



Department of Health, Adult Mental Health Division
EMS & Injury Prevention System Branch
Disease Outbreak Control Division
Council of State and Territorial Epidemiologists

WEBINAR 3 OF 4

HAWAII OD2A
P2P WEBINAR SERIES

From Data to Dashboard:

*A Behavioral Health Administration Approach,
Including Department of Health Divisions*

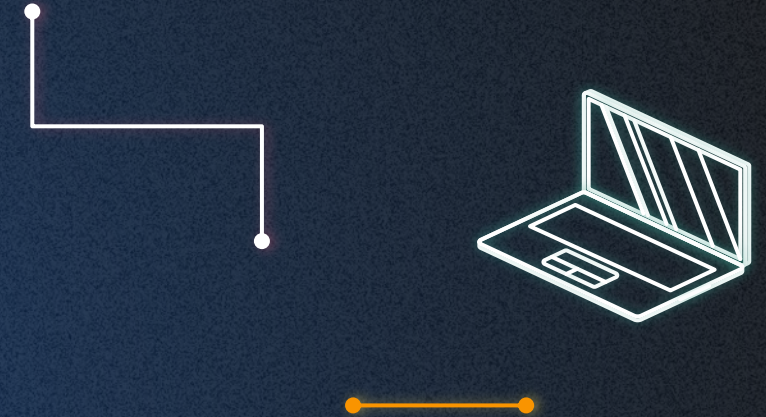
PRESENTERS

Amy B. Curtis, PhD, MPH, Chief, State of Hawaii Department of Health,
Adult Mental Health Division, Behavioral Health Administration

Daniel Galanis, PhD, Epidemiologist, State of Hawaii, Department of Health,
EMS & Injury Prevention System Branch

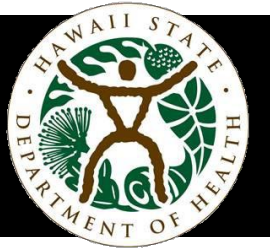
Jared Wagner, MPH, Syndromic Surveillance Coordinator, State of Hawaii, Department of Health,
Disease Outbreak Control Division

Danielle Boyd, MPH, Program Analyst, Council of State and Territorial Epidemiologists



FRIDAY, MAY 27, 2022
9:00 am HST/3:00 pm EST

Learning Objectives

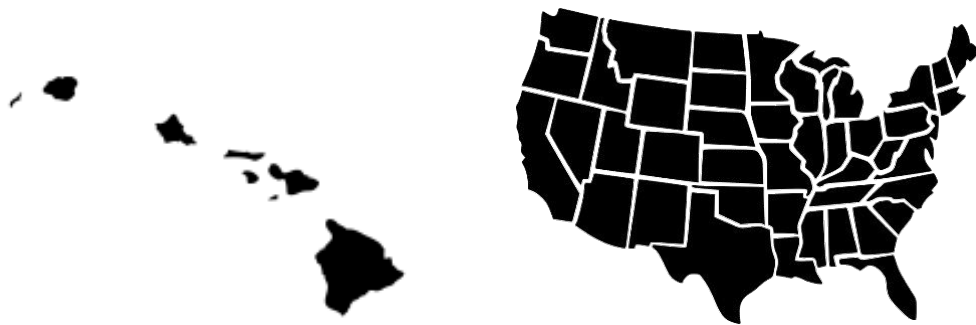


- Describe various datasets and who administers it
- Describe what data is available for each state, what data is available for the nation, and for which years this data is available
- Describe how data is collected and structured, and the limitations of various datasets
- Describe how these data can be used on a dashboard

Existing Data Sources for Opioid Surveillance & Key Considerations



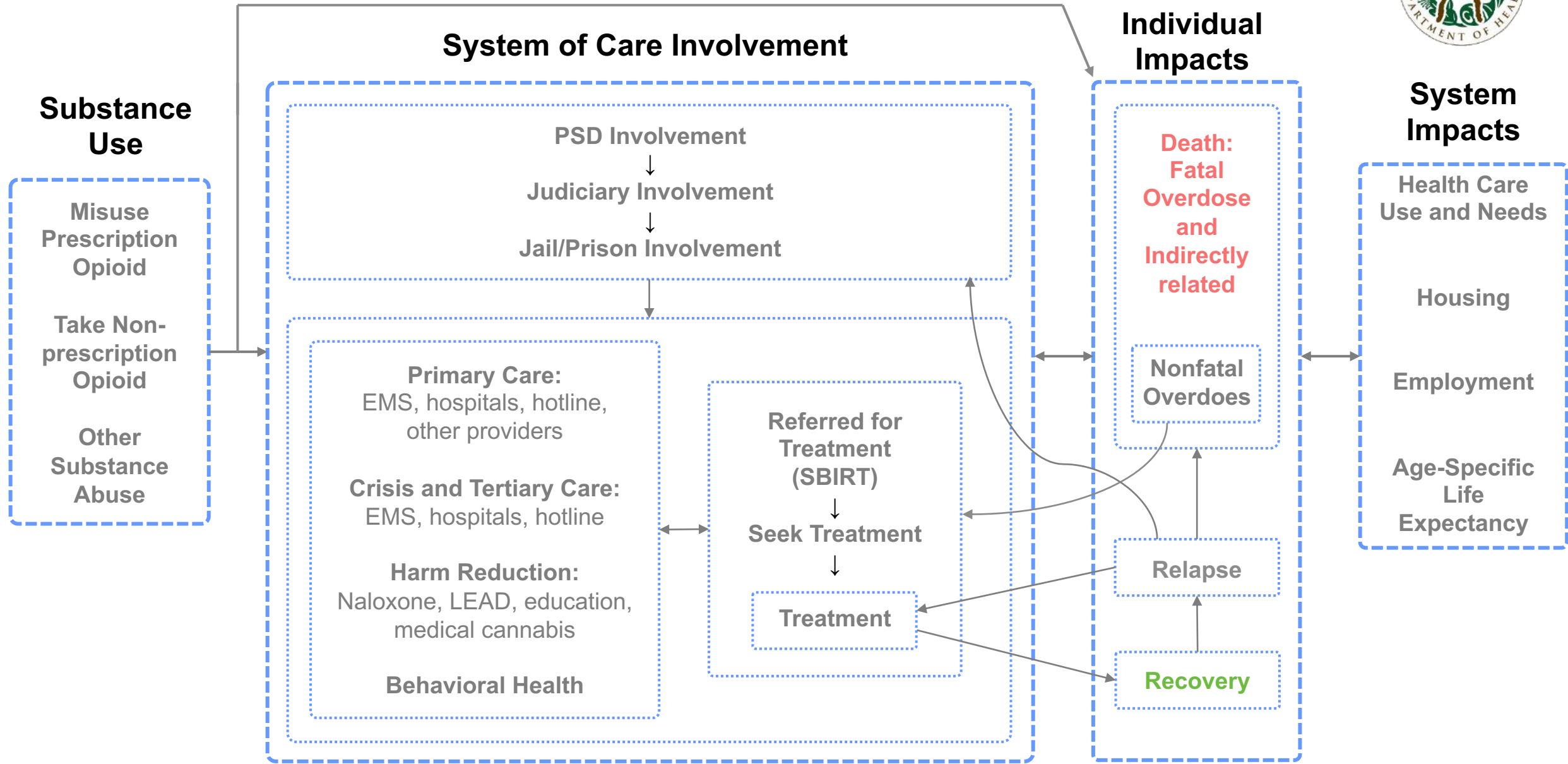
1. National Surveys (e.g., NSDUH, YRBS)
2. Electronic Health Records (EHR) and claims data
3. Mortality records (e.g., death certificates, autopsy reports)
4. Narcotics/Police records
5. Prescription drug-monitoring data (e.g. PDMPs)
6. Contextual and policy data



