

Four Pillars of Innovation: How EMS in Contra Costa County Connected Resources to Improve Opioid Epidemic Response

Catching Up With COSSAP, April 2021

By Mary Hedges, National Association of State EMS Officials

Gene Hern, M.D., knew that emergency medical services (EMS) played an important role when responding to patients suffering from opioid overdoses. For decades, EMS personnel had been providing lifesaving respiratory support and administering naloxone to patients experiencing opioid overdoses. But with opioid overdoses increasing to epidemic proportions and EMS providers often reviving the same patient repeatedly, Dr. Hern set out to find a more comprehensive approach to addressing the crisis.

As medical director for Global Medical Response, which provides ambulance service in Contra Costa County, California, and an emergency physician at Highland Hospital in Oakland, Dr. Hern has had more than his share of exposure to the opioid crisis. He sensed that breaking down silos across agencies could improve the response to this growing epidemic. After meeting with the county's EMS director and public health director to brainstorm solutions, Dr. Hern and his collaborators identified four essential components to address the opioid use disorder (OUD) crisis. With funding from the California Department of Public Health, the **Four Pillars of Innovation** were born.

This novel approach to OUDs and overdoses in Contra Costa County centers on four interconnected pillars: a leave-behind public naloxone distribution program; a warm handoff/data sharing program with the county public health department; an overdose receiving center; and an EMS-initiated buprenorphine project.



Naloxone Distribution – Public access to naloxone is an essential component and was the first piece implemented. The county EMS has initiated a naloxone distribution program, modeled after a pilot project in San Francisco called Project Friend. When EMS providers identify high-risk situations or situations in which an OUD may be present, they distribute naloxone to patients, family members, and even bystanders.

Warm Handoff to Public Health – The second pillar involves referral of EMS patients to a public health outreach coordinator/intervention team. This is accomplished through a data linkage between the EMS transport provider and the public health agency. The EMS software that facilitates the data link monitors specific events and sends a trigger to the public health substance use navigator (SUN or navigator). The navigator then follows up with the patient for further assistance with enrollment in medication-assisted treatment (MAT) programs within the county. These treatment programs are accessible not only to underserved patients, but to patients who have health coverage through private insurers.

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Overdose Receiving Center – The third pillar is based on the existing EMS “receiving center” model used for trauma, strokes, and heart attacks. The receiving center has specific capabilities for dealing with the medical problem to which it is assigned. Beginning on April 1, 2020, EMS providers were authorized to transport all patients experiencing symptoms of opioid withdrawal, including those who received naloxone after a suspected opioid overdose, to an emergency department where an integrated OUD program exists. In Contra Costa County, the OUD receiving center is the county hospital. The SUN is based at the receiving center hospital and visits the patient there. If the patient elects to go to another hospital, the navigator can follow up with the patient based on information received through the warm handoff trigger. The navigator is part of the county public health department and considered a “covered entity” under HIPAA regulations.

EMS Initiated Buprenorphine – Based on the pioneering work of Gerard Carroll, M.D., and others in Camden, New Jersey, the newest component of the program allows for an EMS provider to evaluate a post-naloxone or -opioid withdrawal patient for OUD. Using the Clinical Opioid Withdrawal Scale (COWS), the EMS clinician (paramedic) scores the patient based on signs and symptoms. If the patient receives a COWS score of seven or more, EMS calls the base physician to discuss the case. If the physician agrees, the paramedic administers the first dose of buprenorphine. At that point, he or she informs the patient that the local public health department (via the navigator) will contact the patient within 72 hours to offer further treatment. EMS also recommends that the patient be transported to the overdose receiving center. This fourth pillar began as a pilot program in September 2020 after being approved by the state EMS office. Early data indicate that five patients have been served so far (one post-naloxone and four in pure withdrawal). Three of the five patients were still enrolled in treatment after 30 days.

According to Dr. Hern, EMS providers participating in the program have reported increased job satisfaction: They are able to do something for the patient that increases the likelihood of long-term survival and recovery. It will be exciting to watch for more results from the Four Pillars of Innovation now that the final phase of the program has been implemented.

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