April 2, 2020.

[11] IHS, *Locations*. Accessed at https://www.ihs.gov/locations/ on September 23, 2020.

[12] IHS, *IHS Profile*. Accessed at https://www.ihs.gov/newsroom/factsheets/ihsprofile/ on September 24, 2020.

[13] IHS, Circular No. 88-02. Accessed at https://www.ihs.gov/ihm/circulars/1988/service-unit-boundaries/ on September 30, 2020.

[14] IHS, *IHS Profile*. Accessed at https://www.ihs.gov/newsroom/factsheets/ihsprofile/ on September 24, 2020.

[15] Jiaye Liu et al., "Community Transmission of Severe Acute Respiratory Syndrome Coronavirus 2, Shenzhen, China, 2020," *Emerging Infectious Diseases*, June 2020. Accessed at https://wwwnc.cdc.gov/eid/article/26/6/20-0239_article on April 4, 2021.

[16] CDC, *Risk for COVID-19 Infection, Hospitalization, and Death by Age Group*. Accessed (version updated February 18, 2021) at https://www.cdc.gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-by-age.html on April 4, 2021.

[17] CDC, *Symptoms of Coronavirus*. Accessed at https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html on April 4, 2021. [Page is now titled *Symptoms of COVID-19*.]

[18] Susie Neilson and Aylin Woodward, "A comprehensive timeline of the coronavirus pandemic at 1 year, from China's first case to the present," *Business Insider*, December 24, 2020. Accessed at https://www.businessinsider.com/coronavirus-pandemic-timeline-history-major-events-2020-3 on April 4, 2021.

[19] WHO, *WHO Director-General's opening remarks at the media briefing on COVID-19—11 March 2020*, March 11, 2020. Accessed at https://www.who.int/director-general/speeches/detail/who-director-general-s-opening-remarks-at-the-media-briefing-on-covid-19---11-march-2020 on April 4, 2021.

[20] CDC, *COVID Data Tracker, United States COVID-19 Cases, Deaths, and Laboratory Testing (NAATs [Nucleic Acid Amplification Tests]) by State, Territory, and Jurisdiction*, updated September 1, 2021. Accessed at https://covid.cdc.gov/covid-data-tracker/?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fcases-updates%2Fcases-in-us.html#cases_casesper100klast7days on September 1, 2021.

[21] Miriam E. Van Dyke et al., "Racial and Ethnic Disparities in COVID-19 Incidence by Age, Sex, and Period Among Persons Aged <25 Years—16 U.S. Jurisdictions, January 1–December 31, 2020," CDC MMWR [*Morbidity and Mortality Weekly Report*], March 19, 2021. Accessed at https://www.cdc.gov/mmwr/volumes/70/wr/mm7011e1.htm?s_cid=mm7011e1_w#suggestedcitation on April 4, 2021.

[22] IHS, *Coronavirus (COVID-19)*, updated August 30, 2021. Accessed at https://www.ihs.gov/coronavirus/ on September 1, 2021.

[23] CDC, *Risk for COVID-19 Infection, Hospitalization, and Death By Race/Ethnicity*. Accessed (version updated April 23, 2021) at https://www.cdc.gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-by-race-ethnicity.html on May 21, 2021.

[24] Sarah M. Hatcher et al., "COVID-19 Among Indian and Alaska Native Persons—23 States, January 31-July 3, 2020," *CDC MMWR*, August 28, 2020. Accessed at https://www.cdc.gov/mmwr/volumes/69/wr/mm6934e1.htm on April 4, 2021.

[25] CDC, *Risk for COVID-19 Infection, Hospitalization, and Death By Race/Ethnicity*. Accessed (version updated April 23, 2021) at https://www.cdc.gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-by-race-ethnicity.html on May 21, 2021.

[26] Jessica Arrazola et al., "COVID-19 Mortality Among American Indian and Alaska Native Persons—14 States, January-June 2020," *CDC MMWR*, December 11, 2020. Accessed at https://www.cdc.gov/mmwr/volumes/69/wr/pdfs/mm6949a3-H.pdf on February 12, 2021.

[27] OIG, *Hospital Experiences Responding to COVID-19 Pandemic: Results of a National Pulse Survey March 23–27, 2020* (OEI-06-20-00330), April 2020.

