

Preventing Homeless Deaths: Low Barrier Buprenorphine and Other Practical Harm Reduction

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Disclosures

Barry Zevin is an employee of the San Francisco Department of Public Health

There are no relevant financial or personal relationships that could cause bias in this presentation

Barry Zevin does not accept money, gifts, incentives from the pharmaceutical industry or addiction treatment industry

“The ache for home lives in all of us, the safe place where we can go as we are and not be questioned.”

WELCOME

Maya Angelou—All God's Children Need Traveling Shoes



- Homelessness is a Result of Poverty
- Poverty is a Result of Disadvantage, Discrimination, Disability
- Homelessness is a Result of Lack of Affordable Housing
- Lack of Affordable Housing is a Result of Policy



\$16
BILLIONS

\$14

\$12

\$10

\$8

\$6

\$4

\$2

\$0

FROM REAGAN TO BUSH FOR TWENTY-FIVE YEARS A SPIRIT OF ABANDON

STARTING IN 1979* OUR FEDERAL GOVERNMENT BEGAN SLASHING BILLIONS FROM THE PUBLIC HOUSING BUDGET. THAT MONEY HAS NEVER BEEN REPLACED. IN 2003 OVER 1.3 MILLION CHILDREN IN AMERICA EXPERIENCED HOMELESSNESS.

AMERICA HAS ABANDONED ITS
SPIRIT OF HUMAN RIGHTS

1977

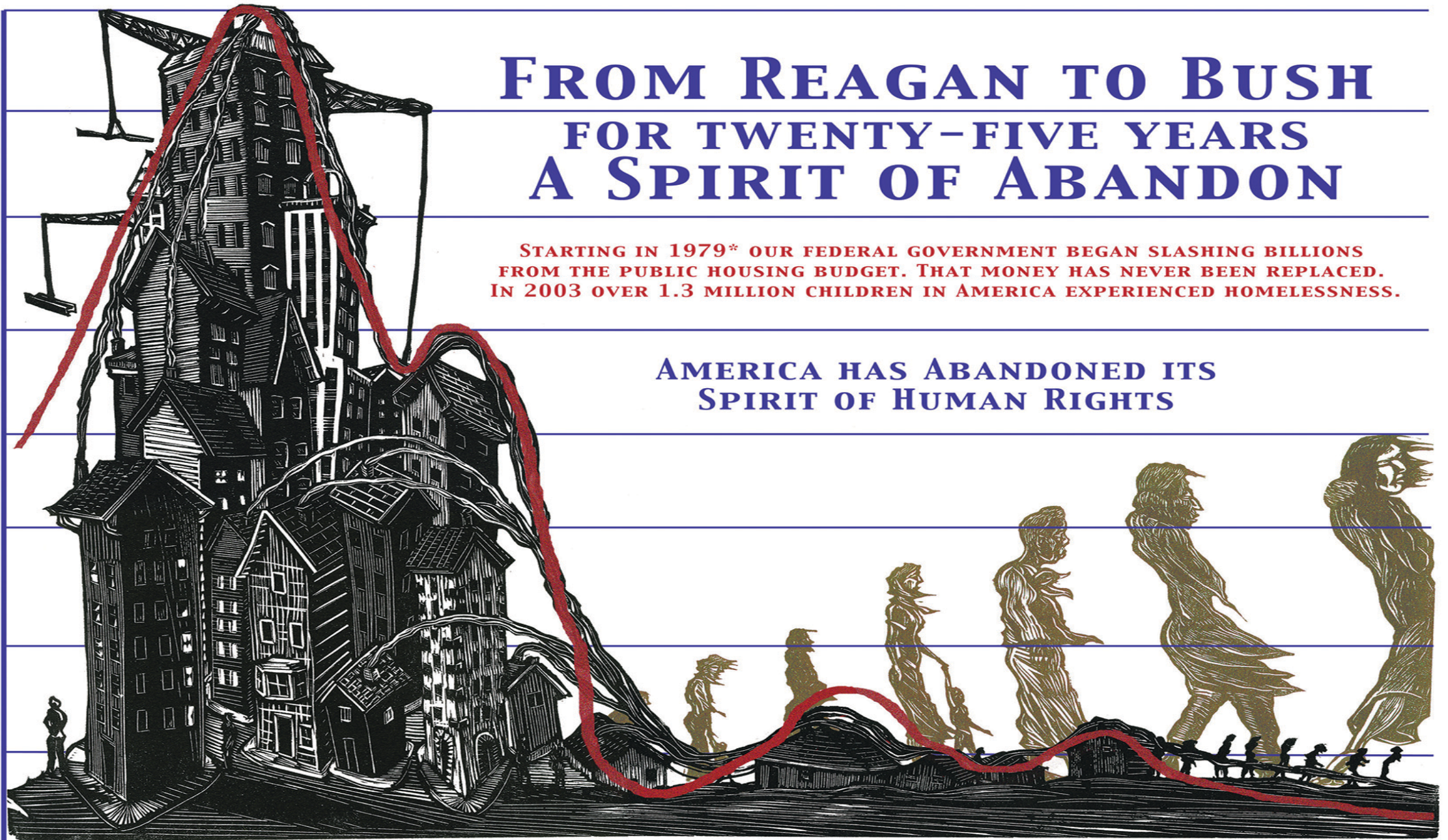
*SOURCE: U.S. GOVERNMENT
HUD BUDGET

1979

1983

1997

2003



How Many Homeless People?

- 549,928 US Single Night Homeless Count
- 118,142 California Single Night Count
- 7499 San Francisco Single Night Homeless Count
- 14,000 SFDPH registered for health services as Homeless

How Many Homeless People?

- Less than 120,819 US Homeless Children single night count
- 2,483,539 U.S. Department of Education's count of homeless children in U.S. public schools /2013 U.S. Census data
- 2.3 million - 3.5 million experience homelessness in a year (old data from before they stopped trying to count)

Most Minority Groups Make up a Larger Share of the Homeless Population Than They Do of the General Population

Race and ethnicity of those experiencing homelessness compared with the general population

