



RURAL EMERGENCY MEDICAL COMMUNICATIONS DEMONSTRATION PROJECT

FISCAL YEAR 2023 AWARDS AND TECHNICAL ASSISTANCE



OVERVIEW

Congress authorized the Cybersecurity and Infrastructure Security Agency (CISA) to establish the Rural Emergency Medical Communications Demonstration Project (REMCDP), a competitive grant program with awards in 2016, 2018, 2020, 2022, and 2023. The program's intent is to work with communities to examine rural emergency medical communications barriers and identify solutions that enhance existing emergency communications infrastructure. The Fiscal Year 2023 REMCDP Notice of Funding Opportunity was open on [grants.gov](https://www.grants.gov) from May 30, 2023, through July 28, 2023. In accordance with the legislation, CISA is also leveraging funds from this fifth round of REMCDP funding for technical assistance services to assist rural communities across the nation to implement project successes and improve communications capabilities.

FY 2023 AWARDS

Following a competitive review process, CISA awarded cooperative agreements of \$4,276,023 to three recipients—communities in Colorado, Iowa, and Virginia—for a two-year period of performance beginning in September 2023. The recipients will use REMCDP funds to experiment with innovative solutions designed to ensure that emergency responders and medical practitioners can communicate in various geographies, operating conditions, and scenarios. Recipients will also develop processes, trainings, and exercises to ensure first responders and personnel can use emergency medical communications systems and equipment effectively. Similar to previous REMCDP awards, lessons learned from these demonstration projects will be shared to serve as repeatable models for addressing rural population healthcare needs.

Colorado's Gunnison Valley Health Project

Developed as an after-action item following a 2023 CISA Operational Rapid Assistance Package (ORAP) assessment, Gunnison Valley Health's project aims to address regional connectivity gaps that affect Emergency Medical Services (EMS) response, medical direction, and quality of patient care. Due to the topography of Gunnison County in western Colorado, the jurisdiction's EMS response area has multiple radio and cellular service dead zones in which there is neither 800 megahertz nor cellular connectivity. Cell service is essential for clinically necessary data transmissions and phone use is the preferred private consultation method between paramedics and physicians. Cellular broadband is vital for the use of a mobile smartphone application, which allows for instant activation of trauma, stroke, heart attack, sepsis, and mass casualty incident alerts. These alerts allow for simultaneous notification of designated response teams, including surgical teams and air medical transportation activation.



Figure 1: Gunnison Valley Health Paramedics On Scene

Gunnison Valley Health, in partnership with Gunnison Valley Health Hospital Emergency Department, Crested Butte Fire and EMS, and Gunnison Valley Paramedics, plans to implement a variety of technical enhancements intended to enable seamless and secure EMS communications and data transmissions. EMS crews will be trained and equipped to use multiple avenues of communication fully integrated through one device connected to their cellphones, computers, and cardiac monitor via an on board wi-fi router. This router will be connected to a gateway device that assures continuous connectivity through any one of three cellular networks or a communication satellite transitioning from one to the other without interruption even as a vehicle travels at high speeds. The project will also utilize low Earth orbit satellite connectivity and a mobile smartphone application for improved data transmission. The expected outcome is to maintain connectivity for at least 90% of the time while operating in regions marked as dead spots on current regional maps.

Iowa's Department of Public Safety Project

Iowa's Department of Public Safety (DPS) aims to continually harden its communication network and maintain uninterrupted interoperability in rural emergency medical communications. Iowa is the nation's 12th most rural state, with 36% of its 3.2 million residents living in rural communities. Following a 2023 CISA ORAP assessment, Iowa identified variable current radio usage protocol applications, inconsistent Iowa Statewide Interoperable Communications System (ISICS) radio platform adoption, a lack of department-level standard operating procedures (SOPs), end-user reliance on both dispatch to ensure interoperability and cellular telephone networks for critical communications, and an outdated statewide EMS communications plan were gaps in emergency medical communications infrastructure.



Figure 2: Iowa DPS Flyer

Beginning in Iowa's Homeland Security Region 1, Iowa DPS plans to conduct additional needs assessments, order and install equipment, conduct training, and monitor and evaluate project execution. Specifically, the project aims to ensure every ambulance has an ISICS mobile radio and every hospital has access to the ISICS interoperable talkgroups through broadband push-to-talk services and other emerging communications capabilities, bringing interoperability to rural healthcare. Evaluation outcomes and learned best practices will be used to create new guidelines, policies, and SOPs, which will then be implemented across the state. Overall, the demonstration project will facilitate updates to the statewide EMS communications plan through a data-driven approach, which benefits the entire state and all emergency medical responders.

Virginia's Bath and Highland Counties Project

Virginia's Bath and Highland Counties face multiple communications operability and interoperability challenges. The jurisdictions are located within the National Radio Quiet Zone (NRQZ) near the National Radio Astronomy Observatory and the National Security Agency Sugar Grove listening station, which means communications on the ultra-high frequency (UHF) spectrum are difficult to license. Additionally, other local systems and hospitals operate on Project 25 Phase 2 trunked UHF systems, resulting in minimal interoperability with the counties' neighbors. Due to this isolation, Bath and Highland Counties cannot effectively respond to external mutual aid requests nor communicate with the requesting agencies. The counties also lack interoperability with state and federal agencies. Furthermore, a widespread lack of cellular services poses safety risks for responders and hampers their ability to receive medical direction while in the field.

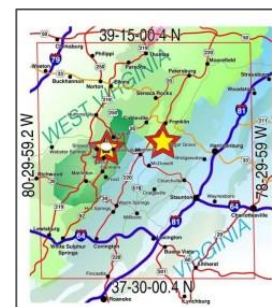


Figure 3: NRQZ Map

Bath and Highland Counties plan to use FY 2023 REMCDP funds and state resources to implement a multiband and very high frequency (VHF) system, as NRQZ and county staff identified VHF as a communications option that does not adversely impact NRQZ research. The project incorporates Bath Community Hospital and Highland Medical Center, which will install VHF base stations capable of direct communication with EMS. In addition, Bath Community Hospital will be outfitted with a UHF radio capable of communicating with transporting agencies from nearby counties. The project design provides for direct communications with state and federal agencies using VHF band, while multiband mobile radios allow county responders to talk to mutual aid partners and receiving hospitals using UHF band. Through REMCDP funds, Bath and Highland Counties will prioritize both operability and interoperability while exploring additional long-term emergency medical communications options with CISA's assistance.

TECHNICAL ASSISTANCE

In addition to competitive grant awards, CISA offers the ORAP technical assistance program to implement REMCDP successes in rural communities across the nation. ORAP objectives are to identify immediate needs associated with emergency communications for rural medical care; provide tools such as plans, policies, and procedures to quickly address identified needs; train jurisdictions and communities on using the provided tools; and apply and test those tools via tabletop or functional exercises. Direct any technical assistance requests to your state or territory's [Statewide Interoperability Coordinator](#). For more information on REMCDP, visit cisa.gov/remcdp or contact ECD@cisa.dhs.gov.