

Evaluation Brief



Riverside University Health System — Public Health

Riverside Overdose Data to Action

February 2022 |

Riverside Overdose Data to Action, Establishing Linkages to Care: Year 2 Progress & Evaluation

Established September 2019, the Riverside Overdose Data to Action (RODA) program is integrated into Riverside University Health System (RUHS) - Public Health's Epidemiology and Program Evaluation Branch. The purpose of RODA is to enhance surveillance of overdose morbidity and mortality and to use enhanced surveillance data to guide overdose prevention efforts. Funded by the Centers for Disease Control and Prevention (CDC), the program is organized around six overarching strategies [Figure 2].

This brief discusses RODA's work under the strategy *Establishing Linkages to Care* [Figure 1], including successes, barriers encountered, and impacts, ending with recommendations for year 3. The overarching goal of this strategy is to increase referrals to, and engagement in, evidence-based treatment for substance use disorder and overdoses.

Key activity areas within this strategy are:

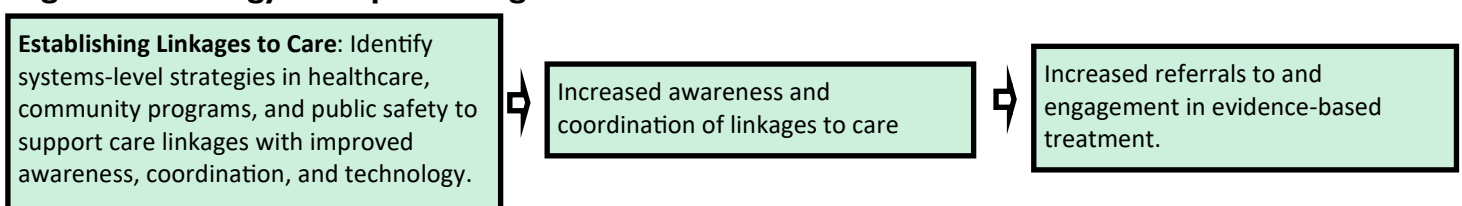
- Public Health Nurse case management and linkages to care.
- Bystander naloxone education

Future Evaluation Briefs will highlight each of the remaining prevention strategies; Prescription Drug Monitoring Programs, Providers and Health Systems Support, and Empowering Individuals to Make Safer Choices [Figure 2]. Past Briefs highlighted RODA strategies *Enhanced Overdose Surveillance*, and *Integration of Overdose Prevention and Response Efforts*.

KEY MILESTONES

- ▶ Though the COVID-19 pandemic was a considerable barrier, significant progress in RODA activities continued.
- ▶ Over 400 people trained in naloxone administration.
- ▶ Public Health Nursing overdose prevention case management services were fully implemented.
- ▶ Improved joint policy and programmatic decision making through collaboration between county departments and community based partners.

Figure 1: Strategy's Simplified Logic Model



The logic model below [Figure 2] shows the strategies, activities and expected outcomes of the RODA project. This brief discusses *Establishing Linkages to Care*; activities and outcomes highlighted in orange.