RACE

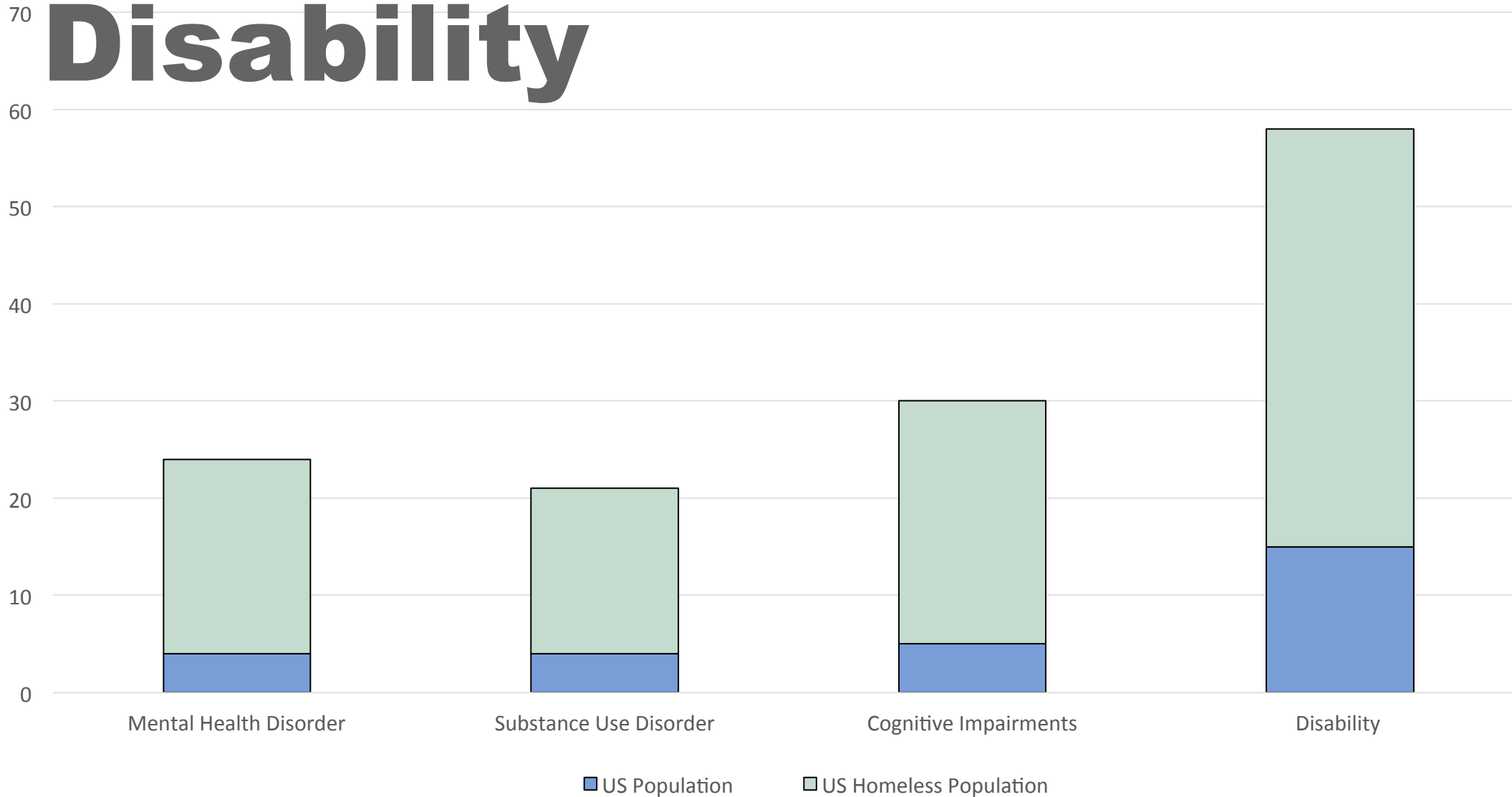
Homeless population



General population



Prevalence of Illness & Disability



No More Homeless Deaths!

National Homeless Deaths Memorial
Winter Solstice (December 21)



SAN FRANCISCO WHOLE PERSON CARE

Homeless Mortality in San Francisco

Opportunities for Prevention

Barry Zevin MD and Caroline Cawley MPH
February 19, 2019



What this work tells us

- The number of people experiencing homelessness who died in San Francisco from 2016 to 2018 based on extensive case review of medical examiner reports.
- Who these people were, and what interactions they had with health and social services prior to their deaths.
- The most common causes and locations of death among people experiencing homelessness in San Francisco.

What this work does not tell us

- What proportion of these deaths are attributable to homelessness itself
- The rate of deaths among people experiencing homelessness relative to the general population of San Francisco
- The number of homeless deaths in San Francisco that were not medical examiner cases

Opportunities

- Inform clinical practice and ongoing SFDPH initiatives
- Generate ideas for system-level efforts to prevent homeless deaths
- Respond to deaths in real time and monitor trends over time
- In conjunction with other SFDPH data holdings, use this information to to develop interagency prioritization process for individuals experiencing homelessness.

Key Findings

- Homeless deaths steady during time period 2016-2018 and likely unchanged compared to 1990s.
- High prevalence of alcohol use and overlap with high service utilizer population.
- High prevalence of methamphetamine use and overlap with criminal justice-involved population, high users of medical and psychiatric emergency services.
- High prevalence of opioid overdose but less than would be expected considering national trends over same time period.
- High prevalence of violence and other trauma.
- Role of shelter: annual deaths relative to other cities

Response

- Continue and enhance SFDPH response to opioid overdose epidemic
- Methamphetamine task force and other clinical and population health responses to methamphetamine use
- Evaluation and improvement of system of care for individuals with severe alcohol use disorder
- Incorporate homelessness as risk that may need specific preventive strategies into SFDPH efforts in violence and injury prevention
- Support intensive efforts to reduce unsheltered homeless

Methodology

HOW THIS WORK DIFFERS FROM PREVIOUS COUNTS OF HOMELESS DEATHS

- Annuals counts of homeless deaths in San Francisco typically limited to “No Fixed Address” cases
- This study also includes cases where homelessness can be confirmed through other data sources
- Inclusion of additional cases provides a more complete picture of deaths among individuals experiencing homelessness in San Francisco.
- Does not indicate that there has been an increase in homeless deaths.

Methodology

DATA SOURCES

OFFICE OF THE CHIEF MEDICAL EXAMINER (OCME)

The OCME's responsibilities include deaths from:

- Accident or injury
- Potential homicides or suicides
- Solitary deaths (body found)
- Physician unsure of cause of death
- Poisoning (including drugs)
- Deaths related to suspected criminal activity
- Deaths of unidentified individuals
- Indigent (unclaimed) cases

Cases forwarded to Street Medicine include:
No Fixed Address, Indigent, or other
suspected homeless based on circumstances

COORDINATED CARE MANAGEMENT SYSTEM (CCMS)

San Francisco Department of Public Health
data set

CCMS is made up of citywide health and social service data for homeless individuals cared for by the DPH and the Department of Homelessness and Supportive Housing.

Demographics

SAN FRANCISCO HOMELESS DEATHS 2016 – 2018

ANNUAL TOTALS

2016: **128**

2017: **128**

2018: **134**

Circumstances of death

MANNER OF DEATH — CATEGORIES FROM THE OFFICE OF THE CHIEF MEDICAL EXAMINER

53% Accidents

Unintentional overdose, fall, drowning, pedestrian vs vehicle, inhalation, exposure, vehicle driver

11% Homicide

Firearm, sharp injury (i.e. stabbing), blunt injury, officer-involved shooting

30% Natural

Cancer, COPD, cardiovascular disease

4% Suicide

Hanging, asphyxia, jump from building

2% Undetermined

Circumstances of death

CONTRIBUTING FACTORS — LISTED AS CAUSE OF DEATH, CONTRIBUTING CONDITION OR IN TOXICOLOGY

52% Drugs

29% Natural history of chronic disease

32% Alcohol

27% Violence or traumatic injury

Percentages do not add up to 100, as there are often multiple contributing factors e.g., fall (violent or traumatic injury) while intoxicated (alcohol-related)