[28] OIG, *Hospitals Reported That the COVID-19 Pandemic Has Significantly Strained Health Care Delivery, Results of a National Pulse Survey February 22-26, 2021* (OEI-09-21-00140), March 2021.

[29] Mark Walker, "Pandemic Highlights Deep-Rooted Problems in Indian Health Service," *The New York Times*, updated January 3, 2021. Accessed at https://www.nytimes.com/2020/09/29/us/politics/coronavirus-indian-health-service.html on April 4, 2021.

[30] HHS, *HHS Announces $500 Million Distribution to Tribal Hospitals, Clinics, and Urban Health Centers*, May 22, 2020. Accessed at https://www.hhs.gov/about/news/2020/05/22/hhs-announces-500-million-distribution-to-tribal-hospitals-clinics-and-urban-health-centers.html on September 4, 2020.

[31] Mark Walker, "Pandemic Highlights Deep-Rooted Problems in Indian Health Service," *The New York Times*, updated January 3, 2021. Accessed at https://www.nytimes.com/2020/09/29/us/politics/coronavirus-indian-health-service.html on April 4, 2021.

[32] IHS, *IHS Recruitment*. Accessed at https://www.ihs.gov/dhps/programperformancedata/recruitment/ on September 30, 2020.

[33] OIG, *Indian Health Service Hospitals: Longstanding Challenges Warrant Focused Attention To Support Quality Care* (OEI-06-14-00011), October 2016.

[34] Government Accountability Office (GAO), *Indian Health Service: Agency Faces Ongoing Challenges Filling Provider Vacancies*, GAO-18-580, August 2018. Accessed at https://www.gao.gov/assets/gao-18-580.pdf on May 21, 2021.

[35] OIG, *Hospitals Reported That the COVID-19 Pandemic Has Significantly Strained Health Care Delivery, Results of a National Pulse Survey February 22-26, 2021* (OEI-09-21-00140), March 2021.

[36] Patrick Boyle, "U.S. Physician Shortage Growing," *Association of American Medical Colleges*, June 26, 2020. Accessed at https://www.aamc.org/news-insights/us-physician-shortage-growing on April 4, 2021.

[37] IHS, press release, *Critical Care Response Team Will Further Enhance Patient Care Across the Indian Health Service*, June 2, 2020. Accessed at https://www.ihs.gov/sites/newsroom/themes/responsive2017/display_objects/documents/IHSPressRelease_CriticalCareResponseTeam_06022020.pdf on April 4, 2021.

[38] IHS, *Dear Tribal Leader and Urban Indian Organization Leader*, May 19, 2020. Accessed at https://www.ihs.gov/sites/newsroom/themes/responsive2017/display_objects/documents/2020_Letters/DTLL_DUIOLL_05192020.pdf on September 4, 2020.

[39] HHS, *HHS Announces $500 Million Distribution to Tribal Hospitals, Clinics, and Urban Health Centers*, May 22, 2020. Accessed at https://www.hhs.gov/about/news/2020/05/22/hhs-announces-500-million-distribution-to-tribal-hospitals-clinics-and-urban-health-centers.html on September 4, 2020.

[40] IHS, *Dear Tribal Leader and Urban Indian Organization Leader*, January 15, 2021. Accessed at https://www.ihs.gov/sites/newsroom/themes/responsive2017/display_objects/documents/2021_Letters/DTLL_DUIOLL_01152021.pdf on January 19, 2021.

[41] IHS, *Dear Tribal Leader and Urban Indian Organization Leader*, February 2, 2021. Accessed at https://www.ihs.gov/sites/newsroom/themes/responsive2017/display_objects/documents/2021_Letters/DTLL_DUIOLL_02022021.pdf on February 10, 2021.

[42] IHS, *Dear Tribal Leader and Urban Indian Organization Leader*, March 8, 2021. Accessed at https://www.ihs.gov/sites/newsroom/themes/responsive2017/display_objects/documents/2021_Letters/DTLL_03082021.pdf on April 5, 2021.

[43] Testimony of RADM Michael Toedt, then Chief Medical Officer for IHS, before the Senate Committee on Indian Affairs, April 14, 2021. Accessed at https://www.indian.senate.gov/sites/default/files/IHS%20COVID%20testimony%20for%20SCIA%204-14-21.pdf on April 15, 2021.