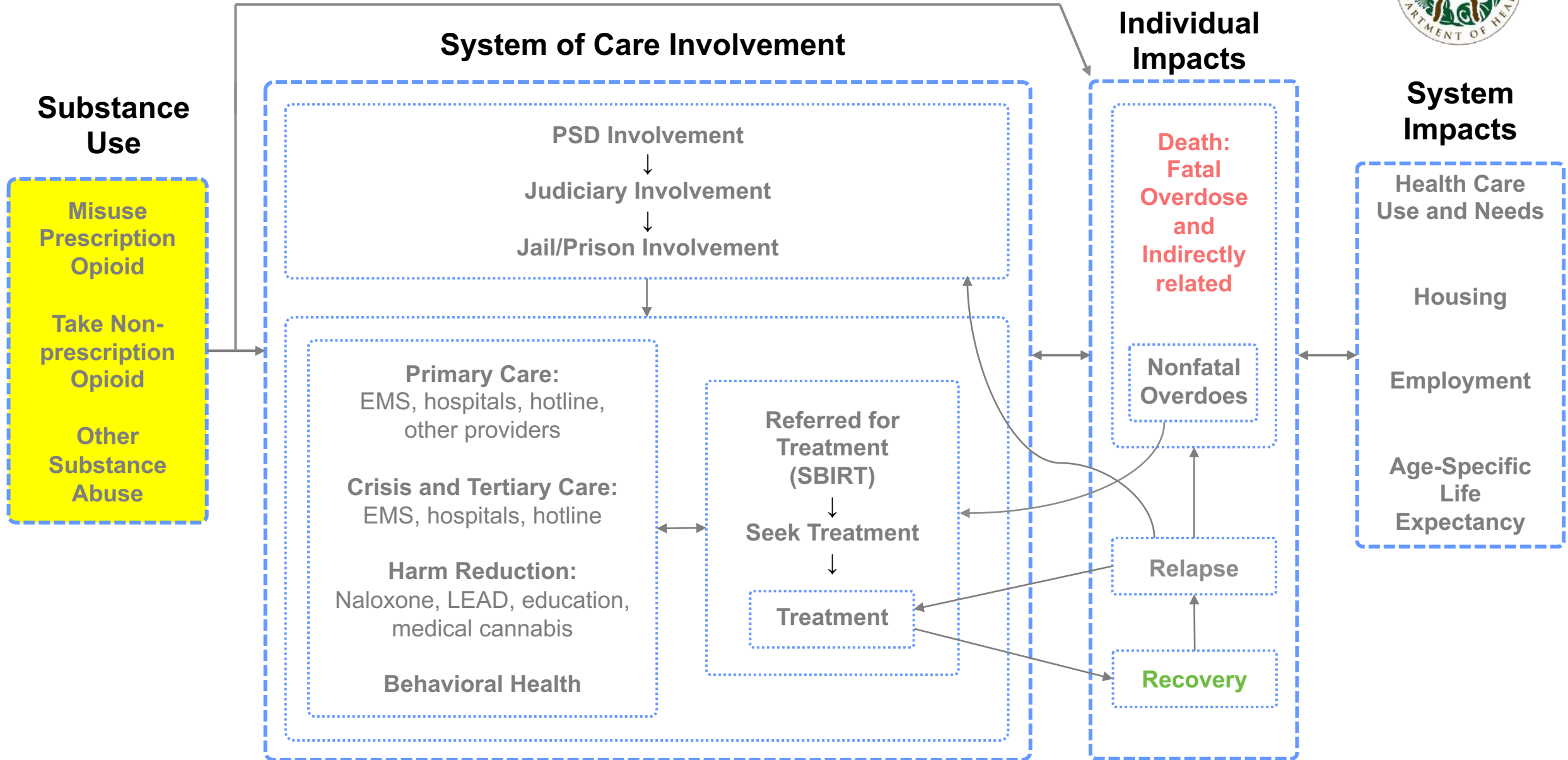
KEY CONSIDERATIONS

- Data source
- Outcome
- Data type
- Possible to obtain real-time data?
- How to use?
- Where in the logic model?

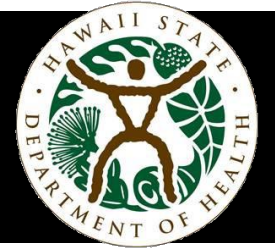
Individual and System Impacts of Opioid Epidemic



Individual and System Impacts of Opioid Epidemic



Substance Use

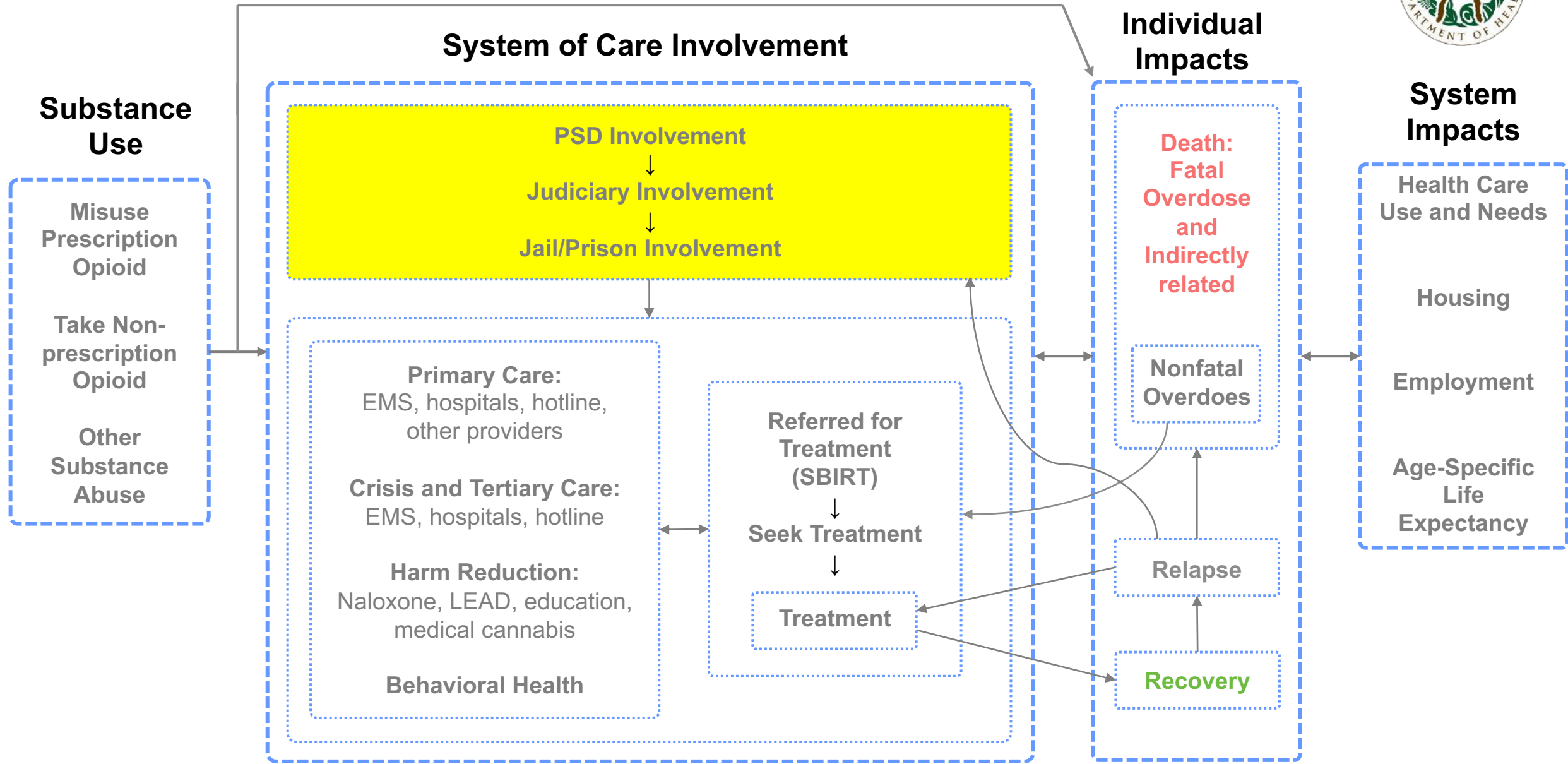


Substance Use

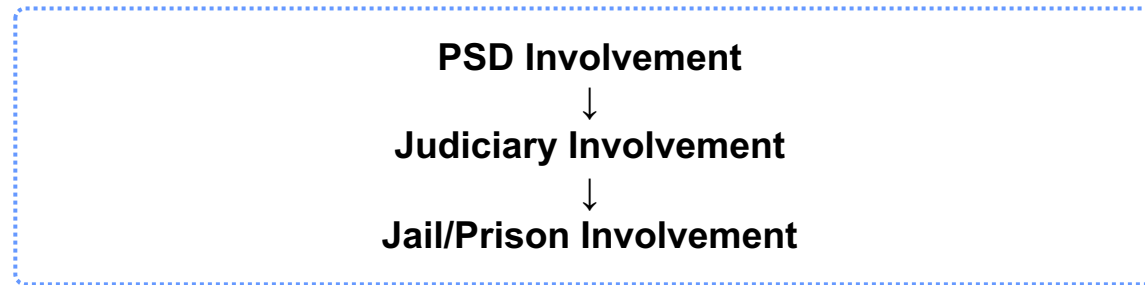
- Misuse Prescription Opioid
- Take Non-prescription Opioid
- Other Substance Abuse

