



CALIFORNIA
HEALTHCARE
FOUNDATION

Request for Applications

Regional Opioid Safety Coalitions: Bringing Communities Together to Prevent Overdose Deaths

Application Deadline: Sunday, October 11, 2015

About the California HealthCare Foundation

The California HealthCare Foundation (CHCF) is leading the way to better care for all Californians, particularly those whose needs are not well served by the status quo. We work to ensure that people have access to the care they need, when they need it, at a price they can afford.

CHCF informs policymakers and industry leaders, invests in ideas and innovations, and connects with changemakers to create a more responsive, patient-centered health care system.

For more information, visit www.chcf.org.

Background

The epidemic of prescription opioid overuse and overdose has led to the deaths of over 7,400 Californians in five years, and results in high medical and societal costs. CHCF is working with partners across the state to drive down prescription opioid-related deaths by 30% in three years.

In support of this goal, CHCF is launching a collaborative to support communities across California in tackling prescription painkiller overuse in their region. Coalitions should include broad representation, such as medical societies, county public health agencies, health plans, medical groups, hospitals, pharmacies, law enforcement, the correctional system, community groups, addiction treatment, and others. The most effective coalitions will have a diverse and inclusive steering committee, identify specific goals, and deploy action teams that are accountable to making a measurable impact within 18 months.

Project Description

CHCF will support up to 10 regional coalitions over 18 months to identify and implement collective actions to reduce the opioid overuse epidemic **through at least one intervention in each of the following [federal priority areas](#)**:

1. **Supporting safe prescribing practices:** Examples include implementing common prescribing guidelines for emergency departments and primary care practices; routinely utilizing [CURES](#) (the California prescription database); creating access to non-opioid alternatives for chronic pain management; or improving information exchange between emergency departments, health plans, and prescribers through real-time data exchange.¹
2. **Expanding access to medication-assisted addiction treatment:** Examples include expanding the number of licensed physicians accepting referrals for buprenorphine treatment;² starting buprenorphine induction clinics; and developing workshops, mentoring, or Project ECHO mentoring structures for physicians who are licensed but not yet prescribing buprenorphine.³
3. **Increasing naloxone access:**⁴ Examples include implementing naloxone distribution at substance abuse programs, primary care clinics, or community pharmacies, or promoting co-prescribing of naloxone for patients receiving chronic opioids.

During the grant period, each coalition will identify SMART (specific, measurable, actionable, relevant, and time-bound) goals related to the chosen interventions and will share challenges and successes with other regions through in-person and virtual meetings.

The components of this collaborative program are:

1. **Coaching from expert faculty and leaders in safe prescribing:** Expert faculty from [San Diego County](#), [Marin County](#), and other successful safe prescribing taskforces, as well as a CHCF coach/consultant, will provide mentorship and coaching to coalition leaders, helping them launch and sustain a coalition, set up task forces and goals, and problem-solve along the way. (See Appendix A for an example of RxSafe Marin's coalition structure and Appendix B for an example of their data dashboard.)

¹ An example is [EDIE](#), the Emergency Department Information Exchange, which is deployed in several states and just launching in some California cities. [See details](#).

² Buprenorphine has been shown to decrease overdose deaths and improve recovery retention and can be integrated into primary care; [online training programs](#) are available.

³ Project ECHO provides video consultation and didactics from specialists to PCPs to expand skills around [addiction treatment](#), [pain management](#), and other specialties.

⁴ Naloxone is an antidote shown to decrease opioid overdose deaths when distributed in community settings or through primary care. [See more information about naloxone](#).

2. **Peer-to-peer learning:** Coalitions will have the opportunity to learn from peers during in-person convenings and webinars over the grant period.
3. **Support for building an effective coalition:**
 - a. **Data:** Each coalition will be provided zip code and county-level data on opioid-related emergency visits, hospitalizations, and deaths (compared to regional and state data), as well as de-identified prescription data (total volume of prescriptions, rate of patients receiving prescriptions from multiple providers, and buprenorphine prescribing data). Data should be used to build the case for change and to track impact over time. Baseline data by county is in Appendix C.
 - b. **Funding for clerical and project management:** Each coalition will receive up to \$60,000 to support local convenings, administrative/project management support for the coalition over 18 months, and travel costs to CHCF collaborative meetings. Applications must include a budget for how these funds would be used, with documentation of in-kind support from the lead organization and other participating organizations.
 - c. **Tools:** CHCF will make available tools to support safe prescribing efforts, including guidelines, patient handouts, and a curated list of screening and opioid management tools.
 - d. **Communications:** CHCF communications experts and the California Department of Public Health can help in developing effective communications strategies to promote the effort and share results. Coalitions may also make use of [LiveStories](#), a tool supported by CHCF to simplify web publication of data and stories.