Figure 2: Riverside Overdose Data to Action (RODA) Logic Model

Riverside Overdose Data To Action (RODA) Logic Model				
	Strategies and Activities	Short-term Outcomes	Intermediate Outcomes	Long-term Outcomes
Component 1: Surveillance	Implement innovative surveillance to support RODA interventions: enhanced surveillance capacity building; strengthen cross agency data sharing; explicit efforts to improve partner and community access to timely surveillance data.	Timely and actionable surveillance data disseminated by recipients: to enhance the implementation of RODA interventions; to recipients' stakeholders working to reduce drug overdoses in Riverside County; to CDC to rapidly inform the public and key regional and national stakeholders	RODA surveillance data contributed to improvements in drug overdose interventions	Decreased rate of opioid misuse and opioid use disorder Increased provision of evidence-based treatment for opioid use disorder
	Prescription Drug Monitoring Programs: Access and utilize the Controlled Substance Utilization Review and Evaluation System (CURES) data to help inform overdose surveillance; Access and utilize CURES data to help guide prevention activities.	Increased measurable collaboration and communication; increased application of data to drive prevention and response activities between state and local efforts.	Identification of high risk prescribing and patient behaviors; better tracking of opioid prescriptions.	Decreased rate of ED visits due to misuse or opioid use disorder
Component 2: Prevention	Integration of State and Local Prevention and Response Efforts: Explicit efforts to better integrate state and local prevention efforts; Enhance coordination of prevention and response strategies at the state and local level; improve local and state awareness of local overdose mortality for policy and systems change.	Increased understanding of context, resources, and needs in Riverside County, CA; increased focus on highest risk groups; policy and systems change recommendations produced.	Greater awareness of drug and opioid overdose epidemic by state/local health departments, with respect to burden and resources, including at the city/county level; increased state involvement in local-level prevention efforts; increased preparedness and response at the local level.	Decreased drug overdose death rate, including prescription and illicit opioid overdose death rates
	Establishing Linkages to Care: Identify systems-level strategies in healthcare, community programs, and public safety to support care linkages with improved awareness, coordination, and technology.	Increased awareness and coordination of linkages to care.	Increased referrals to and engagement in evidence-based treatment.	
	Providers and Health Systems Support: Clinical education and training based on evidence-based guidelines; insurer and health systems supports.	Provider, health system, and payer awareness of and supports for guideline-concordant opioid prescribing, non-opioid medications, and non-pharmacological treatments; Provider, health system, and payer awareness of and supports for medically assisted treatment for opioid use disorder and SAMHSA practitioner (X) waiver training and application process.	Increased use of non-opioid medications and non-pharmacologic treatments for pain by patients; decrease in high-risk opioid prescribing; increase in the number of providers with and use of X-waivers.	
	Empowering Individuals to Make Safer Choices: Build overdose prevention and lifesaving skills among high-risk youth; train first responders on trauma-informed practices; develop mass media campaign on harm reduction strategies for youth.	Awareness of the risks of prescription and illicit opioids; Increase number of youths trained in overdose prevention; Increase number of first responder trained in trauma-informed practices, safe coping skills, symptoms of behavioral health challenge; types and number of messages developed.	Decreased initiation of opioid use and misuse; Raise awareness among high-risk youth of overdose prevention; Raise awareness for trauma-informed practices, safe coping skills, and symptoms of behavioral health challenges.	

Evaluation Goals and Questions

The internal evaluation of the Riverside Overdose Data to Action's (RODA) strategies is designed to collect information that will convey a credible, well-rounded picture of the program's efforts. These evaluation briefs are intended to highlight which interventions are working well and areas that may need improvement.

The following questions were used to guide the evaluation efforts for this strategy:

- How and to what extent has there been an increase in the coordination of linkages to care?
- How and to what extent have there been systems-level strategies identified and/or implemented to support care linkages with improved awareness and coordination?