TOXICOLOGY RESULTS — SUBSTANCES PRESENT IN REPORTS N = CASES WITH TOXICOLOGY REPORTS AVAILABLE

47% Methamphetamine

36% Cocaine

45% Opioids

30% Alcohol

27% Sedatives

Fentanyl present in 4% of reports; Buprenorphine present in 0 cases

Demographics

GENDER, RACE/ETHNICITY, AND AGE

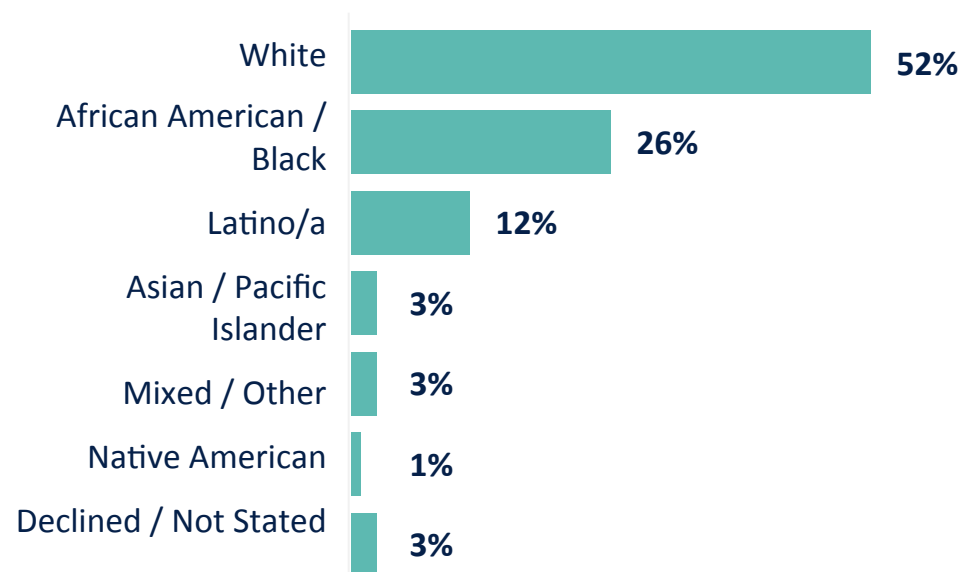
GENDER

82% of cases were **male**, **17%** female, **<1%** transgender

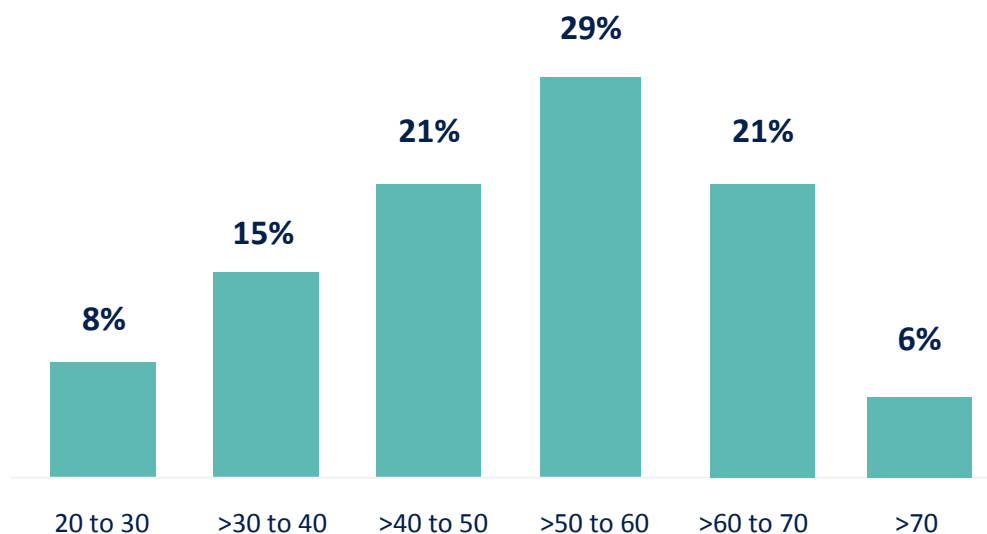
AGE

Average age of **51** (*min=21, max=86*)

RACE AND ETHNICITY



AGE AT TIME OF DEATH



Circumstances of death

MOST COMMON CAUSES OF DEATH BASED ON AUTOPSY REPORTS

1. Acute Drug Toxicity (unintended overdose)	35.4%
2. Cardiovascular Disease	15.7%
3. Chronic alcohol use and associated conditions (e.g., liver failure)	5.6%
4. Gunshot wound (includes officer-involved shootings)	5.2%
5. Acute alcohol toxicity	4.9%
6. Sharp force injury (i.e., stabbing)	4.1%
7. Blunt force injury	3.7%
8. TIE – Cancer, Falls	3.4%
10. TIE – Drowning, Infectious disease Pulmonary conditions (e.g., COPD)	3.0%

Circumstances of death

CONTRIBUTING FACTORS — LISTED AS CAUSE OF DEATH, CONTRIBUTING CONDITION OR IN TOXICOLOGY

52% Drugs

32% Alcohol

29% Natural history of chronic disease

27% Violence or traumatic injury

11% Drugs + Alcohol

11% Drugs + violence/injury

10% Alcohol + violence/injury

9% Alcohol + chronic disease

Percentages do not add up to 100, as there are often multiple contributing factors e.g., fall (violent or traumatic injury) while intoxicated (alcohol-related)

Circumstances of death

TOXICOLOGY RESULTS — SUBSTANCES PRESENT IN REPORTS

47% Methamphetamine

45% Opioids

Fentanyl present in 4% of reports; Buprenorphine present in 0 cases

36% Cocaine

30% Alcohol

27% Sedatives

25% Meth + Opioid

20% Opioid + Cocaine

17% Meth + Cocaine

11% Opioid + sedative

10% Alcohol + sedative

Circumstances of death

TOXICOLOGY RESULTS BY RACE/ETHNICITY

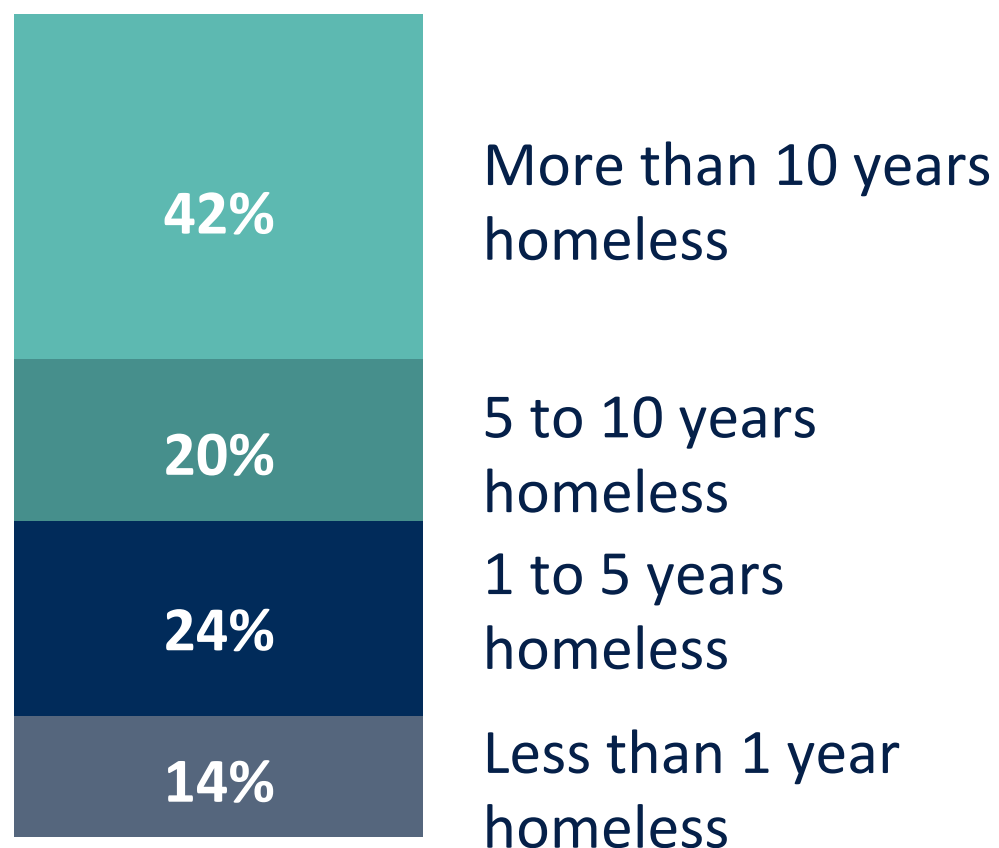
	ALCOHOL	COCAINE	METH	OPIOIDS
African American / Black	23%	56%	38%	36%
Asian / Pacific Islander	25%*	50%*	25%*	0%*
Latino/a	43%	9%	30%	22%
White	30%	31%	53%	50%