Eligibility and Selection Criteria

One lead organization will serve as the primary CHCF grant contact to receive the grant funding and be responsible for distributing funds to other coalition members (if applicable), organizing the coalition meetings, and tracking SMART goals. Lead organizations may be governmental, for-profit or nonprofit.

CHCF will select up to 10 regional coalitions through a competitive application process using the criteria below. Coalitions may be contained within a county or include multiple adjacent counties. CHCF will only accept one application per county. Applications will be scored using three criteria:

1. **Overall strength of the application:** Strong plan for pulling a coalition together, setting goals, making progress, and sustaining success beyond the first 18 months. If a safe prescribing taskforce/coalition is already in place, the proposal should

describe what would be accomplished with collaborative participation that is not in progress already – what would be gained by joining the collaborative?

2. Strong lead organization:

- a. A committed clinical champion and project lead
- b. Infrastructure to support the steering committee and task forces, manage meeting logistics, manage data and metrics reporting, maintain relationships, etc.
- c. Budget is sufficient to launch and sustain a coalition, including in-kind support from lead organization or others, and sufficient project management and administrative time to ensure the coalition launches well and stays on task

3. Broad cross-sector commitment: Letters from diverse organizations indicating commitment to opioid safety and to participating in the coalition. Examples include:

- Medical association
- County public health and/or county health care delivery system
- Community clinics
- Health plans (especially local Medi-Cal plans)
- Hospitals
- Emergency physician groups
- Medical groups and IPAs
- Law enforcement and corrections
- Medical examiner
- Pharmacies
- Urgent care or retail clinics
- Others impacted by the epidemic (schools, etc.)

Each letter should indicate what kind of commitment(s) each organization will make: joining the steering committee and action teams, providing financial or in-kind support, data-sharing, hosting local coalition convenings, participating in collaborative meetings and webinars, sharing learnings with other participants, publishing success stories, etc.

Offer of Travel Funds for Non-participants

Applicants not awarded one of the 10 collaborative spots may be eligible to receive reimbursement for travel costs to the in-person learning sessions at the beginning and end of the program. These sessions will provide an opportunity to learn best practices from state leaders in opioid safety, learn how counties and regions have approached safe prescribing, and make connections with other leaders across the state.

Timeline

RFA announcement	July 27, 2015
Information about the RFA and the collaborative: During this time, we are offering potential applicants an opportunity for additional information through optional webinars, email exchange, or phone interviews – please contact us to schedule, or join one of the webinars listed here	<p>Wednesday, August 19 at 11:30 AM Pacific https://chcfevents.webex.com/chcfevents/onstage/g.php?MTID=eda7d1e7a80f24b482d30d41dc265552e Event number: 663 462 552 (Password: chcf)</p> <p>Wednesday, September 9 at 12:00 PM Pacific https://chcfevents.webex.com/chcfevents/onstage/g.php?MTID=e53343125abbae8e966712a5e04f20041 Event number: 660 491 435 (Password: chcf)</p>
Submit application and letters of cross-sector support	Sunday, October 11, 2015 by 11:59 PM Pacific
CHCF announces participants	By October 26, 2015
Kick-off webinar	Tuesday, November 3, 12:00 -1:30 PM Pacific
Mandatory in-person convening (Oakland)	November 17, 2015 (full day)
Webinars (8 total)	Every other month
Mid-point convening	September 2016
In-person closing convening, sharing results	May 2017

Costs

- The lead organization is eligible to receive up to \$60,000 to support clerical and project management, local convening costs, and travel costs over the 18-month project.
- The convenings, webinars, and coaching are provided to participants free of charge.
- Travel costs for the team to in-person convenings outside of their geographic area should be included in the budget proposal.