Lead Partners for this Strategy



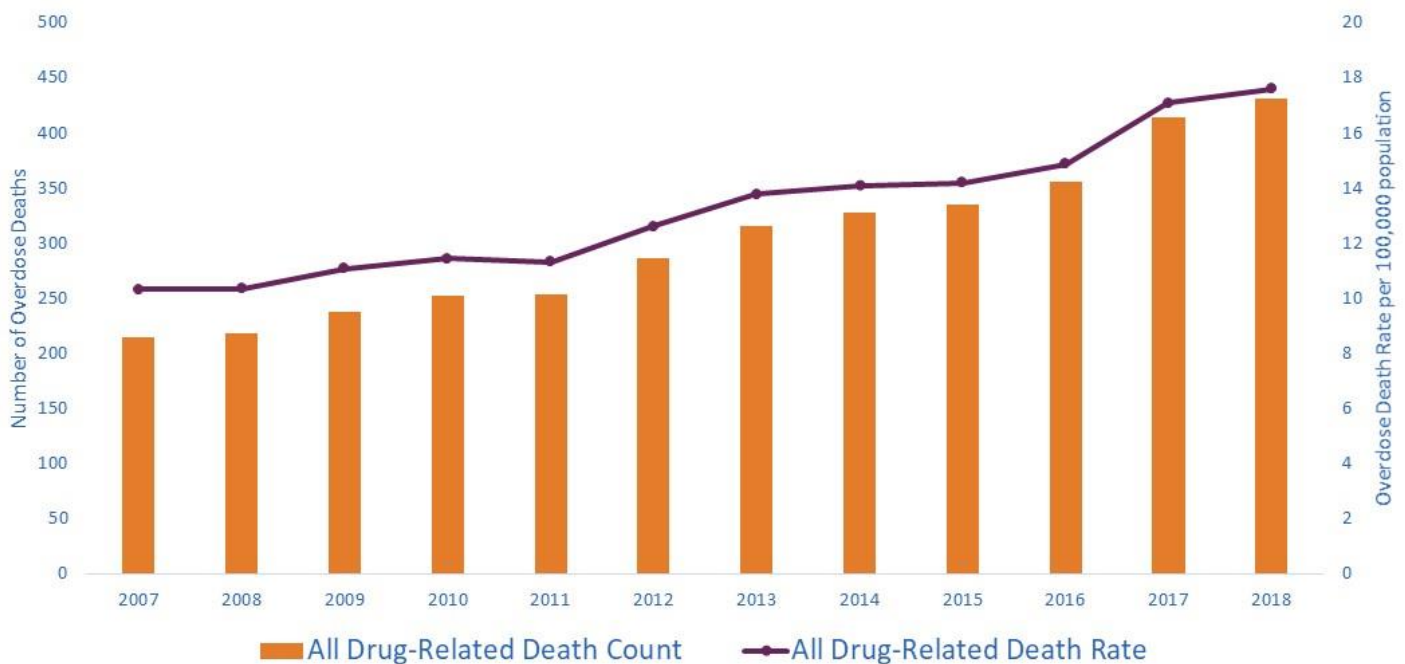
- [Riverside University Health System – Public Health \(RUHS - PH\)](#):
 - Epidemiology and Program Evaluation Branch (EPE)– As the lead Riverside County Public Health branch in the development and implementation of the RODA project, EPE coordinates the administrative, management, technical, and collaborative surveillance and prevention strategies
 - Public Health Nursing Branch (PHN)
 - Maternal, Child, and Adolescent Health Branch (MCAH): Nurse Family Partnership Program and Black Infant Health Program
- [Riverside University Health System - Behavioral Health \(RUHS - BH\)](#)
- [Riverside County Emergency Medical Services Agency \(REMSA\)](#)
- [Inland Empire Harm Reduction \(IEHR\)](#)
- [Starting Over, Inc.](#)

Baseline and Regional Context

Riverside County trends depicted a 10-year increase in overdose deaths, emergency department (ED) visits, and hospitalizations [Figure 3]. Overdose deaths increased from 230 deaths in 2008 to 430 deaths in 2017 and rates increased 63% from 2008 to 2017 (from 11 to 18 per 100,000). For up-to-date data on overdoses in Riverside County see the [RODA Overdose Data Dashboard](#).

The Riverside Overdose Data to Action (RODA) project is the first program within RUHS-PH specifically designed for people with substance use disorders or the prevention of overdose in over 10 years.

Figure 3: Historic trend in overdose deaths, Riverside County, 2007-2018



A Note on COVID-19 impact on RODA operations

Beginning in March 2020, many of the core and supporting RODA staff were required to work at the Riverside County Emergency Operations Center (EOC). During this time, epidemiologists and research analysts were conducting contact tracing and statistical modeling to understand the impact of COVID-19 in Riverside County. The public health nurses were monitoring calls on the public health nurse call line, contact tracing, and conducting follow-up with individuals in isolation and quarantine. The RODA project investigator, program director, and program coordinators were all involved with planning and operational duties to ensure an effective county-wide response to COVID-19. The program director and one program coordinator returned to RODA operations full-time in July 2020. At the end of year 2, the RODA project investigator, surveillance lead, lead evaluator, and program coordinator continue to be partially or fully assigned to COVID-19 response.

LINKAGES TO CARE—PUBLIC HEALTH NURSE CASE MANAGEMENT

Objective: Through Public Health Nurse case management, increase the coordination of linkages to care for those who may have elevated behavioral, social or environmental risk-factors for overdose in Riverside County.