**interpret with caution, percentage based on low report total (n<10)*

Demographics

LIVING SITUATION

HOUSING STATUS—YEARS HOMELESS IN SF*



**Excludes individuals with no CCMS living situation records
Span of time includes continuous or intermittent homeless experience*

LAST SHELTER OR NAVIGATION CENTER STAY PRIOR TO DEATH

No stays in last 12 months	68%
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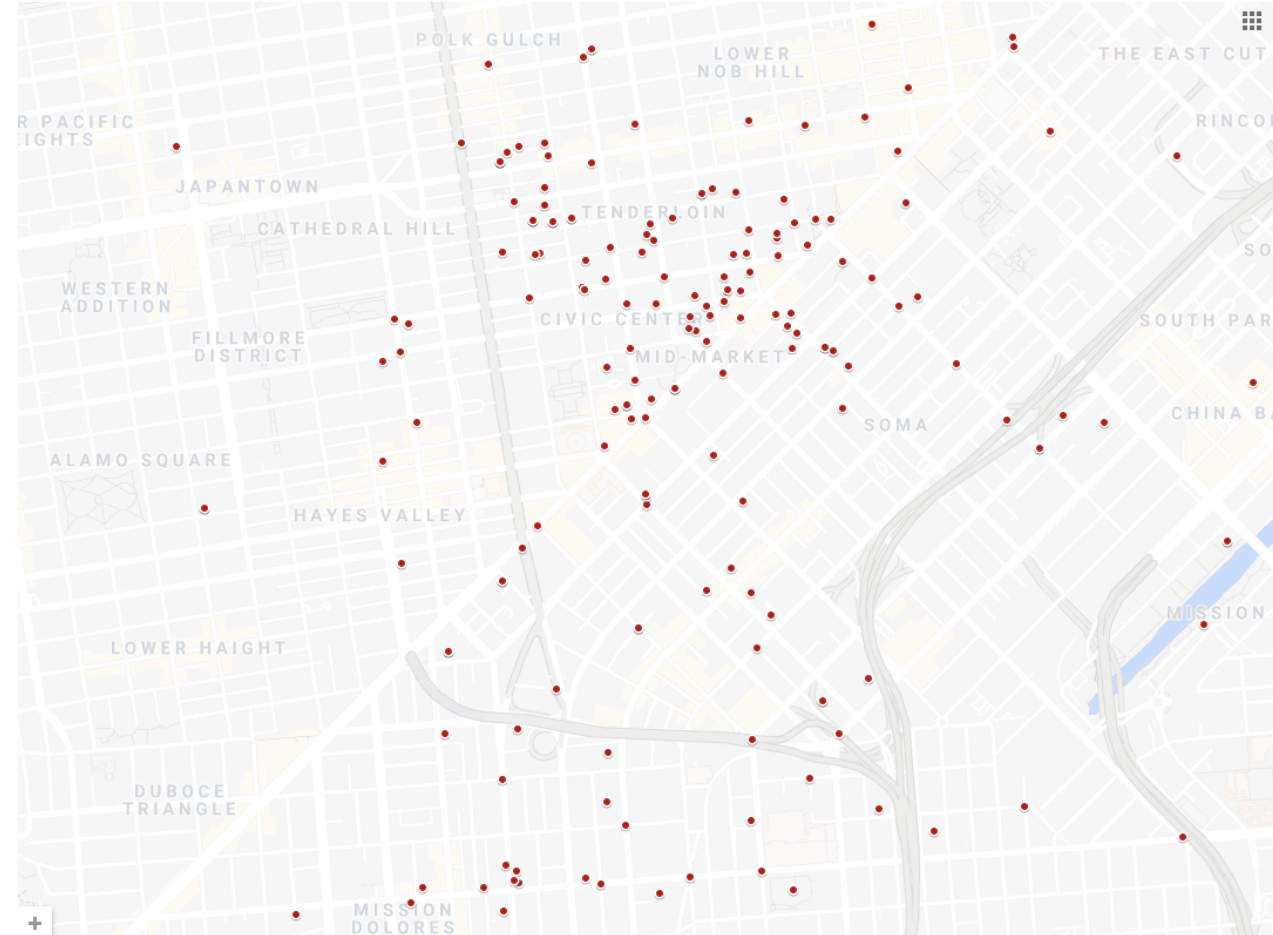
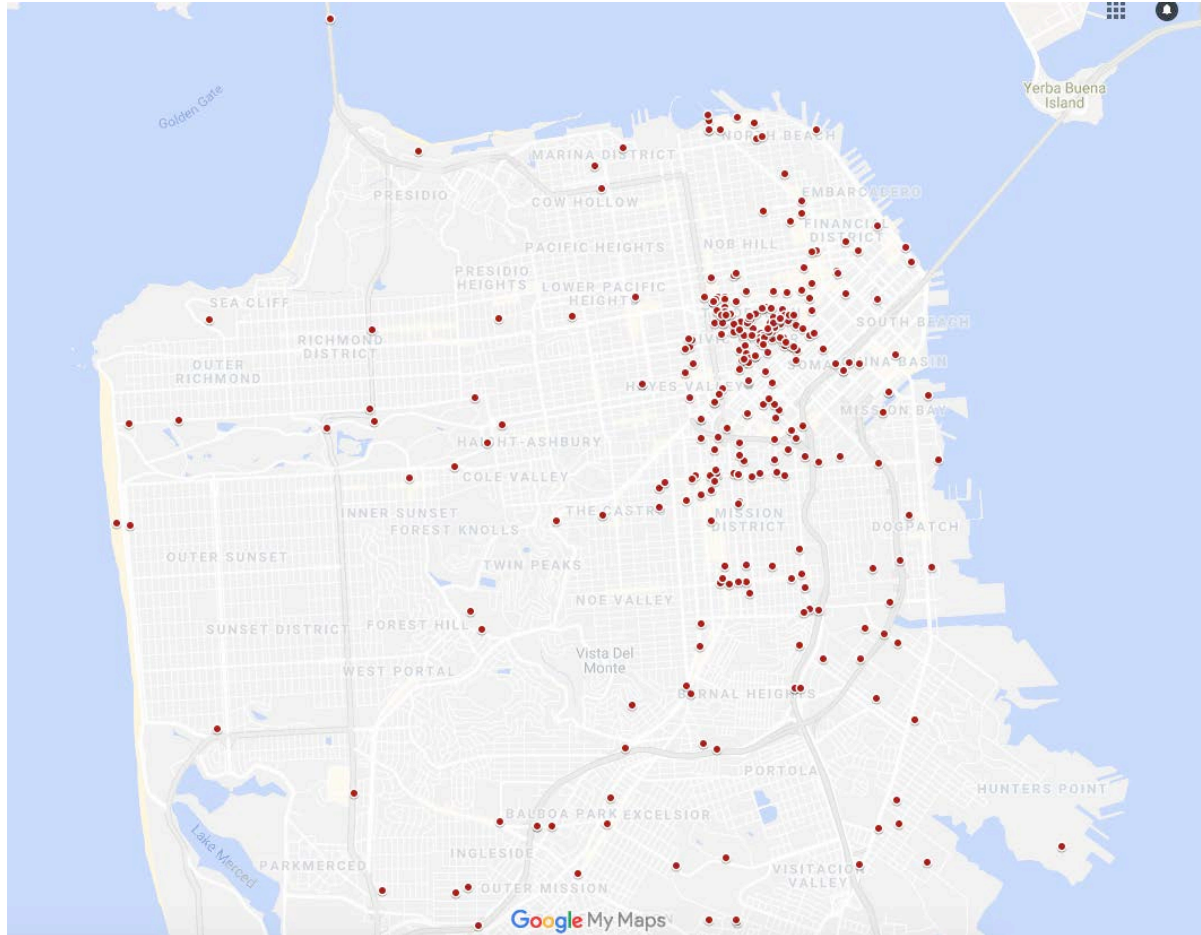
URGENT/EMERGENT SERVICE UTILIZATION IN FISCAL YEAR BEFORE DEATH