Data Source	Brief Description	Data Type	Use
Prescription drug monitoring program	Tracks prescriptions of controlled substances in a state	Dispensed opioid prescriptions	Statewide, systematic monitoring of prescribed opioid consumption, by type, amount and county
National Survey on Drug Use and Health (NSDUH)	National survey, self-report, get state estimates on SUD	Survey	Identify prevalence of opioid abuse alone and with MI
Behavior Risk Factor Surveillance System (BRFSS)	National telephone survey, adult, self-report, get estimates county level	Survey	Have series of questions on prescription pain meds use, 2015-17
Youth Risk Behavior Surveillance System (YRBSS)	National survey, youth, self-report	Survey	State estimates on use, include 1st use
Hawaii High Intensity Drug Trafficking Areas	Illicit drug street prices	Law enforcement information	Identify possible current and future use trends based on pricing

Individual and System Impacts of Opioid Epidemic

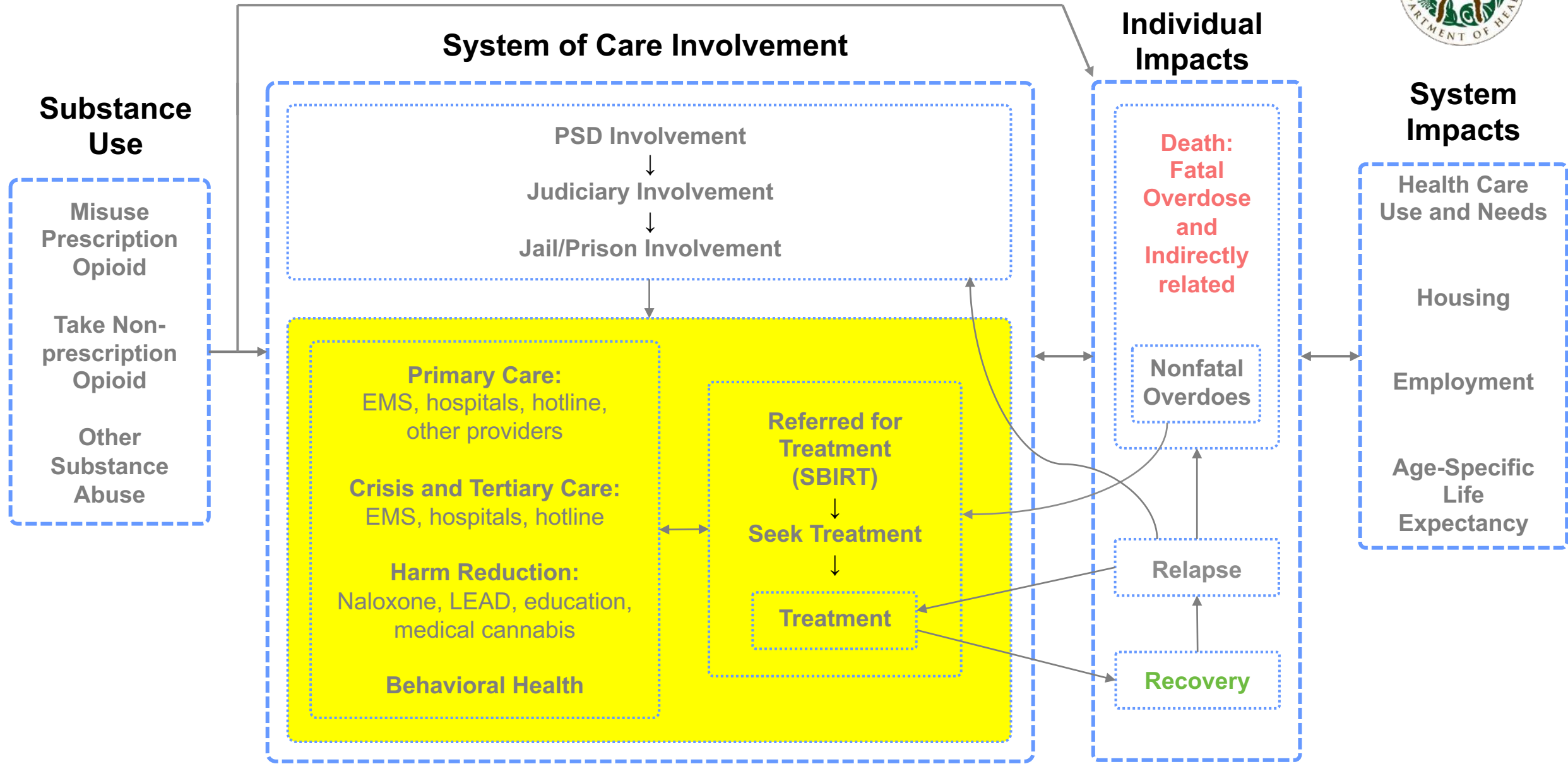


System of Care Involvement: Public Safety, Judiciary



Data Source	Brief Description	Data Type	Use
Drug Court	Number of court cases with opioid use involvement	Court records	Determine trends in opioid involvement in drug-related court cases
Jail/Prison	# and % of inmates with documented opioid abuse diagnosis	Jail/prison health records	Determine trends in opioid abuse among jail and prison inmates
Probation and parole	Assessment of substance use among offenders upon intake and periodically for reassessment	Probation and parole records, including surveys	Determine trends in opioid abuse among those on parole and probation