Through this RODA activity, participating partners refer eligible clients to the Public Health Nurse (PHN) for case management. The PHN assesses and works closely with case managed clients to connect them with the services they need.

Though RODA funded Public Health Nurses were re-assigned to COVID-19 response for most of year one and two, RUHS - Public Health Nursing developed, piloted, and implemented a case management program for overdose/substance use prevention for pregnant and postpartum women, individuals experiencing homelessness, formerly incarcerated populations, and those populations who have experienced adverse childhood experiences (ACEs) that may place them at greater risk of drug overdose. Through partnerships with RUHS - BH, RUHS - Maternal, Child, and Adolescent Health (MCAH), Starting Over, Inc., and IEHR the Public Health Nurse can connect patients to both physical and behavioral health care services, substance use disorder treatment, safe housing options, food programs, Women, Infants, and Children (WIC) program, and harm reduction services.

Timeline and Successes

Year 1 (9/1/2019—8/31/2020):

- Three (3) partners established (Starting Over, Inc., RUHS - BH, RUHS-PH HIV/STD program), referral protocols established, intake, tracking and assessment forms developed, and piloting of case management services successfully completed.
- Eight (8) monthly strategy partner meetings coordinated by RODA staff.
- Nine (9) referrals from RUHS-PHN and one (1) referral from RUHS Behavioral Health. Of the ten (10) referrals to the PHN, 30% entered case management services [Figure 4].
 - One (1) case managed client was linked to treatment for substance use disorder and all three (3) were linked to other services.

Year 2 (9/1/2020—8/31/2021):

- Three (3) partners added, increasing total to six (6), expanding referral options for overdose prevention, including RUHS-MCAH Black Infant Health and Nurse Family Partnership programs, and Inland Empire Harm Reduction.
- 11 monthly strategy partner meetings coordinated by RODA staff.
- Of 9 referrals to the PHN from Starting Over, Inc., 89% entered case management services. An increase from year one [Figure 4].
 - 100% of case managed clients were linked to services including, housing, behavioral health, WIC, pediatric clinics, Managed Care (IEHP), primary care providers (PCP), and urgent care.

Barriers / Challenges

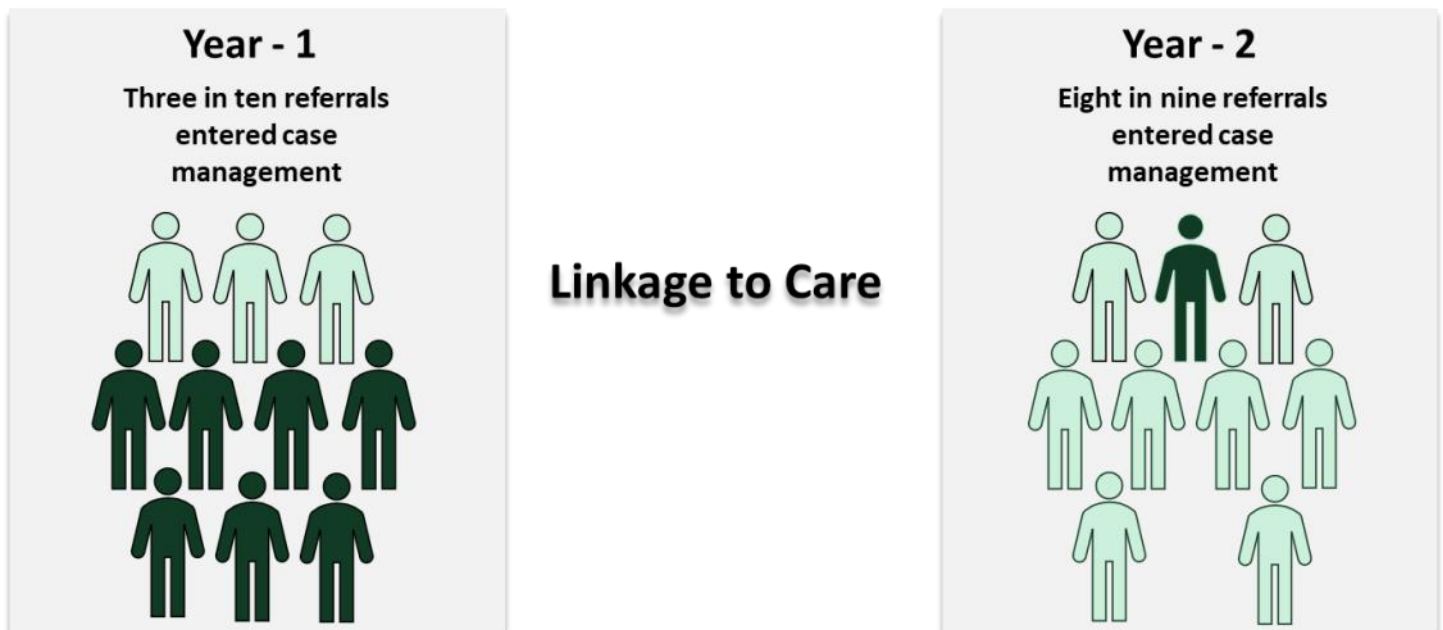
- From May 2020 through May 2021, the Public Health Nurse case manager was reassigned to COVID-19 response, effectively suspending this grant activity until June 2021.
- There is a single Public Health Nurse serving the entire county for RODA case management activities. One nurse has limited capacity on the number of clients that can be case-managed at a time.
- A limited nursing workforce creates barriers to program expansion.
- PHN case managed clients have identified lack of transportation as a significant barrier to successful connection with needed services.