Zero urgent/emergent utilization	46%
1–10 visits/stays	39%

**Sum of ED visits, inpatient stays, urgent care visits, PES visits, psych inpatient stays, Dore Urgent Care Psych visits, sobering center visits, medical detox stays, social detox stays*

Circumstances of death

LOCATION OF INCIDENT (MAY DIFFER FROM LOCATION OF DEATH)



Location of incident available for 308 cases

San Francisco Department of Public Health Street Medicine Team Low Barrier Buprenorphine Pilot Program

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SAN FRANCISCO DEPARTMENT OF PUBLIC HEALTH

Background

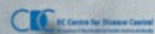
- 2016: Solutions for problem of “public injectors” sought
 - Public complaints
 - Needle waste
 - Overdose and disease transmission risks
- People who inject drugs in public
 - Are typically homeless
 - Use heroin → have **severe opioid use disorder**
 - Experience barriers to using existing methadone clinics or buprenorphine treatment



FENTANYL

CAN BE DEADLY WHEN CUT WITH THE DRUGS YOU'RE TAKING

KNOW YOUR SOURCE? **BE DRUG SMART**
KNOWYOURSOURCE.CA



DEADLY CARFENTANIL :

**100 TIMES STRONGER
THAN FENTANYL**



SOBERATION

General Response / Harm Reduction Approach

- Keep people alive and prevent overdose death
 - Pilot safe recovery at sobering center
 - Naloxone access
- Education and outreach related to reducing syringe waste
 - Various approaches with multiple public health partners
- **Need for low barrier access to buprenorphine treatment**
 - Targeted outreach
 - Patient-centered treatment adapted to needs of homeless population



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Opioid Use Disorder and Buprenorphine

- Opioid Use Disorder
 - **Chronic medical condition** characterized by loss of control and compulsive use of opioids despite harm
- Treatment for Opioid Use Disorder
 - **1st line: opioid agonist therapy = methadone or buprenorphine**
 - Retains patients in care, decreases mortality, reduces opioid use, improves infectious disease transmission, improves other health and social outcomes
 - Methadone: highly regulated, dispensed daily through OTP
 - Buprenorphine: prescribed in office-based setting by waived provider
 - Historically used for more “stable” patients
 - “Induction” historically done in office





1

METHADONE

Opioid agonist

Tx within Opioid
Treatment Program

Highly structured

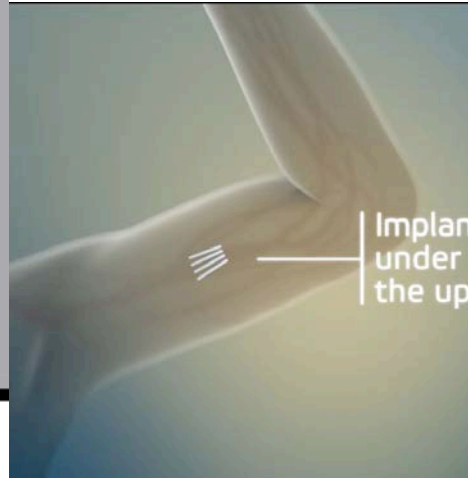
BUPRENORPHINE

Partial agonist

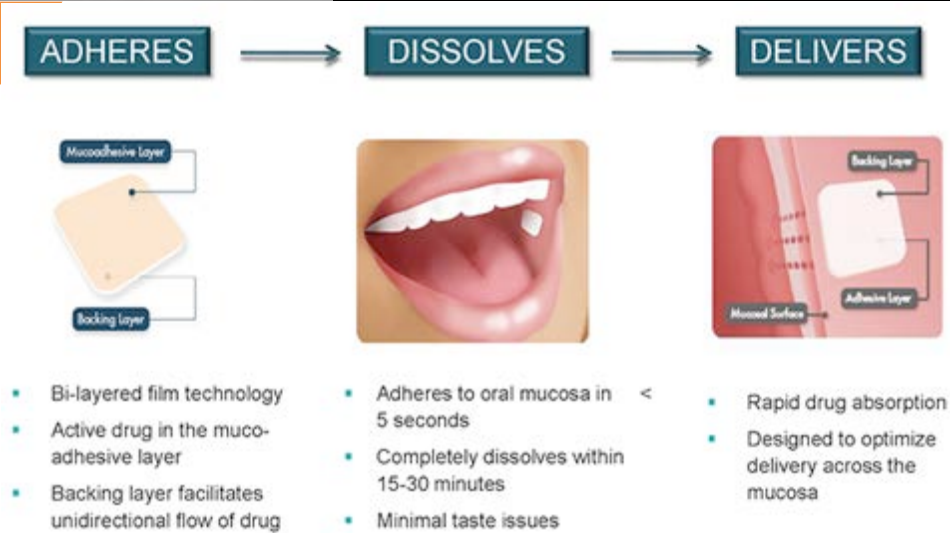
Office based
treatment within
primary care



**Buprenorphine / Naloxone
(Sublingual)
Actavis**



New Buprenorphine Forms and Formulations



But really: Isn't MAT just exchanging one addiction for another?

You know the usual arguments in favor but do you know about..