Application Process

Applications must be delivered as a single PDF file by email with the subject line “Regional Opioid Safety Coalitions RFA” to Glenda Pacha, program associate (gpacha@chcf.org) by Sunday, October 11, 2015, at 11:59 PM. Applications will be acknowledged by a return email within 72 hours. *Hard copies will not be accepted.*

- 1. Proposal cover sheet:** Available at www.chcf.org/grants/submitting-a-proposal. The cover sheet should identify a lead organization for the coalition that will receive the grant funding from CHCF and be responsible for managing funds within the regional coalition.
- 2. Tax ID information for the lead organization**
Nonprofit organizations should submit a copy of their IRS determination letters. For-profit entities should submit completed [W9 forms](#).
- 3. Application narrative:** Please use the Application Narrative template (available at <http://www.chcf.org/rfps/2015/regional-opioid-safety-coalitions>). Written responses should be no more than eight pages of text with double-spaced lines in a 12-point font. The page of coalition members and letters of commitment do not count towards the page limit.
- 4. Letters of commitment:** Please scan and attach letters from organizations committed to joining the coalition. *Do not have letters sent in the mail to CHCF.*
- 5. Budget:** Complete a budget using either of the budget templates available online at www.chcf.org/grants/submitting-a-proposal. Include the name, role, and organizational affiliation for any staffing line items. If there are any specific budget considerations you want to highlight, you may include a one-page budget narrative with your budget proposal (this does not count towards the page limit). Please list in-kind personnel with % FTE on the CHCF budget form and write "in kind" in lieu of \$ amount. It is not necessary to list salary and benefits for in-kind support.

Selection Process

When assessing applications, the review committee will use an objective scoring process and consider the strength of application and the evidence of cross-sector commitment across multiple organizations. Other factors may include geographic representation across the state, the size of the county or region (potential impact), and the relative rate of deaths and prescription overuse for that region.

All funding decisions are made by CHCF, in consultation with external experts.

For More Information

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Appendix A: Examples of Coalition Structures

For an example of an effective coalition structure, see www.rxsafemarin.org and details below.

Marin committee structure:

Action teams: co-chairs include one person from county public health (the lead organization) and one person from the community.

Steering committee: made up of leads of each action team, co-chaired by public health director and a community representative

See website for specific goals, activities and measures for each action team.

ACTION TEAMS

**DATA
COLLECTION &
MONITORING**

Read More

**COMMUNITY
BASED
PREVENTION**

Read More

**INTERVENTION
TREATMENT &
RECOVERY**

Read More

**PRESCRIBERS
&
PHARMACISTS**

READ MORE

**LAW
ENFORCEMENT**

Read More

Appendix B: Example of Community Dashboard Tracking Impact from RxSafe Marin

Data Indicators		2009	2010	2011	2012	2013
1	Drug poisoning deaths					
	<ul style="list-style-type: none"> • Unintentional • Total drug poisoning deaths 	9 32	15 35	13 21	27 37	27 39
2	Non-fatal opioid-related emergency department visits	300	295	344	471	352
3	Student self-report Rx painkiller misuse	17% (N=1,631)				16% (N=1,734)
4	Number of controlled substance prescriptions		396,518	403,561	416,777	412,356
5	Median number of pills per narcotic prescription		50	45	50	56
6	Number of Practitioners and Pharmacists Registered with Controlled Substance Utilization Review and Evaluation System/ (CURES), California Prescription Drug Monitoring Program (PDMP)					
	<ul style="list-style-type: none"> • Practitioners • Pharmacists 		54 4	95 9	121 11	149 42
7	Pounds of safely disposed medications					
	<ul style="list-style-type: none"> • Via take back events • Via EHS collection sites 	2,941	4,638	390 4,555	634 5,202	1,085 6,433
8	Drug Possession Charges and Cases					
	<ul style="list-style-type: none"> • Number of Charges Filed • Number of Cases 	329 260	408 366	539 444	544 485	745 653
9	Naloxone doses administered by Emergency Medical Services	205	186	198	171	131
10	Adult treatment and detox admissions (fiscal year, 2009 represents July 2008 - June 2009, etc.)					
	<ul style="list-style-type: none"> • Total adult treatment admissions • % of clients reporting opiate use (including heroin) at time of admission 	2,026 28.9%	1,901 29.4%	1,395 32.1%	1,395 32.1%	1,800 28.2%

Data sources for above metrics:

- California Department of Public Health, Vital Statistics and Safe and Active Communities
- California Healthy Kids Survey
- Office of Statewide Health Planning & Development
- California Department of Public Health, Safe and Active Communities Branch
- Controlled Substance Utilization Review and Evaluation System
- California Prescription Drug Monitoring Program
- County of Marin Environmental Health Services
- Drug Enforcement Agency
- Controlled Substance Utilization Review and Evaluation System (CURES)
- County of Marin Environmental Health Services
- County of Marin District Attorney
- Marin County Emergency Medical Services
- CalOMS Treatment (CalOMS Tx)