Impact of the Public Health Nurse overdose prevention case management

Provided comprehensive Public Health Nursing assessments and linkages to services including; connection to Inland Empire Health Plan (IEHP), Primary Care Physicians, vision, and dental care, counseling, psychiatry, and pain clinics. In the first two years, 11 clients were case managed. Of those, one was linked to substance use disorder treatment and all 11 were linked to a needed service.

Starting Over, Inc. connected to RUHS-Behavioral Health crisis intervention services, which will allow staff to call mental health professionals in lieu of law enforcement when individuals are experiencing a mental health or substance use crisis. Decreasing the burden on law enforcement and increasing the potential for a successful outcome for the patient.

Figure 4: Referrals to Public Health Nurse case management



BYSTANDER NALOXONE EDUCATION

Objective: RODA partners (including but not limited to Inland Empire Harm Reduction, RUHS - BH, RUHS - PH) will support and implement bystander naloxone education for community members and partners who provide services to under-resourced populations. Specific populations include, individuals who are formerly incarcerated, experiencing homelessness, and pregnant or postpartum women.

Using cost savings from year one, RODA partnered with Inland Empire Harm Reduction (IEHR) to provide naloxone administration education. This activity was supported after reviewing RODA enhanced surveillance data and findings from the Overdose Fatality Review team. A pre-existing partnership with IEHR (experts in bystander naloxone training) was instrumental in implementing the trainings quickly.

Timeline and Successes

Year 1 (9/1/2019—8/31/2020):

- The necessity for naloxone training was identified in year one through enhanced surveillance and overdose fatality review data.

Year 2 (9/1/2020—8/31/2021):

- Identified six (6) partners and dates for naloxone trainings (RUHS HIV/STD, RUHS Injury Prevention Services, RUHS Public Health Nursing, RUHS– BH, Everlast Recovery Center, Starting Over, Inc.).
- From March through August 2021, implemented 12 education sessions with 427 attendees in total.
 - Seven (7) among partner organizations (174 participants).
 - Five (5) public sessions (253 participants).
 - Two (2) sessions in Spanish (24 participants).
 - Three (3) sessions in English (229 participants).

Barriers / Challenges

- Though partner organizations have been able to fill the gap, this grant funding does not allow the purchase of naloxone which creates a barrier to distribution.