Individual and System Impacts of Opioid Epidemic

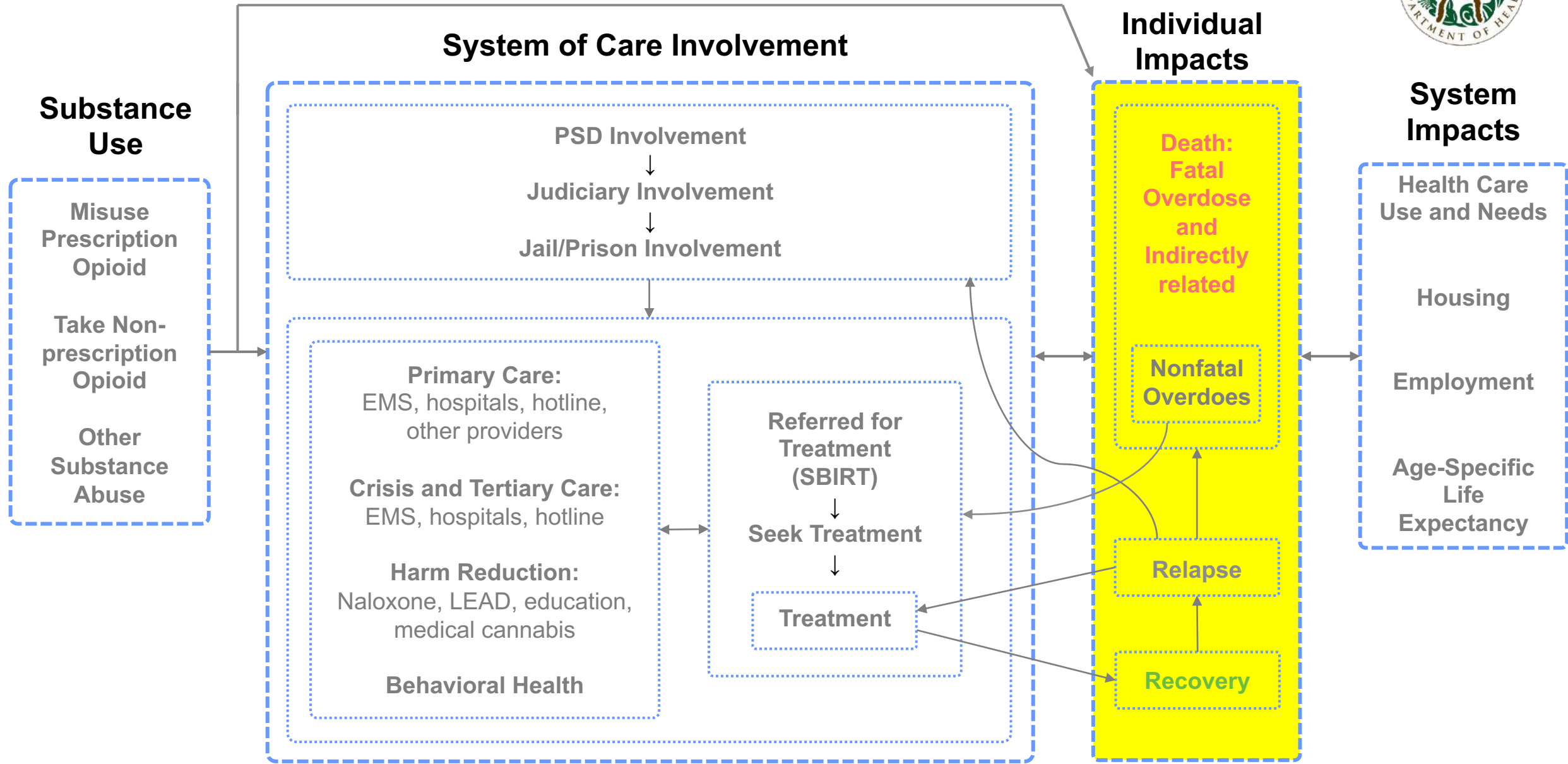


System of Care Involvement: Care, treatment



Data Source	Brief Description	Data Type	Use
DOH Crisis line	Crisis line call logs, screenings	Phone records, electronic health records	Client needs, real time data logging, opioid related crisis calls
HAH Laulima Data Alliance	ICD codes during hospitalizations related to opioids – don't have to be primary dx	Opioid-related dx	Examine freq of hosp with any dx that is opioid-related
Honolulu Autopsy Data and Toxicology Reports	Toxicology labs results from hospitals	Opioid use	Examine freq of opioids in lab results of hosp patients
Hawaii Poison Center questions	Questions from public that might relate to substances and negative events	Opioid use	Freq of questions that relate to use of opioids
Web Infrastructure for Treatment Services (WITS) Hawai'i	DOH-contracted care only on SUD	Claims and dx data	Treatment
DOH Adult Mental Health Division	Co-occurring - under-insured or un-insured adults with severe mental illness (SMI)	Claims and dx data	Treatment, co-occurring only
DOH Child and Adolescent Mental Health Division	Co-occurring – youth (generally lower SES with MH issues; not need to be severe)	Claims and dx data	Treatment, co-occurring only
Treatment Episode Data Set (TEDS)	State-specific trends in emergency room use.	Clinical: admissions and discharges	Trends in SUD emergency visits, co-occurring mental health disorders

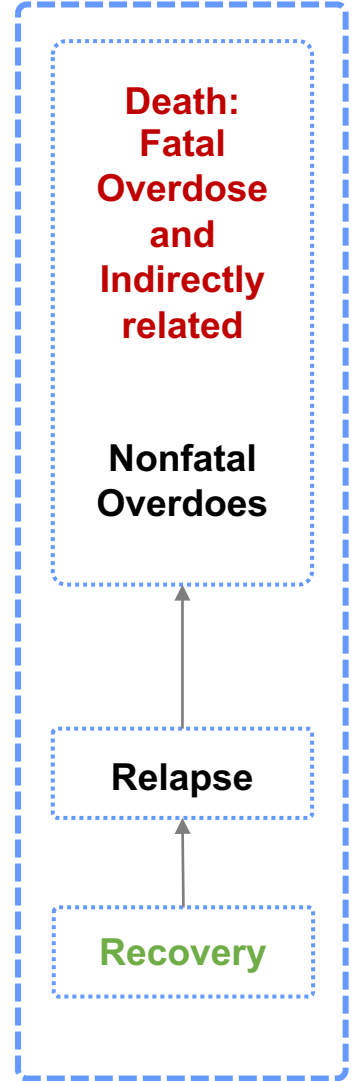
Individual and System Impacts of Opioid Epidemic



