How the chemistry community is responding to the growing epidemic

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Scroll through your news feed on any given day, and you’re bound to come across the latest tragic story emerging from the opioid epidemic. Opioids—including illegal compounds like heroin, synthetic street drugs like fentanyl, and abused prescription painkillers like oxycodone—were responsible for more than half of the roughly 64,000 overdose deaths in the U.S. last year, according to the Centers for Disease Control & Prevention. Overdose deaths from opioids have nearly tripled in the past 15 years.

Addiction has ravaged entire towns, orphaned a generation of kids, and put at the front lines an increasing assortment of stakeholders—police, lawmakers, health officials, and even librarians, who have learned to administer the opioid antidote naloxone to patrons who have overdosed at their facilities. The U.S. government is scrambling to come up with a cohesive, sensible plan for addressing the epidemic. As U.S. Food & Drug Administration Commissioner Scott Gottlieb told Congress last month, “We find ourselves at a tragic crossroad.”

In the following pages, C&EN explores how the chemistry community is helping tackle the crisis. Efforts include devising tamper-resistant formulations for painkillers and developing instrumentation that can quickly identify dangerous synthetics on the street. Chemists are also working on novel pain medications that could more safely and effectively provide relief to the millions of people suffering from chronic pain.