Improvement in physiology

Stress responses improved

Stabilization in neuro-immune-endocrine system

Sexual function improves



Naloxone Nasal Spray



Barriers to Opioid Use Disorder Treatment

- **Patient challenges**
 - No Medi-Cal/Medi-Cal inactive
 - No ID
 - No phone
 - Difficulty making appointments
 - Can't / won't leave stuff / pets
 - Can't / won't leave partner
 - Lack of trust for doctors
 - Warrants or other criminal justice complications
 - 86'd from clinics
 - Chaotic constant drug use
 - Acute medical issues
 - "They just want to control you"
- **Prescriber perception of patients**
 - "They are out of control"
 - Frequent lost or stolen medication
 - High risk of diversion of medication
 - Poor understanding of reasons not to divert medication
 - Goals other than abstinence
 - Poor previous track record of adherence to medical plans
 - Missed appointments
 - Safety risk
 - Time consuming and manipulative
- **Prescriber perception of buprenorphine**
 - Handle "red flags" same as for opioid analgesics
 - Dangerous and difficult to use

Pilot Target Population and Resources

- Homeless

- Injecting drugs in public
- Severe opioid use disorder
- High risk / high vulnerability
- Not able to benefit from care otherwise available in SF

- Street Medicine Team

- Redeployed current resources
- 1 FTE outreach worker only additional budget



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Street Medicine Team Principles

- Outreach, engagement, trust-building
- Assessment
- Transitional primary care model
 - Accessible, acceptable, and effective care
 - Comprehensive view of healthcare
 - Collaborative
 - Transition when stable



Photo credit SF Chronicle

Procedures

- Patients with opioid use disorder engaged by trained peer outreach workers
- Offered evaluation by medical team in usual streets and parks location, at a local harm reduction syringe access program, in a small open access medical clinic, or in a navigation center



Procedures

- Comprehensive assessment and extensive education by medical provider
- Prescription for buprenorphine
 - Typically through Community Behavioral Health Services pharmacy
- All inductions non-facility based
- Care plan determined in flexible manner with attention to prior barriers patients have faced in accessing treatment
- Primary goal is retention in care
- Secondary goals of improved health, reduction in opioid use, and abstinence



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Procedures

- Typical follow-up 2-4 days after initial visit
- During maintenance, typical visit frequency weekly to biweekly and no less than monthly
 - Drop-in clinic access 4 days per week
 - Outreach to those unable to come to clinic
 - Clinician availability at other community sites (harm reduction center, navigation center)
- Counseling available through Center for Harm Reduction Therapy

Procedures

- Urine toxicology and urine buprenorphine testing done on schedule determined by clinical indications, patient stability, and patient preference
 - Typically done at least monthly
 - In some cases, utox testing is a barrier to care and may be deferred
- For patients who are unstable, options include:
 - observed dosing up to 5 days per week at CBHS pharmacy
 - referral to OTP
 - referral to medically-supported detox or residential treatment program



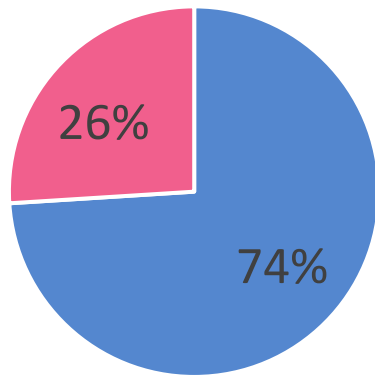
Pilot Program Evaluation

- Aims

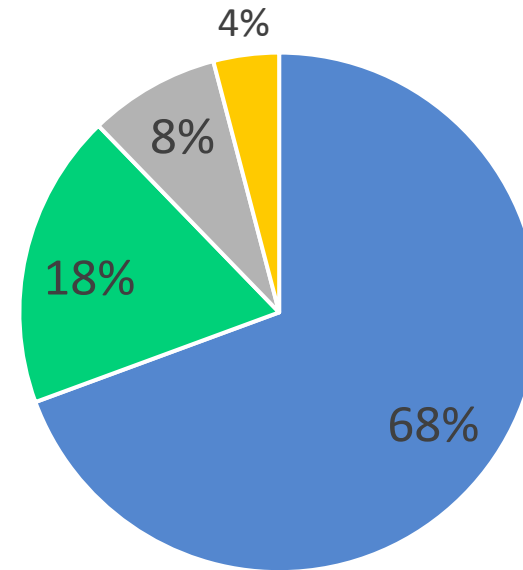
- Characterize the population participating in low barrier buprenorphine treatment
- Assess retention in treatment and reduction in opioid use
- Describe adverse events

Results: Patient Population

- Between 11/1/2016 and 10/31/2017, 95 patients were evaluated and received at least one prescription for buprenorphine
 - Average age 39.2 (range 22 - 66)