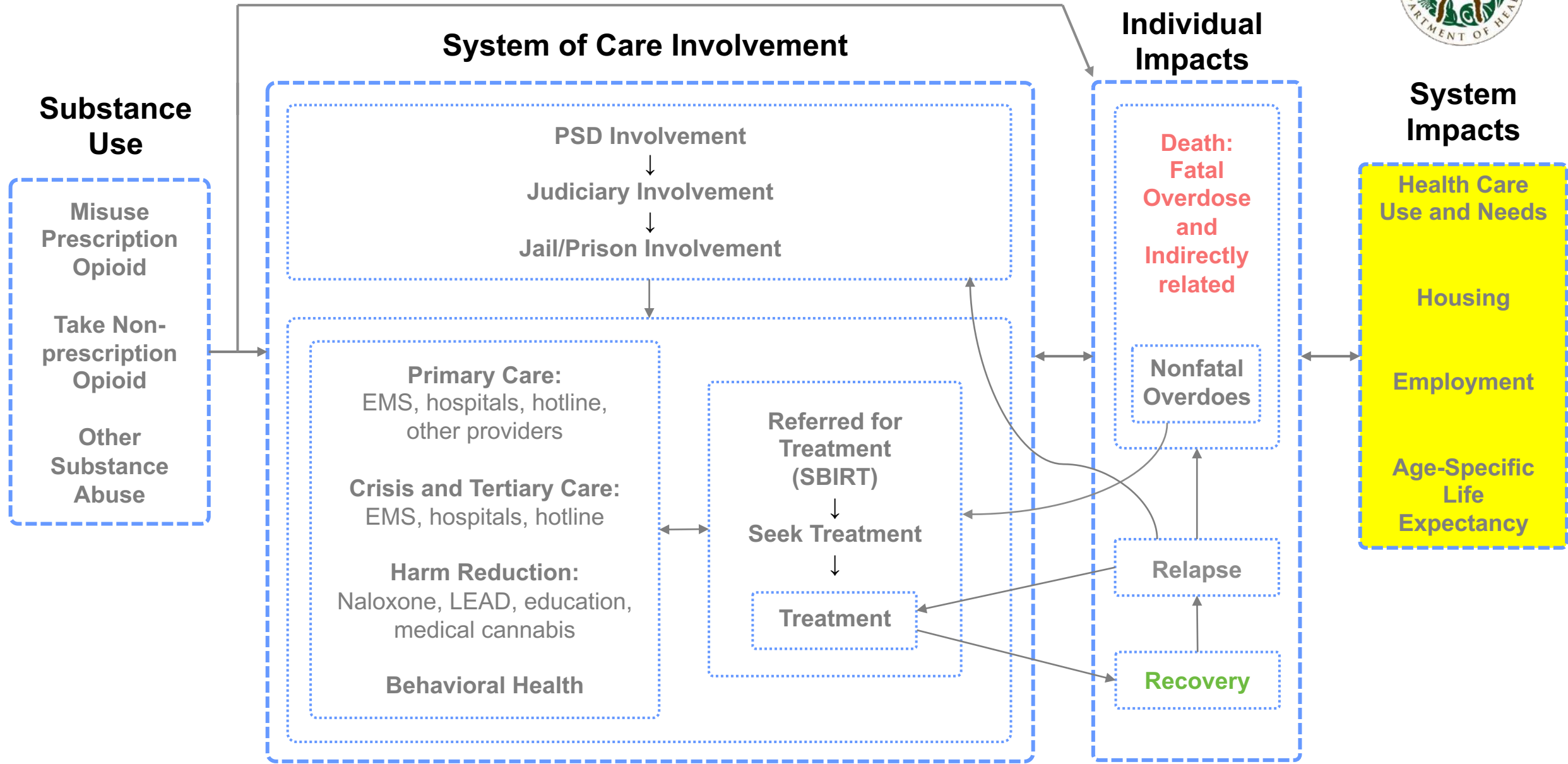
Individual Impacts



Data Source	Brief Description	Data Type	Use
Naloxone administration	From law enforcement	police/judiciary	Help determine freq of overdoses a and use of naloxone
Opioid overdose police database - ODMAP	ODMAP provides real-time overdose surveillance data across jurisdictions	police	Determine overdoses a with police involvement
EMS Naloxone administration	Naloxone administered by EMS	EMS	Help determine frequency of overdoses
Overdose data from hospital records	ICD-9 and 10 codes from hospitals related to opioid overdose	hospitalizations	overdose hospitalizations
Autopsy data	fatalities with SUD involvement	autopsy	death
Death certificates	Death certificates listed with opioid-related ICD codes	death certificate	ID trends with opioids-related deaths
DOH Alcohol and Drug Abuse Division (WITS)	DOH-contracted care only on SUD	claims and dx data	relapse
DOH Adult Mental Health Division (Avatar)	co-occurring - under-insured or un-insured adults with severe mental illness (SMI)	claims and dx data	relapse
DOH Child and Adolescent Mental Health Division	co-occurring – youth (generally lower SES with MH issues – but not need to be severe)	claims and dx data	relapse



Individual and System Impacts of Opioid Epidemic



System Impacts



Data Source	Brief Description	Data Type	Use	System Impacts
Homeless Management Information System (HMIS)	Vulnerability Index-Service Prioritization Decision Assistance Tool (VI-SPDAT)	Intake Form	History of housing, physical/mental health	Health Care Use and Needs
Point-in-Time Homeless Count (PIT Count)	Best estimate of homeless population in Hawai'i	Point-in-Time Census	Homelessness (incl. shelters, streets, other public places)	Housing
DOH Behavioral Health Administration divisions	Employment numbers for substance users	Electronic health records	Employment status for those receiving treatment	Employment Age-Specific Life Expectancy



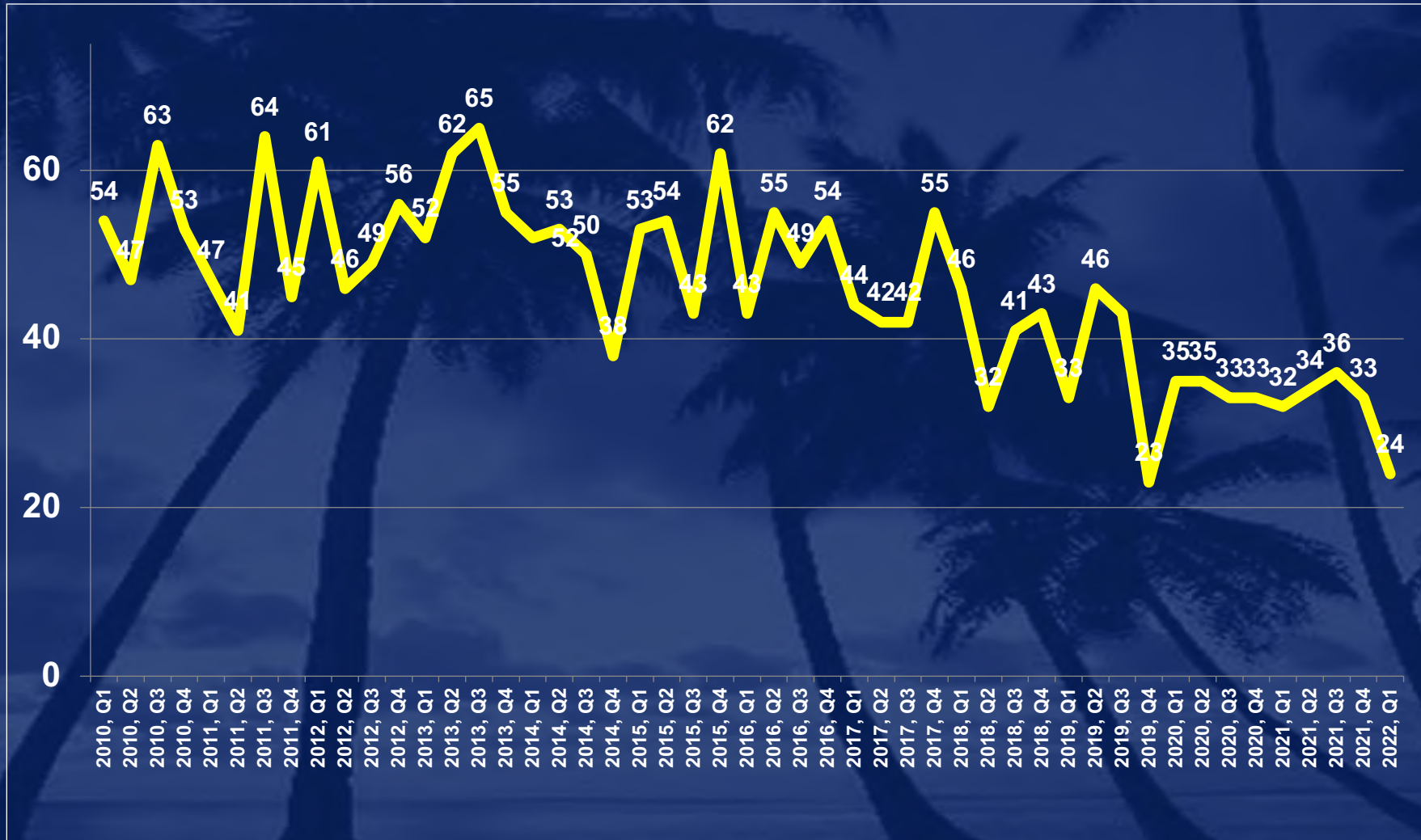
Examples of Data Limitations Observed

- **Death certificates**
 - Validity and reliability issues with codes used
- **Narcotics/police**
 - Proxy for trends in substance use to help plan for future needs
- **Hospital/medical records**
 - Lack of patient testing
 - Screening only for opiates
 - No distinction for illicit vs. prescribed
- **Data availability delays**
- **Incomplete; “dirty” data**