Additional recommended metrics: Number of buprenorphine prescribers and total buprenorphine prescriptions dispensed each year (data from California Department of Health Services)

Appendix C, Table 1:
Deaths Related to Opioid Pharmaceuticals, California, 2009-2013

County	Five-Year Total Cases	Crude Rate (5-Yr Total)	Age-Adjusted Rate (5-Yr Total)	Rank
Alameda	149	2.0	1.8	41
Alpine	0	*	*	58
Amador	19	*	*	43
Butte	71	6.4	6.4	14
Calaveras	18	*	*	44
Colusa	5	*	*	53
Contra Costa	169	3.2	3.1	32
Del Norte	10	*	*	46
El Dorado	27	3.0	3.3	30
Fresno	280	6.0	6.3	17
Glenn	6	*	*	50
Humboldt	99	14.7	13.7	4
Imperial	6	*	*	51
Inyo	4	*	*	54
Kern	147	3.5	3.6	28
Kings	21	2.8	2.6	34
Lake	82	25.4	22.5	2
Lassen	34	19.8	17.4	3
Los Angeles	938	1.9	1.8	40
Madera	58	7.6	7.8	11
Marin	64	5.0	4.7	20
Mariposa	7	*	*	48
Mendocino	38	8.6	8.0	9
Merced	48	3.7	3.9	24
Modoc	7	*	*	47
Mono	2	*	*	55
Monterey	82	3.9	3.9	25
Napa	22	3.2	2.7	33
Nevada	21	4.3	4.6	21
Orange	1,042	6.8	6.5	13
Placer	36	2.0	1.9	39
Plumas	24	24.2	23.8	1
Riverside	362	3.3	3.3	29
Sacramento	314	4.4	4.2	23
San Benito	14	*	*	45
San Bernardino	217	2.1	2.1	36
San Diego	1,038	6.6	6.3	16
San Francisco	405	10.0	8.7	8
San Joaquin	276	8.0	8.0	10
San Luis Obispo	60	4.4	4.4	22
San Mateo	76	2.1	1.9	38
Santa Barbara	27	1.3	1.3	42
Santa Clara	195	2.2	2.0	37

Appendix C, Table 1:

Deaths Related to Opioid Pharmaceuticals, California, 2009-2013

County	Five-Year Total Cases	Crude Rate (5-Yr Total)	Age-Adjusted Rate (5-Yr Total)	Rank
Santa Cruz	95	7.2	6.7	12
Shasta	108	12.1	11.9	5
Sierra	1	*	*	56
Siskiyou	21	9.4	10.3	7
Solano	49	2.4	2.3	35
Sonoma	132	5.4	5.1	19
Stanislaus	97	3.7	3.8	26
Sutter	26	5.5	6.0	18
Tehama	7	*	*	49
Trinity	5	*	*	52
Tulare	60	2.7	3.1	31
Tuolumne	28	10.2	10.5	6
Ventura	266	6.4	6.3	15
Yolo	35	3.5	3.6	27
Yuba	1	*	*	57
CALIFORNIA	7,451	4.0	3.8	

Source: California Department of Public Health, Vital Statistics Death Statistical Master and Multiple Cause of Death files.

Prepared by the California Department of Public Health, Safe and Active Communities Branch, May 2015.

* Rates <20 are not displayed because they are unstable and may not be reliable.

Appendix C, Table 2:

Non-fatal Emergency Department Visits Related to All Opioids, 2009-2013

County	Number of Visits (5-Year Total)	Crude Rate per 100,000 Residents (5-Year Total)	Age-Adjusted Rate per 100,000 Residents (5-Year Total)	County Ranking
Alameda	1,000	13.1	12.3	42
Alpine	<10	*	*	58
Amador	38	20.3	22.3	14
Butte	203	18.4	18.1	19
Calaveras	32	14.1	16.3	23
Colusa	<10	*	*	57
Contra Costa	703	13.3	13.4	35
Del Norte	21	14.7	14.0	30
El Dorado	105	11.6	13.4	34
Fresno	577	12.3	12.6	40
Glenn	<20	*	*	55
Humboldt	520	77.2	74.8	1
Imperial	407	45.9	48.4	3
Inyo	<10	*	*	54
Kern	665	15.7	15.8	25
Kings	89	11.7	11.5	44
Lake	73	22.6	24.4	11
Lassen	29	16.9	14.3	28
Los Angeles	5,332	10.8	10.2	46
Madera	47	6.2	6.1	49
Marin	208	16.4	19.9	16
Mariposa	<20	*	*	53
Mendocino	98	22.2	23.5	12
Merced	211	16.3	17.7	20
Modoc	<20	*	*	52
Mono	<10	*	*	56
Monterey	696	33.2	32.7	7
Napa	85	12.4	12.8	38
Nevada	146	29.7	35.8	5
Orange	2,474	16.2	15.6	26
Placer	466	26.2	28.8	8
Plumas	39	39.4	41.7	4
Riverside	1,534	13.8	13.8	32
Sacramento	1,043	14.6	14.2	29
San Benito	45	16.1	16.2	24
San Bernardino	1,382	13.5	13.2	36
San Diego	2,196	14.1	13.0	37
San Francisco	641	15.8	13.9	31
San Joaquin	589	17.0	17.3	21
San Luis Obispo	257	19.0	18.1	18
San Mateo	271	7.4	7.5	48
Santa Barbara	469	22.0	20.5	15
Santa Clara	567	6.3	6.0	50

Appendix C, Table 2:

Non-fatal Emergency Department Visits Related to All Opioids, 2009-2013

County	Number of Visits (5-Year Total)	Crude Rate per 100,000 Residents (5-Year Total)	Age-Adjusted Rate per 100,000 Residents (5-Year Total)	County Ranking
Santa Cruz	464	35.0	32.8	6
Shasta	243	27.3	28.2	9
Sierra	<10	*	*	51
Siskiyou	28	12.5	13.7	33
Solano	252	12.1	11.9	43
Sonoma	421	17.3	16.5	22
Stanislaus	498	19.2	19.1	17
Sutter	51	10.7	10.5	45
Tehama	45	14.2	15.1	27
Trinity	25	36.8	49.2	2
Tulare	259	11.6	12.6	39
Tuolumne	61	22.3	22.9	13
Ventura	1,051	25.3	25.2	10
Yolo	108	10.7	9.6	47
Yuba	44	12.1	12.4	41
CALIFORNIA	26,896	14.3	13.8	

* Rates <20 are not displayed because they are unstable and may not be reliable.

Source: California Office of Statewide Health Planning and Development, Emergency Department Data. Prepared by the California Department of Public Health, Safe and Active Communities Branch, July 2015.

Appendix C, Table 3:
 Prescription Data, 2013 (from CURES)

County	Population 2013	Opioid prescriptions per 1,000 residents	Average morphine equivalents per resident per year	Avg # Vicodin per resident per year
Alameda	1,563,495	557	566	113
Alpine	1,112	397	439	88
Amador	36,028	1,205	1,600	320
Butte	221,416	1,342	2,016	403
Calaveras	44,852	1,105	1,861	372
Colusa	21,665	631	752	150
Contra Costa	1,081,948	723	803	161
Del Norte	28,225	1,465	2,010	402
El Dorado	182,958	1,050	1,241	248
Fresno	956,967	629	660	132
Glenn	28,628	967	1,144	229
Humboldt	134,698	1,156	1,634	327
Imperial	179,142	489	510	102
Inyo	18,584	1,057	1,615	323
Kern	865,511	684	698	140
Kings	150,507	674	592	118
Lake	64,209	1,808	2,868	574
Lassen	33,686	1,076	2,047	409
Los Angeles	10,013,265	393	340	68
Madera	152,857	653	702	140
Marin	255,778	684	849	170
Mariposa	17,890	1,174	1,794	359
Mendocino	88,281	1,248	1,642	328
Merced	262,336	660	778	156
Modoc	9,485	1,024	1,253	251
Mono	14,477	452	390	78
Monterey	423,943	570	695	139
Napa	138,932	793	914	183
Nevada	97,808	995	1,402	280
Orange	3,099,463	482	505	101
Placer	364,724	868	1,047	209
Plumas	19,792	1,315	1,979	396
Riverside	2,264,569	576	630	126
Sacramento	1,445,457	816	894	179
San Benito	57,146	657	776	155
San Bernardino	2,074,080	582	616	123
San Diego	3,176,770	522	562	112
San Francisco	830,956	464	617	123
San Joaquin	702,669	763	759	152
San Luis Obispo	271,584	794	1,040	208
San Mateo	742,256	469	501	100
Santa Barbara	432,110	609	644	129
Santa Clara	1,853,223	407	318	64