[44] Testimony of RADM Michael Toedt, then Chief Medical Officer for IHS, before the Senate Committee on Indian Affairs, April 14, 2021. Accessed at https://www.indian.senate.gov/sites/default/files/IHS%20COVID%20testimony%20for%20SCIA%204-14-21.pdf on April 15, 2021.

[45] Testimony of RADM Michael Toedt, then Chief Medical Officer for IHS, before the Senate Committee on Indian Affairs, April 14, 2021. Accessed at https://www.indian.senate.gov/sites/default/files/IHS%20COVID%20testimony%20for%20SCIA%204-14-21.pdf on April 15, 2021.

[46] IHS, *Dear Tribal Leader and Urban Indian Organization Leader*, February 2, 2021. Accessed at https://www.ihs.gov/sites/newsroom/themes/responsive2017/display_objects/documents/2021_Letters/DTLL_DUIOLL_02022021.pdf on February 10, 2021.

[47] IHS, *Dear Tribal Leader and Urban Indian Organization Leader*, May 19, 2020. Accessed at https://www.ihs.gov/sites/newsroom/themes/responsive2017/display_objects/documents/2020_Letters/DTLL_DUIOLL_05192020.pdf on September 4, 2020.

[48] IHS, press release, *Biden Administration Invests Additional $1.8 Billion in American Rescue Plan Funding to Combat COVID-19 in Indian Country,* June 16, 2021. Accessed at https://www.ihs.gov/newsroom/pressreleases/2021-press-releases/biden-administration-invests-additional-1-8-billion-in-american-rescue-plan-funding-to-combat-covid-19-in-indian-country/ on June 21, 2021.

[49] IHS, *Dear Tribal Leader and Urban Indian Organization Leader*, March 26, 2021. Accessed at https://www.ihs.gov/sites/newsroom/themes/responsive2017/display_objects/documents/2021_Letters/DTLL_DUIOLL_03262021.pdf on April 6, 2021.

[50] Testimony of RADM Michael Toedt, then Chief Medical Officer for IHS, before the Senate Committee on Indian Affairs, April 14, 2021. Accessed at https://www.indian.senate.gov/sites/default/files/IHS%20COVID%20testimony%20for%20SCIA%204-14-21.pdf on April 15, 2021.

[51] IHS, *Coronavirus (COVID-19)*, updated August 30, 2021. Accessed at https://www.ihs.gov/coronavirus/ on September 1, 2021.

[52] IHS, *COVID-19 Response, 100 Day Review*. Accessed at https://www.ihs.gov/sites/coronavirus/themes/responsive2017/display_objects/documents/IHS_COVID_100DayReview.pdf on February 10, 2021.

[53] Testimony of RADM Michael Toedt, then Chief Medical Officer for IHS, before the Senate Committee on Indian Affairs, April 14, 2021. Accessed at https://www.indian.senate.gov/sites/default/files/IHS%20COVID%20testimony%20for%20SCIA%204-14-21.pdf on April 15, 2021.

[54] IHS, *COVID-19 Response, 100 Day Review*. Accessed at https://www.ihs.gov/sites/coronavirus/themes/responsive2017/display_objects/documents/IHS_COVID_100DayReview.pdf on February 10, 2021.

[55] IHS, *FAQs—Federal Response in Indian Country*. Accessed at https://www.ihs.gov/coronavirus/faqs-federal-response-in-indian-country/ on April 4, 2021.

[56] IHS, *COVID-19 Response, 100 Day Review*. Accessed at https://www.ihs.gov/sites/coronavirus/themes/responsive2017/display_objects/documents/IHS_COVID_100DayReview.pdf on February 10, 2021.

[57] IHS, *COVID-19 Response, 100 Day Review*. Accessed at https://www.ihs.gov/sites/coronavirus/themes/responsive2017/display_objects/documents/IHS_COVID_100DayReview.pdf on February 10, 2021.

[58] Testimony of RADM Michael Toedt, then Chief Medical Officer for IHS, before the Senate Committee on Indian Affairs, April 14, 2021. Accessed at https://www.indian.senate.gov/sites/default/files/IHS%20COVID%20testimony%20for%20SCIA%204-14-21.pdf on April 15, 2021.