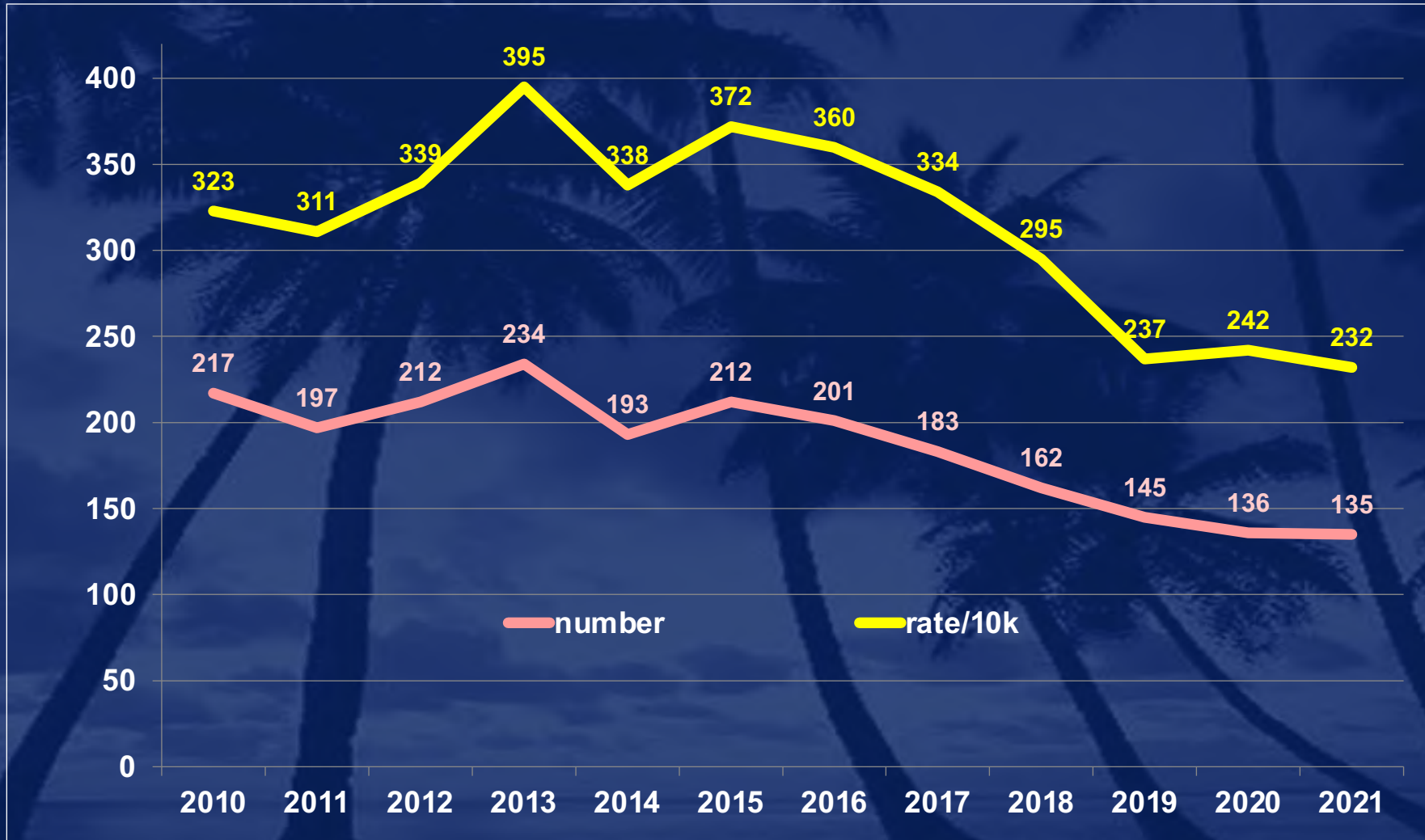
Summary of EMS & Injury Prevention databases

Dataset	Description	Source	Timeliness	Strengths	Limitations
Hawaii Poison Center	Phone-based consultation for patients (or their physicians) exposed to drugs or toxins	National Poison Data System (Rocky Mountain Poison Center)	real time, 2010-forward	-records call outcomes -granular info on drug/substance	-only patients (or providers) who call the hotline
EMS patient care reports	Electronic pre-hospital medical chart	EMS providers in all Hawaii counties	real time, 2007-forward	-uniform system across the state -captures naloxone use	-only patients who engage 911 system -limited data specificity
PDMP	Record of dispensed prescriptions for sched. II-IV	Hawaii Department of Public Safety	7-day lag (max), 2015-forward	-detailed Rx information -captures queries from prescribers	?

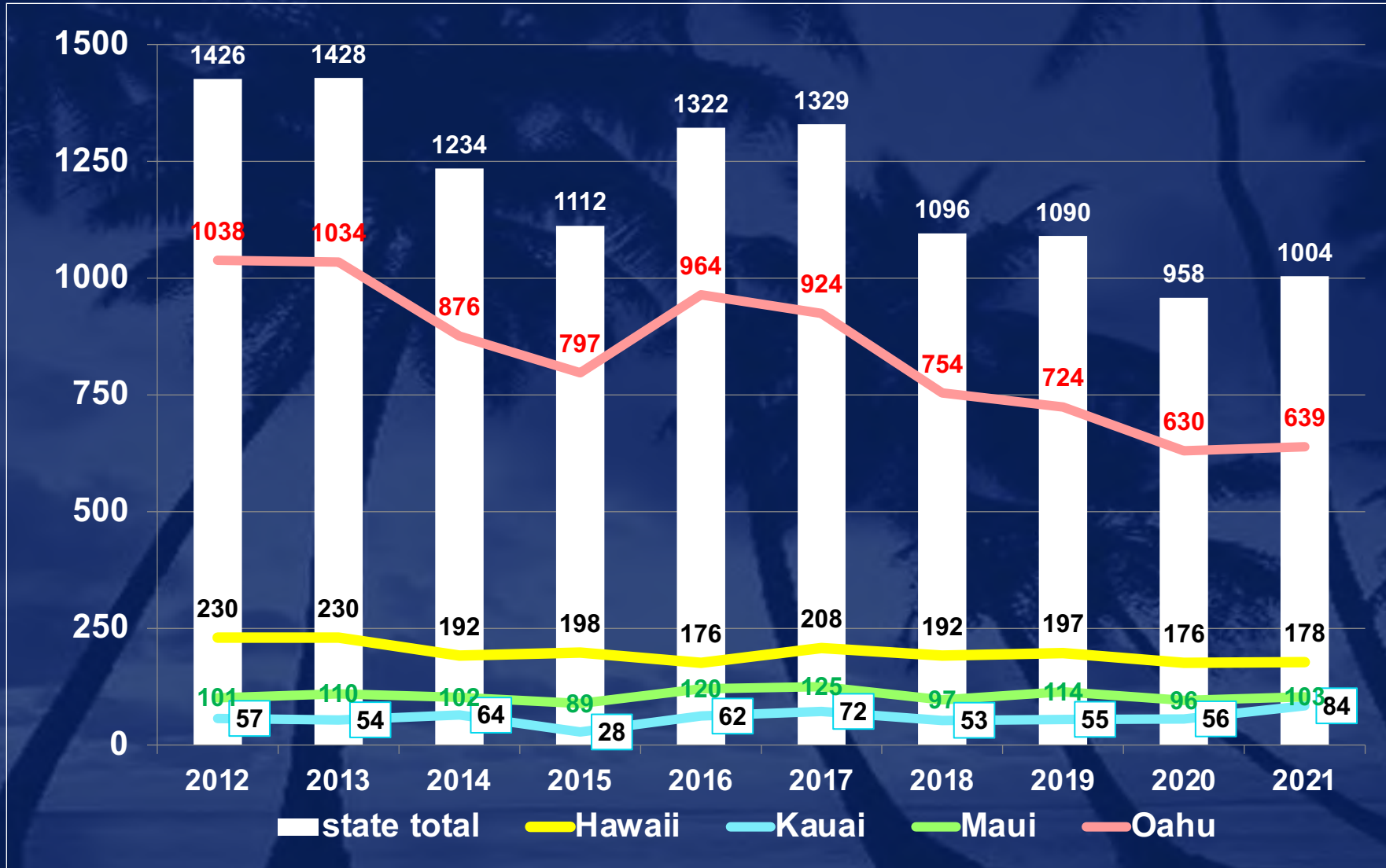
Quarterly number of calls to the Hawaii Poison Center for opioid exposures, 2010 - 3/2022