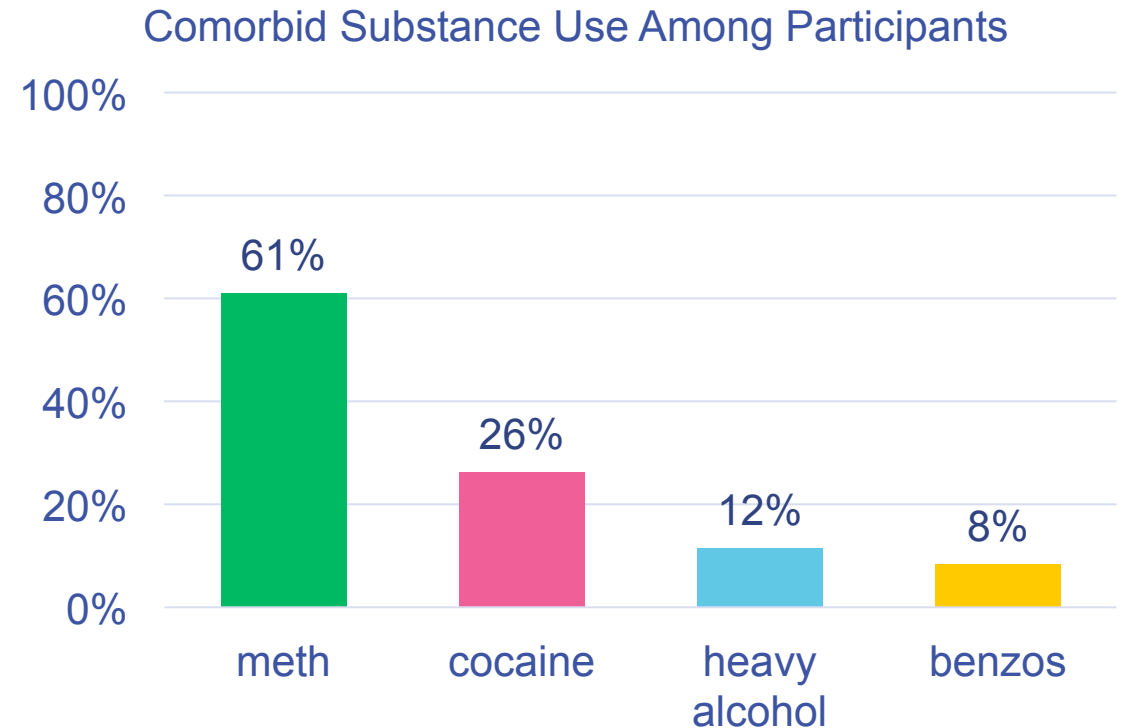
■ male ■ female



■ white ■ African-American
■ Hispanic ■ other

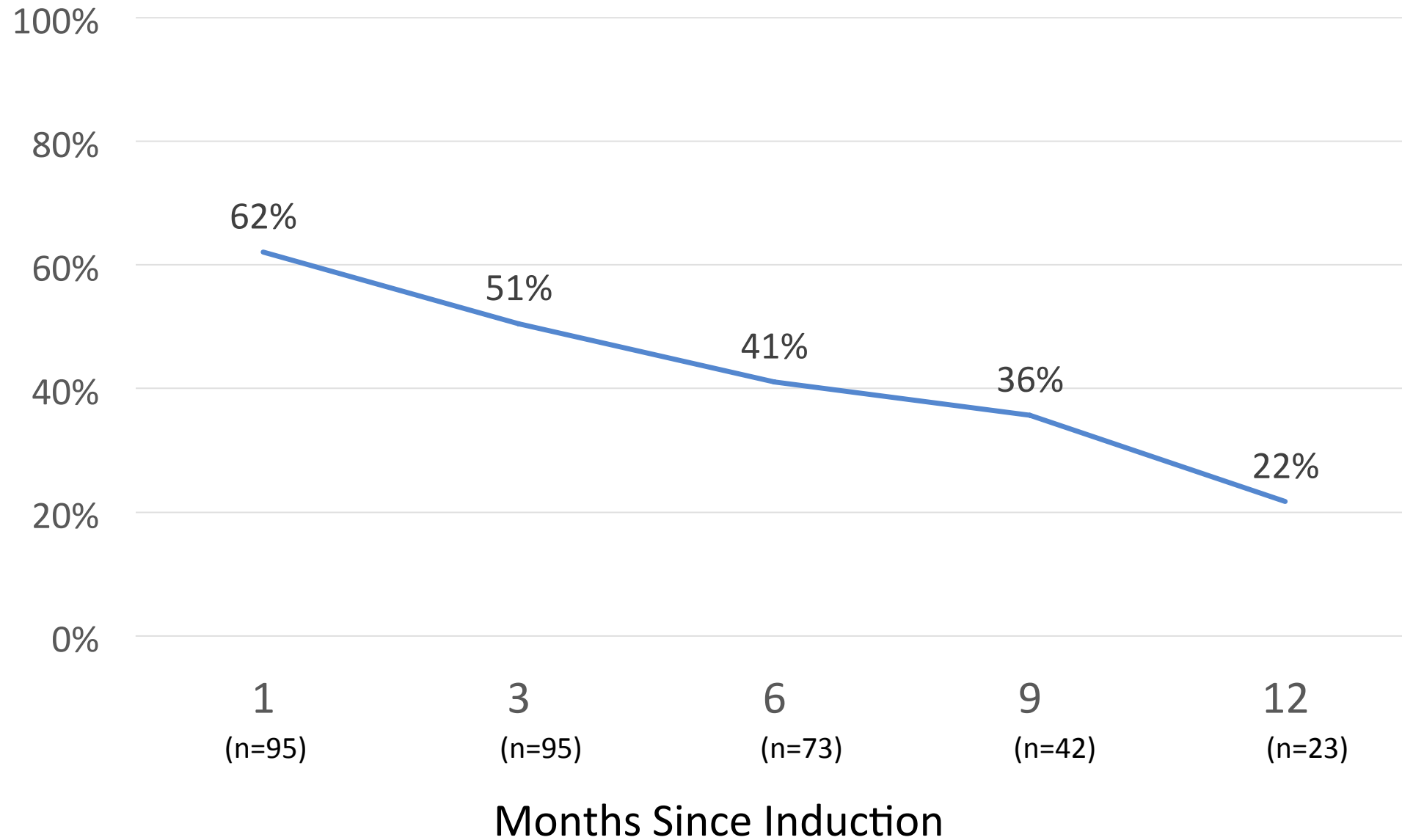
Results: Patient Population

- 58% have a chronic medical condition
- 66% have a psychiatric condition
 - 26% have bipolar disorder or a psychotic disorder
- 24% previously sought buprenorphine treatment at the SF Office-Based Buprenorphine Induction Clinic (OBIC)