[59] IHS, *Dear Tribal Leader and Urban Indian Organization Leader*, November 23, 2020. Accessed at https://www.ihs.gov/sites/newsroom/themes/responsive2017/display_objects/documents/2020_Speeches/RADM_Weahkee_Bi-Weekly_Email_11.23.2020.pdf on April 22, 2021.

[60] GAO, *Federal Personnel: Public Health Service Commissioned Corps Officers' Health Care for Native Americans*, GAO/GGD-97-111BR, August 1997. Accessed at https://www.gao.gov/assets/ggd-97-111br.pdf on April 22, 2021.

[61] USPHS, *Commissioned Corps of the U.S. Public Health Service: About Us*. Accessed at https://www.usphs.gov/about-us on April 2, 2021.

[62] USPHS, *Fact Sheet: Rapid Deployment Forces*. Accessed at https://dcp.psc.gov/ccmis/RedDOG/FactSheets/RDF_Fact_Sheet_FINAL.pdf on February 9, 2021.

[63] IHS, *FAQs—Federal Response in Indian Country*. Accessed at https://www.ihs.gov/coronavirus/faqs-federal-response-in-indian-country/ on April 4, 2021.

[64] IHS, *National Supply Service Center: About*. Accessed at https://www.ihs.gov/nssc/about/ on April 4, 2021.

[65] IHS, *FAQs—Federal Response in Indian Country*. Accessed at https://www.ihs.gov/coronavirus/faqs-federal-response-in-indian-country/ on April 4, 2021.

[66] Testimony of RADM Michael Toedt, then Chief Medical Officer for IHS, before the Senate Committee on Indian Affairs, April 14, 2021. Accessed at https://www.indian.senate.gov/sites/default/files/IHS%20COVID%20testimony%20for%20SCIA%204-14-21.pdf on April 15, 2021.

[67] IHS, *Coronavirus (COVID-19)*, updated August 30, 2021. Accessed at https://www.ihs.gov/coronavirus/ on September 1, 2021.

[68] Richard Hoppe, "Arizona National Guard Partners with Gila River Indian Community For Mass COVID-19 Vaccination Event," *Luke Air Force Base Thunderbolt*, February 24, 2021. Accessed at https://www.aerotechnews.com/lukeafb/2021/02/24/arizona-national-guard-partners-with-gila-river-indian-community-for-mass-covid-19-vaccination-event/ on April 4, 2021.

[69] "CTUIR [Confederated Tribes of the Umatilla Indian Reservation] to hold mass vaccination event with aid of Oregon National Guard," *East Oregonian*, February 22, 2021. Accessed at https://www.eastoregonian.com/coronavirus/ctuir-to-hold-mass-vaccination-event-with-aid-of-oregon-national-guard/article_3d9feb94-7536-11eb-9531-db0d12fc9ccb.html on April 4, 2021.

[70] John Hughel, "Washington Guard partners with Quinault Indian Nation," *U.S. Army*, May 27, 2020. Accessed at https://www.army.mil/article/235977/washington_guard_partners_with_quinault_indian_nation on April 4, 2021.

[71] Emerson Marcus, "Tribes, Nevada Guard combine efforts for COVID-19 testing," *U.S. Army,* August 19, 2020. Accessed at https://www.army.mil/article/238292/tribes_nevada_guard_combine_efforts_for_covid_19_testing on April 4, 2021.

[72] IHS, *Coronavirus (COVID-19)*, updated August 30, 2021. Accessed at https://www.ihs.gov/coronavirus/ on September 1, 2021.

[73] CDC, *COVID Data Tracker, Vaccination Demographics*, updated September 1, 2021. Accessed at https://covid.cdc.gov/covid-data-tracker/index.html#vaccination-demographics-trends on September 1, 2021.

[74] Pursuant to 25 U.S.C. § 1680c(d)(2), IHS and Tribal health programs have the authority to vaccinate nonbeneficiaries to prevent communicable disease. IHS, *Coronavirus (COVID-19)*, section "Frequently Asked Questions (FAQs) regarding the COVID-19 Vaccine," subsection "Non-Beneficiaries," updated August 20, 2021. Accessed at https://www.ihs.gov/coronavirus/vaccine/ on August 23, 2021.