Appendix C, Table 3:
 Prescription Data, 2013 (from CURES)

County	Population 2013	Opioid prescriptions per 1,000 residents	Average morphine equivalents per resident per year	Avg # Vicodin per resident per year
Santa Cruz	270,734	726	839	168
Shasta	178,127	1,313	1,895	379
Sierra	3,114	1,139	1,936	387
Siskiyou	45,308	1,168	1,582	316
Solano	422,899	844	958	192
Sonoma	491,619	901	1,192	238
Stanislaus	526,549	996	1,283	257
Sutter	96,712	953	1,360	272
Tehama	64,114	1,300	1,762	352
Trinity	13,459	1,467	2,464	493
Tulare	455,376	683	701	140
Tuolumne	54,118	1,310	2,187	437
Ventura	839,270	612	644	129
Yolo	206,136	614	666	133
Yuba	72,994	1,102	1,456	291
CALIFORNIA	38,164,011	572	615	123

Source for prescription data: Brandeis PDMP Center of Excellence, analysis of CURES data, 2013.

Opioid prescriptions: Number of opioid prescriptions per 1,000 residents. Limited to Schedule II – IV opioid prescriptions to state residents in the California prescription drug monitoring program, CURES. Opioid controlled substances in CURES are identified by their National Drug Code (NDC) number, as referenced in Redbook, published by Truven Health.

Vicodin per resident per year: Each opioid prescription is converted to morphine milligram equivalents (MME) based on an MME conversion factor. "Vicodin per year" obtained by dividing MME by 5mg. MME conversion factors are available at

http://www.pdmpassist.org/pdf/BJA_performance_measure_aid_MME_conversion.pdf

Dosage in MMEs is then computed as (drug strength * quantity prescribed * MME conversion factor), for each prescription. Total dosage is then summed for all prescriptions filled during the calendar year, for each county.

Appendix C, Table 4:
Buprenorphine Data, 2013

County	Population	Buprenorphine Prescription Count	Buprenorphine Prescriptions per 1,000 Residents
Alameda	1,563,495	12,949	8.28
Alpine	1,112	9	8.10
Amador	36,028	833	23.12
Butte	221,416	5,371	24.26
Calaveras	44,852	397	8.86
Colusa	21,665	150	6.92
Contra Costa	1,081,948	14,617	13.50
Del Norte	28,225	401	14.20
El Dorado	182,958	3,641	19.90
Fresno	956,967	4,285	4.48
Glenn	28,628	167	5.84
Humboldt	134,698	4,077	30.26
Imperial	179,142	274	1.52
Inyo	18,584	334	17.98
Kern	865,511	5,083	5.88
Kings	150,507	468	3.10
Lake	64,209	2,647	41.22
Lassen	33,686	102	3.02
Los Angeles	10,013,265	75,383	7.52
Madera	152,857	501	3.28
Marin	255,778	4,848	18.96
Mariposa	17,890	163	9.12
Mendocino	88,281	2,216	25.10
Merced	262,336	913	3.48
Modoc	9,485	15	1.58
Mono	14,477	53	3.66
Monterey	423,943	6,452	15.22
Napa	138,932	1,940	13.96
Nevada	97,808	1,641	16.78
Orange	3,099,463	39,362	12.70
Placer	364,724	6,675	18.30
Plumas	19,792	66	3.34
Riverside	2,264,569	18,715	8.26
Sacramento	1,445,457	19,272	13.34
San Benito	57,146	653	11.42
San Bernardino	2,074,080	12,644	6.10
San Diego	3,176,770	34,523	10.86
San Francisco	830,956	10,224	12.30
San Joaquin	702,669	4,218	6.00
San Luis Obispo	271,584	5,620	20.70
San Mateo	742,256	7,106	9.58
Santa Barbara	432,110	8,713	20.16
Santa Clara	1,853,223	13,316	7.18

Appendix C, Table 4:
Buprenorphine Data, 2013

County	Population	Buprenorphine Prescription Count	Buprenorphine Prescriptions per 1,000 Residents
Santa Cruz	270,734	3,754	13.86
Shasta	178,127	4,005	22.48
Sierra	3,114	1	0.32
Siskiyou	45,308	237	5.24
Solano	422,899	3,990	9.44
Sonoma	491,619	9,736	19.80
Stanislaus	526,549	4,258	8.08
Sutter	96,712	2,640	27.30
Tehama	64,114	755	11.78
Trinity	13,459	83	6.16
Tulare	455,376	1,634	3.58
Tuolumne	54,118	1,793	33.14
Ventura	839,270	15,540	18.52
Yolo	206,136	1,458	7.08
Yuba	72,994	1,670	22.88
CALIFORNIA	38,164,011	382,591	10.02

Source for prescription data: Brandeis PDMP Center of Excellence, analysis of CURES data, 2013.