Impact of the bystander naloxone education

- 427 individuals and 7 partner organizations received bystander naloxone training.
- Based on community interest in the naloxone education, REMSA is exploring ways to expand trainings into schools using paramedic personnel for year 3.
- Starting Over, Inc. staff conducts COVID-19 outreach to individuals experiencing homelessness and now incorporates naloxone education.
- Increased access to decision/policy making spaces for CBO partners allowing for power sharing and joint decision making with Riverside County Departments.
 - IEHR has worked with REMSA on “leave behind” naloxone policies, programs, and training curriculum development.
 - Starting Over, Inc. is working with REMSA and RUHS-BH to find policy solutions to transport patients in crisis to RUHS-BH services instead of law enforcement.

SUMMARY OF EVALUATION QUESTION RESPONSES

How and to what extent has there been an increase in the coordination of linkages to care?

- For the first time in over a decade, RUHS-PH has a program specifically focused on providing linkages to care for the prevention of drug overdoses and the treatment of substance use disorders through a Public Health Nurse case-manager. In the first two years, 11 clients were case managed. Of those, one was linked to substance use disorder treatment and all 11 were linked to a needed service.

How and to what extent has there been systems-level strategies identified and/or implemented to support care linkages with improved awareness and coordination?

- Increased access to decision making spaces for CBO partners allowing for power sharing, joint decision making, and improved awareness and coordination.
 - IEHR has worked with REMSA on leave behind naloxone policies, programs, and training curriculum development.
 - Starting Over, Inc. is working with REMSA and RUHS-BH to find policy solutions to transport their clients in crisis to RUHS-BH services instead of law enforcement.

RECOMMENDATIONS FOR YEAR 3

The recommendations below reflect the position of the author and not necessarily those of RUHS - Public Health or partner agencies.

1. Examine methods that can be employed to better understand the overall impact of the naloxone trainings.
2. Continue to establish and strengthen partnerships between participating organizations to build trust, awareness and coordination of services for long term sustainability.
3. Explore alternate staffing, funding and partnership options to aid the long-term sustainability of the Public Health Nurse case management model.
4. The need for overdose prevention case management services far exceeds current capacity. Examine strategies to upscale the model to serve more people.
5. Encourage Riverside County leadership to use opioid abatement settlement money to expand systems-level strategies that support care linkages with improved awareness, coordination, and technology.
6. Investigate alternate funding sources for the purchase of naloxone and other harm reduction materials not funded by this grant.
7. Explore methods that can be employed to include targeted naloxone education for populations actively using opioids.
8. There is a severe shortage of housing options for individuals who are not currently sober. Limiting prevention options for PHN case managed clients. RUHS-PH should work on county-wide strategies that can lead to more “housing-first” options that don’t require sobriety.
9. Enhanced surveillance has shown increased overdose deaths among people experiencing homelessness. Additional targeting of case management and naloxone resources may be needed in this population.

Suggested Citation: Gardner, A.T. (2022). *Riverside Overdose Data to Action, Establishing Linkages to Care: Year 2 Progress and Evaluation*. Riverside University Health System—Public Health, Epidemiology and Program Evaluation.

Acknowledgements: Robyn Borgman (CDC Evaluation Officer), Jessica Cuevas, Erin Curlee, Wendy Hetherington, Andrew Jimenez, Dianne Leibrandt, Gimena Ruedas, Carolyn Sallion-Love, Caitlin Storm, and everyone who provided their insights during the evaluation.

The RODA project and corresponding evaluation was supported by Grant Number 1 NUI7CE924999-01-00 from Department of Health and Human Services, Centers for Disease Control and Prevention.

LIST OF ACRONYMS USED IN THIS BRIEF

CDC: Centers for Disease Control and Prevention

CDPH: California Department of Public Health

EPE: Epidemiology and Program Evaluation Branch of RUHS-Public Health

IEHP: Inland Empire Health Plan

IEHR: Inland Empire Harm Reduction

IEOCC: Inland Empire Opioid Crisis Coalition

OFR: Overdose Fatality Review

PHN: Public Health Nurse

REMSA: Riverside County Emergency Medical Services Agency

RODA: Riverside Overdose Data to Action project

RUHS – BH: Riverside University Health System – Behavioral Health / Riverside County Department of Behavioral Health

RUHS - MCAH: Riverside University Health System - Public Health's Maternal, Child, and Adolescent Health Branch.

RUHS – Public Health: Riverside University Health System – Public Health / Riverside County Department of Public Health