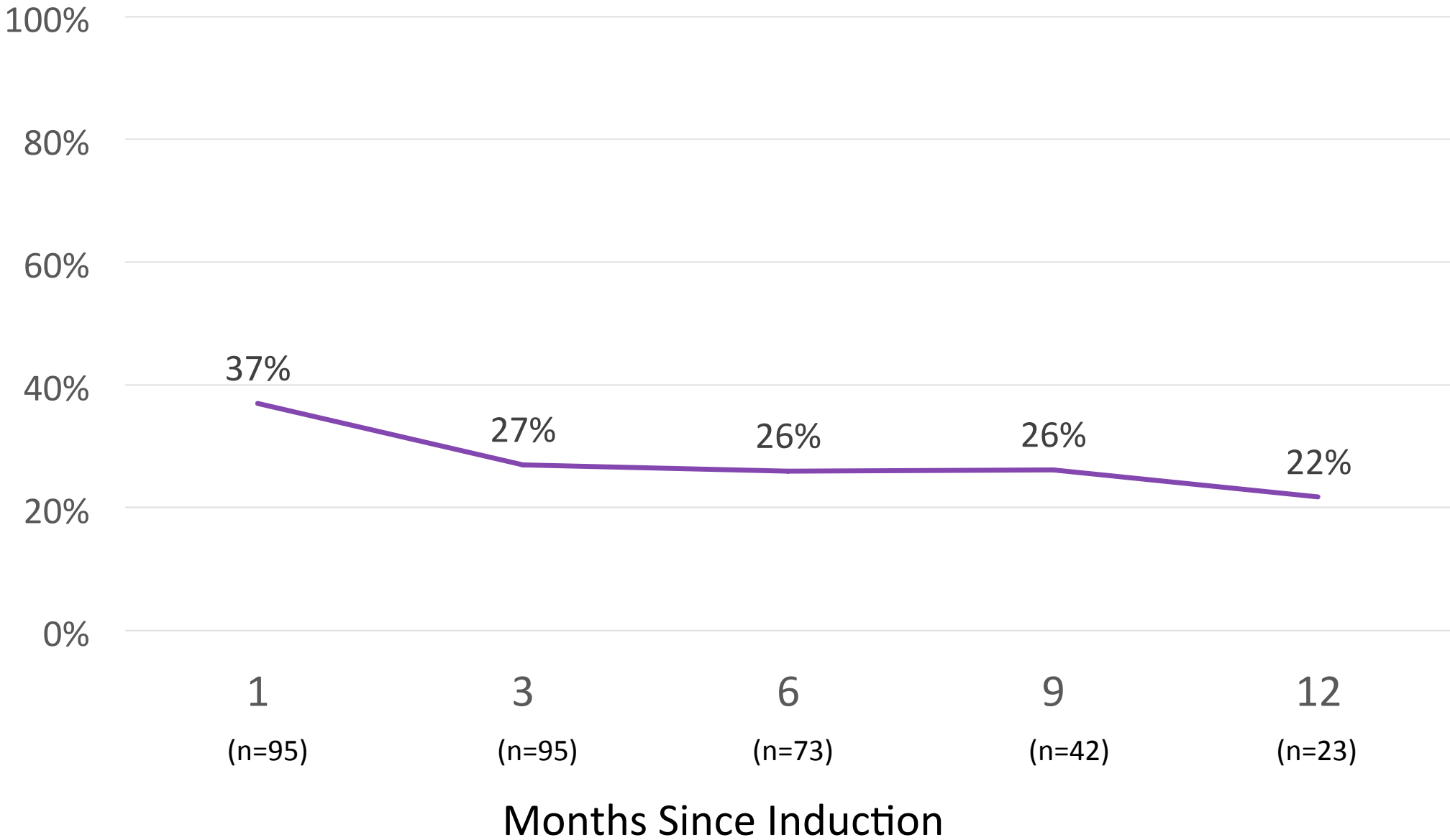


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Retention in Care By Month



Retention on Buprenorphine By Month

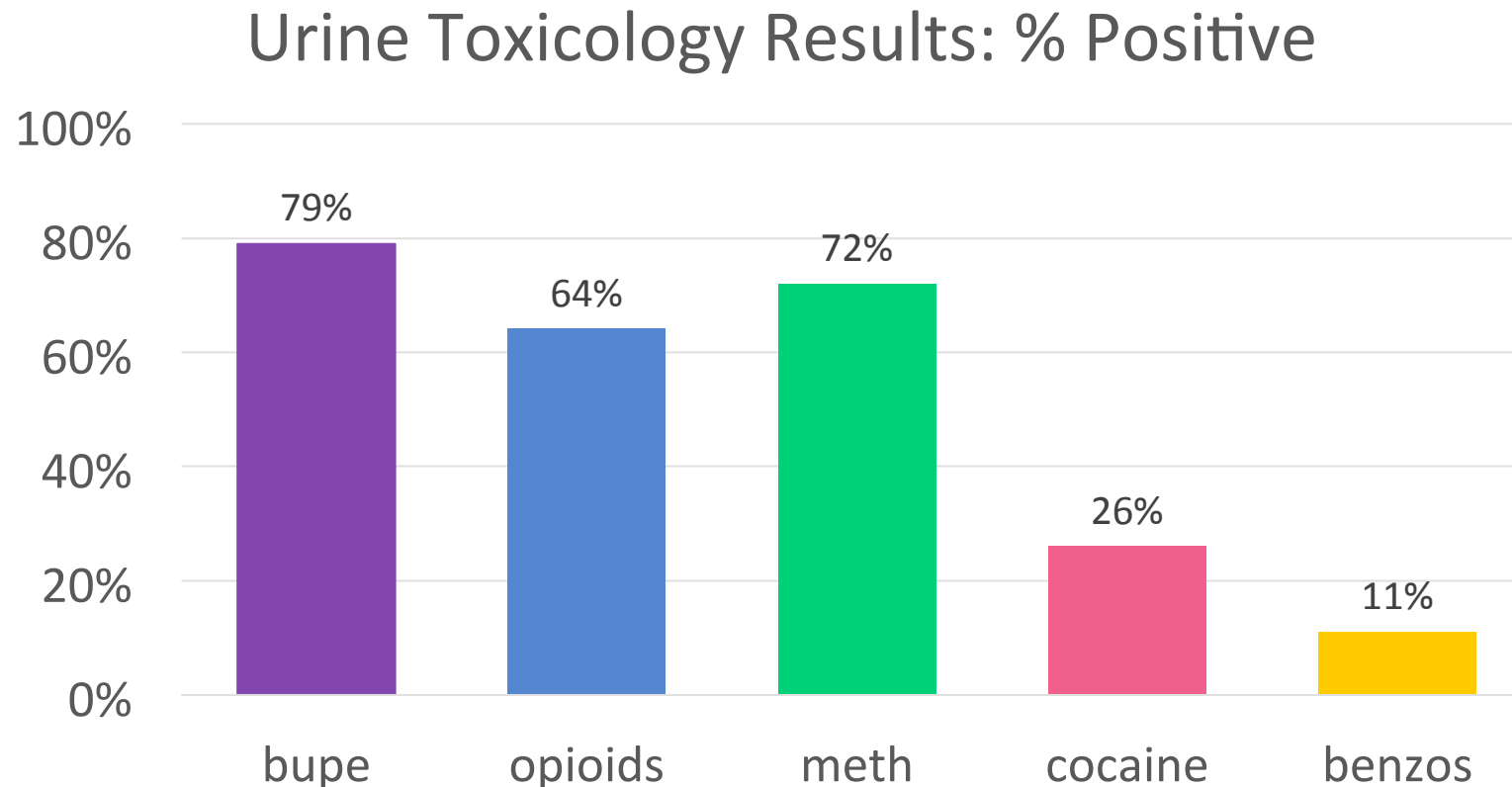


Results

- 70% of patients followed up after induction
- Interruptions in treatment were common: 42% of patients who followed up after induction had a treatment interruption of 1 month or greater with return to care
 - Shorter treatment interruptions also very common
- Average maintenance dose of buprenorphine 20.6 mg
- 75% of patients used CBHS pharmacy

Results: Urine Toxicology

- 77% of patients who had any follow-up after induction had a utox test completed
 - Average 2.7 utox tests per patient (range 0 – 16)



Results: Decreased Opioid Use

- 36% of urine toxicology tests were opioid-negative
- 34% of those with any follow-up after induction had at least one opioid-negative test
- 14% of those with any follow-up after induction had abstinence from opioids on all toxicology tests

Results: Adverse Events

Event	#	Comments
Death	2	Both likely overdose after release from jail, awaiting medical examiner reports
Opioid overdose requiring naloxone*	5	All thought to be heroin- or fentanyl-related
Possible opioid overdose not requiring naloxone*	6	

*only includes those that presented to medical care

- Five patients referred to higher level of care for clinical instability and/or concern for diversion

Challenges

- Demand outweighs capacity of team
 - Team with 1 MD, 1 part time fellow, and 1 NP
 - Team with many other priorities and demands on resources
- Barriers to transition to formal substance use disorder treatment
- Instances of diversion
- Current substance use pattern of combined methamphetamine and opioid use very difficult to treat
- Patients' basic needs are unmet

Strengths

- Team already working with population
- Prescriber with extensive experience prescribing buprenorphine
- Opportunity to work with pharmacy with commitment to population and skilled clinical pharmacists
- Support from SFDPH (commitment to harm reduction)

Discussion

- Pilot successfully engaged and retained a subset of highly vulnerable patients in care and in continued treatment with buprenorphine
- Continuous treatment with buprenorphine in about 25% of patients over 1 year
 - Intermittent buprenorphine use more common
 - Frequent brief and prolonged treatment interruptions
- While many patients continue to use heroin and meth, evidence of decreased opioid use and abstinence in some patients
- Value of dedicated clinical expert clinical pharmacists at CBHS pharmacy cannot be overstated
- **While continuous treatment with buprenorphine and abstinence are goals, intermittent treatment with buprenorphine and decreased opioid use likely confer significant reduction in opioid and injection-related harms**



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Update on Low Barrier MAT

- As of 4/15/19
- 490 patients prescribed buprenorphine at least once
- 150 Active Patients
- More than 1/3 retained in care after 1 year
- Many kinds of success stories



Coming soon?:
Safe Consumption
Services



Thank you!

Thank You To My Colleagues and My Patients Who I Learn From Every Day

Street Medicine and Shelter Health

SFDPH / UCSF Addiction Medicine Fellowship – Jamie Carter MD

San Francisco Whole Person Care

UCSF Evaluation of Whole Person Care

San Francisco Department of Public Health

Special thanks to Amber Reed for her design work

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Whole Person Care (www.sfdph.org/WPC)