Appendix C, Table 5:
California Death Trends for Opioid Pharmaceuticals and Heroin

Deaths Related to Opioid Pharmaceuticals and Heroin, California (2006-2013)

Year	Opioid Pharmaceuticals		Heroin	
	Cases	Age-Adjusted Rate (per 100,000)	Cases	Age-Adjusted Rate (per 100,000)
2006	1,116	3.04	268	0.73
2007	1,277	3.43	290	0.78
2008	1,443	3.83	322	0.86
2009	1,616	4.23	350	0.93
2010	1,557	4.02	322	0.84
2011	1,548	3.94	355	0.91
2012	1,318	3.33	361	0.92
2013	1,412	3.52	483	1.22

Emergency Department Visits Related to All Opioids, California (2006-2013)

Year	Cases	Age-Adjusted Rate (per 100,000)
2006	3,180	8.66
2007	3,556	9.56
2008	3,942	10.44
2009	4,529	11.86
2010	4,637	11.99
2011	5,202	13.28
2012	5,975	15.14
2013	6,553	16.48

Emergency Department Visits Related to Heroin, California (2006-2013)

Year	Cases	Age-Adjusted Rate (per 100,000)
2006	570	1.56
2007	605	1.64
2008	629	1.67
2009	713	1.87
2010	683	1.76
2011	841	2.14
2012	1,053	2.65
2013	1,197	3.01

Sources: CDPH Vital Statistics Death Statistical Master and Multiple Cause of Death files;
California Office of Statewide Health Planning and Development, Emergency Department Data.

Prepared by the California Department of Public Health, Safe and Active Communities Branch,
June 2015.

Appendix C: Technical Notes on the Data

Methods for Generating Data on Deaths Related to Opioid Pharmaceutical Overdoses

Data sources for Deaths of California Residents Related to Opioid Pharmaceutical Overdoses: California Department of Public Health (CDPH) Vital Statistics Death Statistical Master and Multiple Cause of Death files

<http://www.cdph.ca.gov/data/dataresources/requests/Pages/VitalStatisticsBirthDeathFetalDeathMarriageData.aspx>

Data Prepared by:

CDPH, Safe and Active Communities Branch, May 2015: <http://epicenter.cdph.ca.gov>.

Three variables are used:

1. County: California County of residence
2. 5-Year Totals: Five-Year Number of Deaths Related to Opioid Pharmaceutical Overdoses
3. Annual Average Rate: Average Annual Rate of Deaths Related to Opioid Pharmaceutical Overdoses per 100,000 population using all ages

Variable Definitions

1. County:

County of residence is based upon the information listed on the death certificate (i.e., 58 counties). Non-residents of California are excluded.

2. 5-Year Totals:

Deaths Related to Opioid Pharmaceutical Overdoses are identified based on the cause and manner of death information provided on the death certificates. They include only deaths classified specifically as related to an opioid pharmaceutical drug. The five-year total includes California deaths for the years 2008 to 2012, the most recent data available, for deaths of all ages.

A two-step process is used to determine whether a death is classified as an opioid pharmaceutical related overdose. All deaths are assigned a single underlying cause of death code by the National Center for Health Statistics (NCHS) based upon the International Classification of Diseases, 10 Revision (ICD-10). Based upon the ICD-10 coding system, the underlying cause of death code for an opioid related overdose death will be one of the following broader poisoning codes: X40-X44, X60-X64, X85, Y10-Y14. These cover all intents including unintentional, intentional self harm (suicide), intentional assault (homicide) and undetermined intent, respectively. As the first step, all deaths with any one of these broad poisoning codes are selected as potentially relevant opioid cases.

The second step involves using the Multiple Cause of Death files that include up to 20 underlying, immediate, intermediate, and contributing causes of death diagnoses derived from

Appendix C: Technical Notes on the Data

the California death certificates. Based on the deaths screened in from the underlying causes of death identified as a drug poisoning, the multiple diagnoses are used to capture drug overdoses by scanning the multiple causes of death for the ICD-10 T codes that classify specific drug poisoning. The specific ICD-10 codes used to identify opioid pharmaceutical related deaths are: T40.2, T40.3 and T40.4.