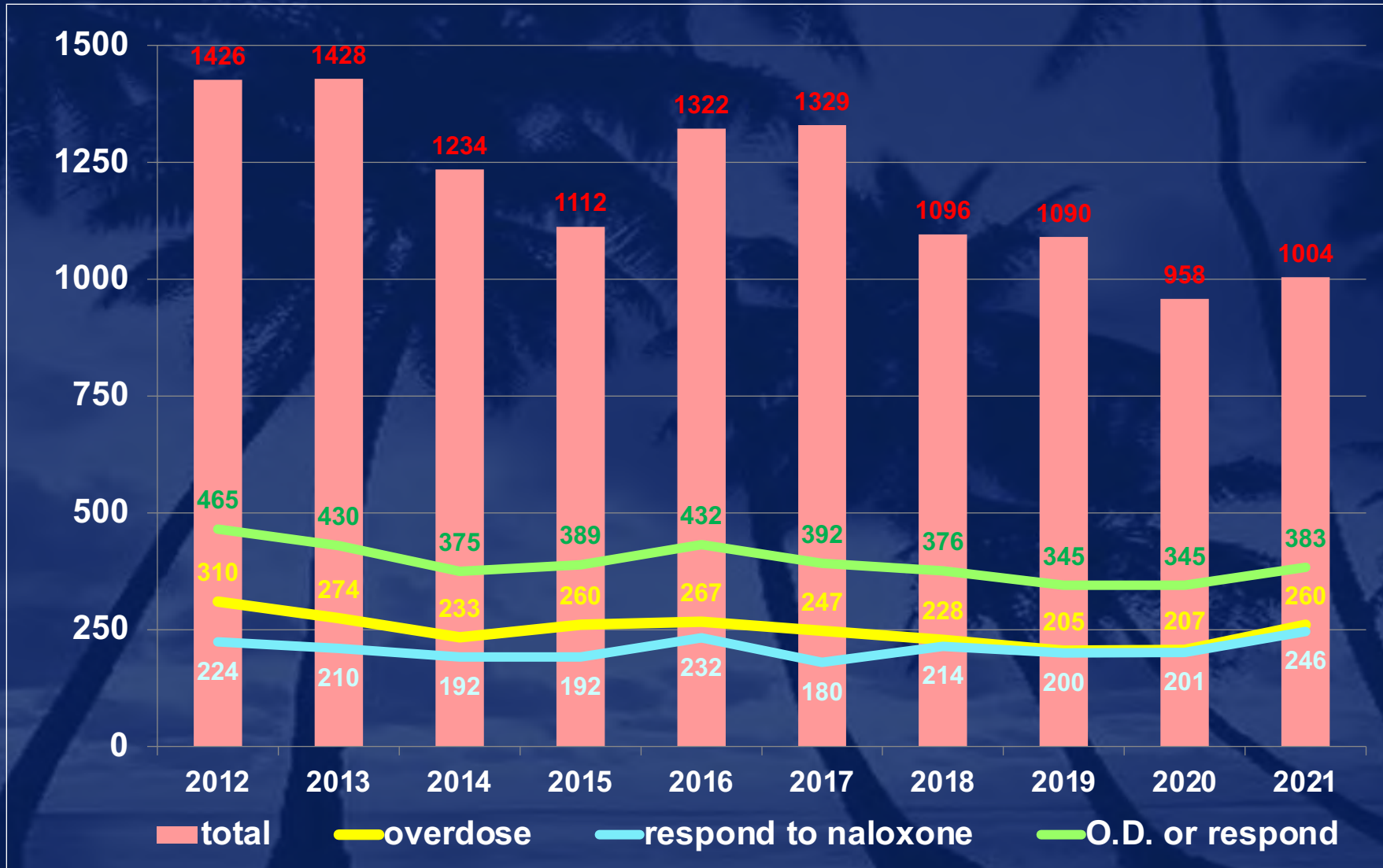
Annual number and rate (/10,000) of calls to the Hawaii Poison Center for opioid exposures, 2010 - 2021



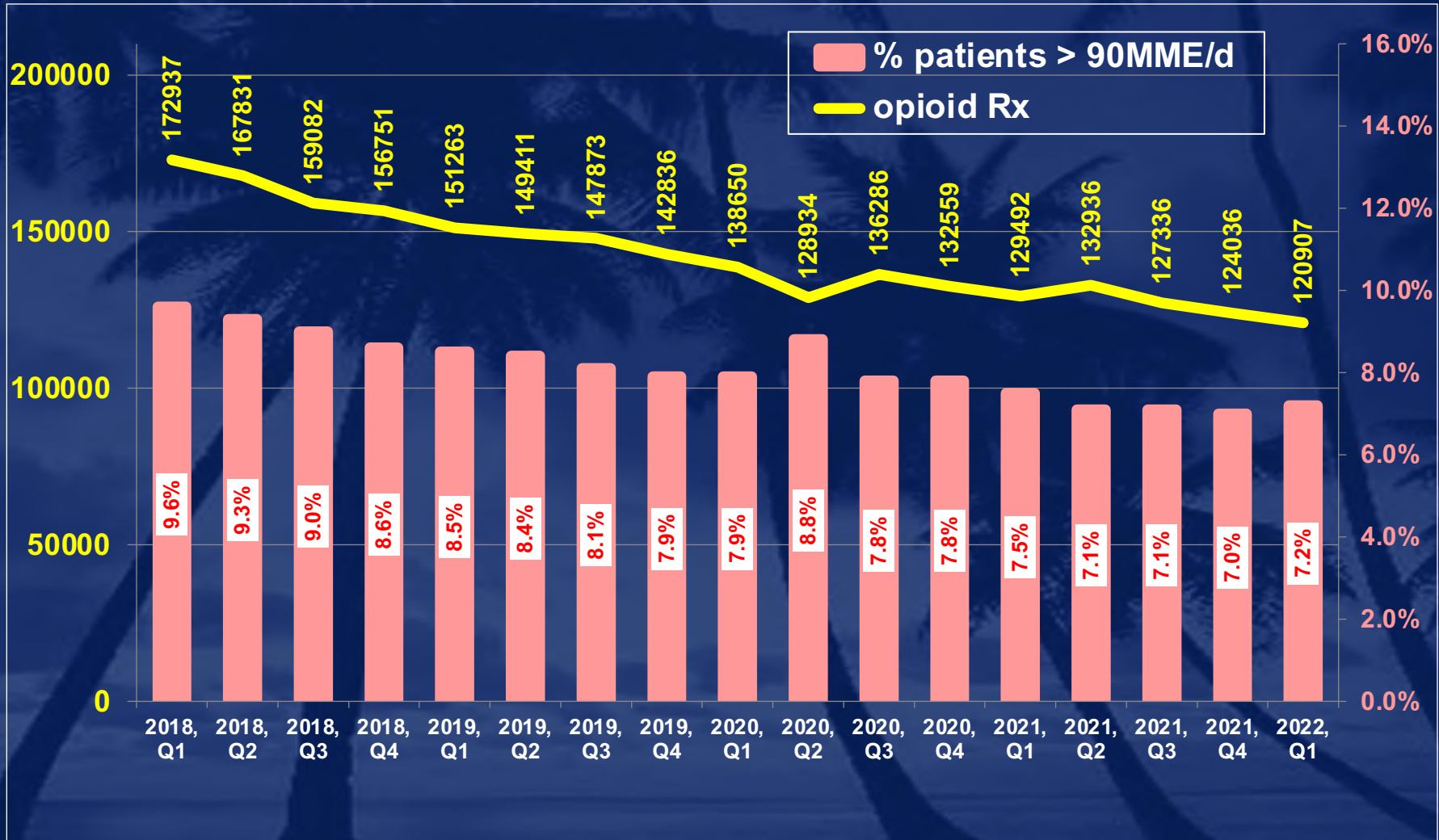
Annual number of EMS patients receiving naloxone, by county, 2012-2021



Annual number of EMS patients receiving naloxone, by overdose status and response, 2012-2021



PDMP data: Quarterly number of dispensed opioid prescriptions in Hawaii, and proportion of patients >90MME per day, 2018 – Q1,2022





Hawai'i Syndromic Surveillance

5/27/2022

Jared Wagner

Syndromic Surveillance Characteristics

- Data is primarily pulled from Emergency Departments (with plans of also including urgent cares and outpatient clinics)
- Queries receive data from triage notes, ICD codes, snomed codes and chief complaints
- Near real-time data collection
- Pre-diagnostic (does not have to wait for diagnostics to identify a public health problem), but also collects discharge diagnosis
- Population focus (focuses on community, not individual health)
- De-identified data (no names or personal information attached to health information)
- Unfiltered records (all patients recorded, not just those that meet specific requirements; this helps with case detection when the disease might not be well known or identified at first by clinicians)