[75] Mary Annette Pember, "Most tribal clinics offer COVID-19 vaccines to non-Natives," *Indian Country Today*, March 11, 2021. Accessed at https://indiancountrytoday.com/news/most-tribal-clinics-offer-covid-19-vaccines-to-non-natives on August 23, 2021.

[76] Erin Schumaker, "Native tribes have expanded vaccines to everyone in Oklahoma," *ABC News*, March 17, 2021. Accessed at https://abcnews.go.com/Health/native-tribes-expanded-vaccines-oklahoma/story?id=76509074 on August 23, 2021.

[77] IHS, *IHS Contract Action with Fire Creek Services Company*, May 22, 2020. Accessed at https://www.fpds.gov/ezsearch/fpdsportal?indexName=awardfull&templateName=1.5.1&s=FPDS.GOV&q=75H70420P00027&x=0&y=0 on September 29, 2020.

[78] IHS, press release, *Critical Care Response Team Will Further Enhance Patient Care Across the Indian Health Service*, June 2, 2020. Accessed at https://www.ihs.gov/sites/newsroom/themes/responsive2017/display_objects/documents/IHSPressRelease_CriticalCareResponseTeam_06022020.pdf on April 4, 2021.

[79] IHS, press release, *Critical Care Response Team Will Further Enhance Patient Care Across the Indian Health Service*, June 2, 2020. Accessed at https://www.ihs.gov/sites/newsroom/themes/responsive2017/display_objects/documents/IHSPressRelease_CriticalCareResponseTeam_06022020.pdf on April 4, 2021.

[80] OIG, *Indian Health Service Hospitals: Longstanding Challenges Warrant Focused Attention To Support Quality Care* (OEI-06-14-00011), October 2016.

[81] OIG, *Indian Health Service Hospitals: More Monitoring Needed To Ensure Quality Care* (OEI-06-14-00010), October 2016.

[82] OIG, *Case Study: Indian Health Service Management of Rosebud Hospital Emergency Department Closure and Reopening* (OEI-06-17-00270), July 2019.

[83] OIG, *Organizational Challenges to Improving Quality of Care in Indian Health Service Hospitals* (OEI-06-16-00390), August 2019.

[84] OIG, *Indian Health Service Has Strengthened Patient Protection Policies but Must Fully Integrate Them Into Practice and Organizational Culture* (OEI-06-19-00330), December 2019.

[85] OIG, *Indian Health Service Facilities Made Progress Incorporating Patient Protection Policies, but Challenges Remain* (OEI-06-19-00331), December 2020.

[86] OIG, *Incidence of Adverse Events in Indian Health Service Hospitals* (OEI-06-17-00530), December 2020.

[87] OIG, *Instances of IHS Labor and Delivery Care Not Following National Clinical Guidelines or Best Practices* (OEI-06-19-00190), December 2020.

[88] OIG, *Hospital Experiences Responding to COVID-19 Pandemic: Results of a National Pulse Survey March 23–27, 2020* (OEI-06-20-00330), April 2020.

[89] OIG, *Hospitals Reported That the COVID-19 Pandemic Has Significantly Strained Health Care Delivery, Results of a National Pulse Survey February 22-26, 2021* (OEI-09-21-00140), March 2021.

[90] OIG, *Toolkit: Insights for Health Care Facilities From OIG's Historical Work on Emergency Response* (OEI-06-20-00470), August 2020.

[91] OIG, *Toolkit: Insights for Communities From OIG's Historical Work on Emergency Response* (OEI-06-09-00440), August 2020.

[92] Ann M. Price et al., "Using a high-flow respiratory system (Vapotherm) within a high dependency setting," *Nursing in Critical Care,* 13(6), 2008. Accessed at https://pubmed.ncbi.nlm.nih.gov/19128313/ on April 5, 2021.

[93] Neal Wiggermann, Jie Zhou, and Dee Kumpar, "Proning Patients With COVID-19: A Review of Equipment and Methods," *Human Factors,* 62(7), 2020. Accessed at https://journals.sagepub.com/doi/10.1177/0018720820950532?url_ver=Z39.88-2003&rfr_id=ori%3Arid%3Acrossref.org&rfr_dat=cr_pub++0pubmed& on April 5, 2021.