The multiple causes listed can lead to more than one substance diagnosis per death, but a death is counted only once as an opioid pharmaceutical related death, even if it has more than one diagnosis for an opioid pharmaceutical drug.

3. Annual Average Rate:

This is a crude rate calculated simply as the number of deaths divided by the total population in the relevant jurisdictions (i.e., county) and multiplied by 100,000. California population data are derived from the California Department of Finance's (DOF) Demographic Research Unit. The data files used incorporate DOF updates based on the US 2010 Census as of November 2012. The "Estimates of Race/Ethnic Population with Age and Gender Detail" data sets are listed below and are available on the DOF website:

<http://www.dof.ca.gov/research/demographic/overview/>

- State of California, Department of Finance, Race/Hispanics Population with Age and Gender Detail, 2000-2010. Sacramento, California, September 2012
- 2010-2015: State of California, Department of Finance, Report P-3: State and County Population Projections by Race/Ethnicity, Detailed Age, and Gender, 2010-2060. Sacramento, California, January 2013

Data Limitations

There are limitations to the identification of deaths related to opioid pharmaceutical overdoses at each of the multiple steps involved. In general, these limitations are most likely to lead to substantial undercounts of the number of opioid pharmaceutical deaths.

Medical Examiner/Coroner:

- Autopsies may not be conducted on all relevant deaths
- At autopsy, toxicological lab tests may or may not be performed to determine the type of drugs present. The circumstances under which the tests are performed and the specific substances tested for vary by jurisdiction. The presence of opioids in the blood tests by themselves is not sufficient to determine the cause of death. The dose necessary to be toxic is highly variable depending on such factors as other substances present, patient tolerance, age, health status, etc. It may be the combination of opioids in the presence of contraindicated and non-prescribed substances, such as alcohol and/or sedatives, which is lethal.

Death Certificates:

- What is written on the certificates may not be specific enough for the ICD coders to identify opioids in general or opioid pharmaceutical in particular. For example, it may only state "poly substances present" or "mixed drugs present" or not specify which drugs were present.

Appendix C: Technical Notes on the Data

ICD-10 Coding:

- The ICD-10 coding system is very limited in capturing specific drug poisoning overdose deaths (See Injury Surveillance Workgroup 7: Consensus Recommendations for National and State Poisoning Surveillance. The Safe States Alliance. Atlanta GA, April 2012, http://c.ymcdn.com/sites/safestates.site-ym.com/resource/resmgr/imported/ISW7%20Full%20Report_3.pdf). Given the ICD-10 coding system it is likely to under identify opioid pharmaceutical related deaths. In addition, care must be taken when using the Multiple Cause of Death files given the multiple diagnosis fields because the sum of the specific substance categories may be greater than the total number of overdose deaths.

California Opioid Measures Technical Notes

Number of opioid prescriptions per 1,000 residents. Limited to Schedule II – IV opioid prescriptions to state residents in the California prescription drug monitoring program, CURES. Opioid controlled substances in CURES are identified by their National Drug Code (NDC) number, as referenced in Redbook, published by Truven Health.

Dosage (total MMEs). Each opioid prescription is converted to morphine milligram equivalents (MME) based on an MME conversion factor. We use MME conversion factors developed by the Centers for Disease Control and Prevention, which are available at: http://www.pdmpassist.org/pdf/BJA_performance_measure_aid_MME_conversion.pdf Dosage in MMEs is then computed as (drug strength * quantity prescribed * MME conversion factor) for each prescription. Total dosage is then summed for all prescriptions filled during the calendar year for each county or zip code.

County population estimates. For each calendar year, we used county population estimates, as of July 1 of that year, developed by the State of California, Department of Finance, E-2. California County Population Estimates and Components of Change by Year – July 1, 2010 – 2014, December, 2014. These estimates were accessed at <http://www.dof.ca.gov/research/demographic/reports/estimates/e-2/view.php>. To identify counties in the prescription data (a field not included in CURES), we converted zip codes to counties, using the table available at <http://www.unitedstateszipcodes.org/ca/>.

Zip code population estimates. We used zip code population estimates from the 2010 US Census, accessed at http://www.dof.ca.gov/research/demographic/state_census_data_center/census_2010/. We used Zip Code Tabulation Areas (ZCTAs) for 2010 developed by the US Census.