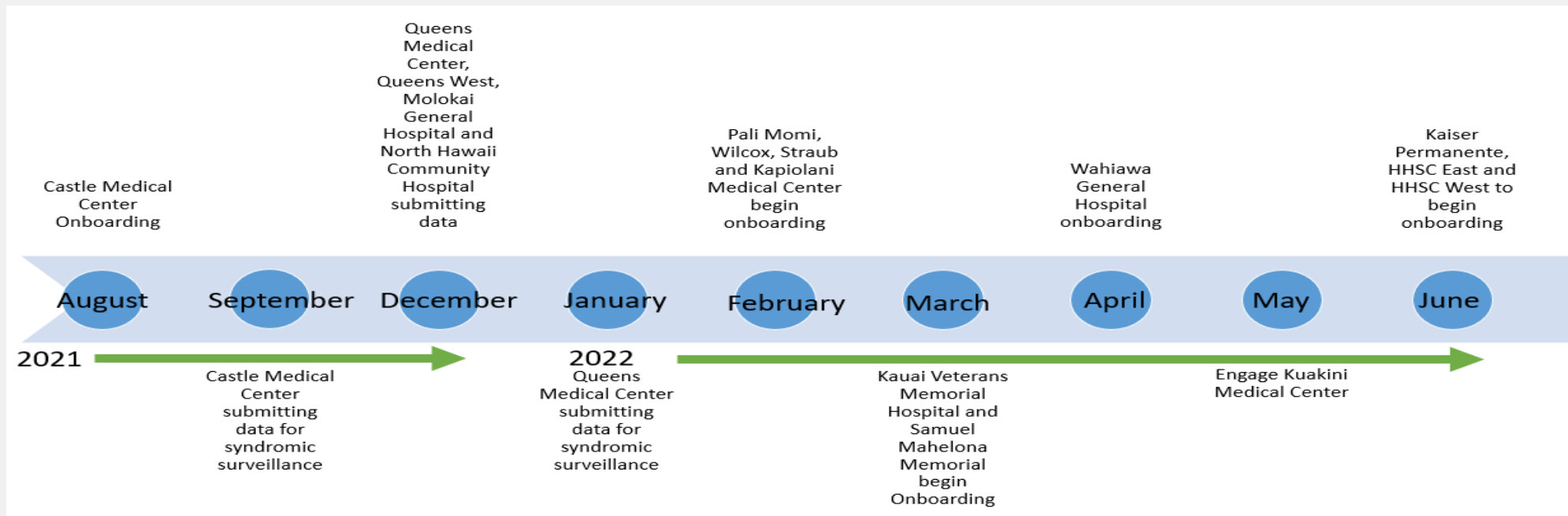
Onboarding progress of eligible Emergency Departments (Total 26)

2021

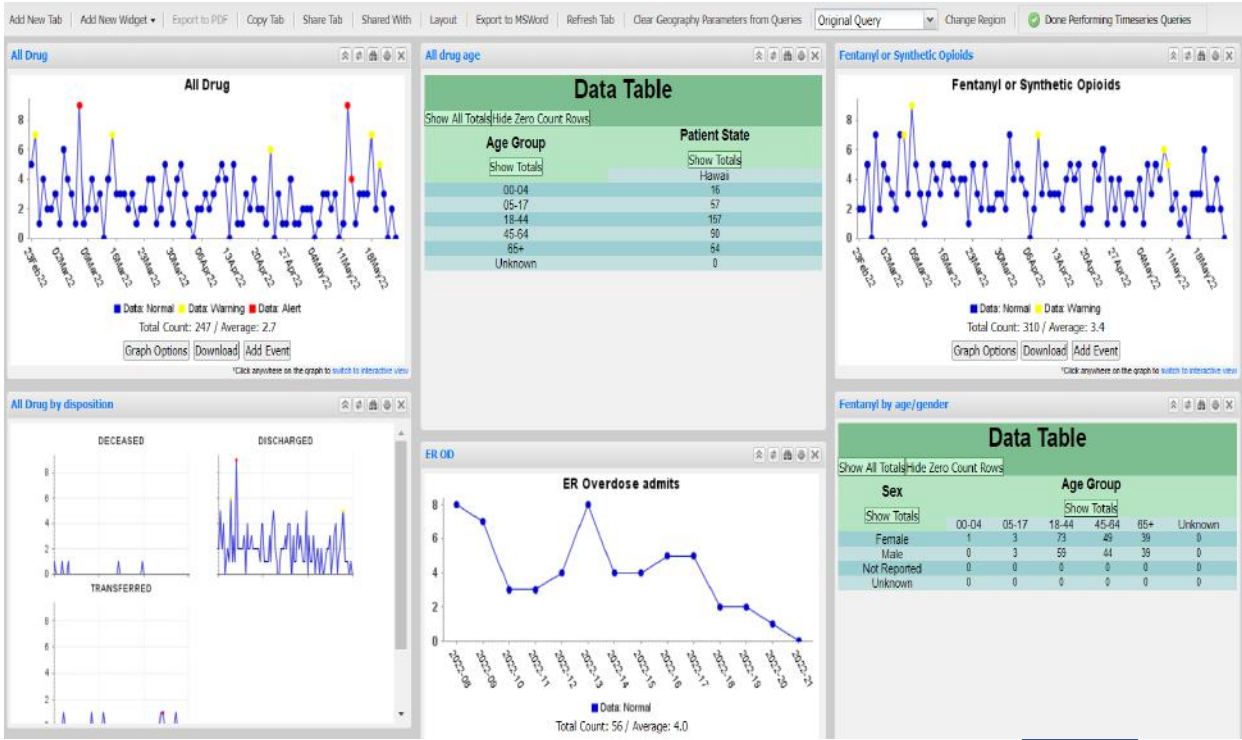
- Castle Medical Center
- Queens Medical Center
- Queens Medical Center West Oahu
- Molokai General Hospital
- North Hawaii Community Hospital

2022 (PLANNED)

- Hawaii Pacific Health (4 facilities)
- Hawaii Health Systems Corporation (9 facilities)
- Kaiser Permanente (5 facilities)
- Wahiawa General



Data Dashboard



Future Plans

- Enhance, support and integrate data into existing surveillance system
- Monitor and identify trends in opioids data
- Develop alerts to detect anomaly's
- Develop response protocols for cases of interest
- Provide reports and recommendation's to improve public health efforts

Co-occurring substance use disorders: consumer matching, treatment, and recovery

Amy B. Curtis, PhD, MPH

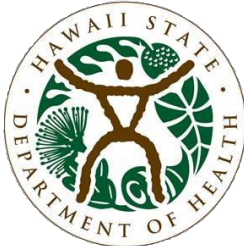
State of Hawaii Department of Health Administrator

Adult Mental Health Division (AMHD)

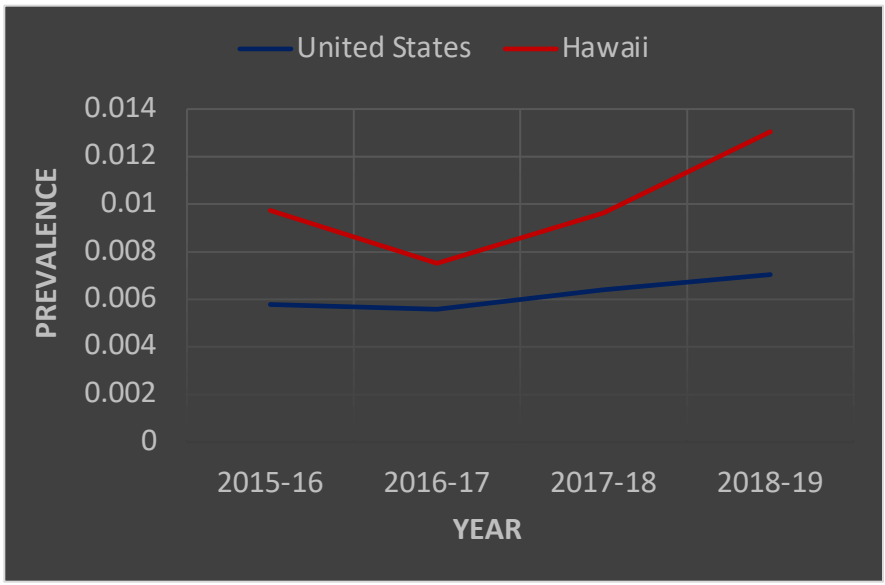
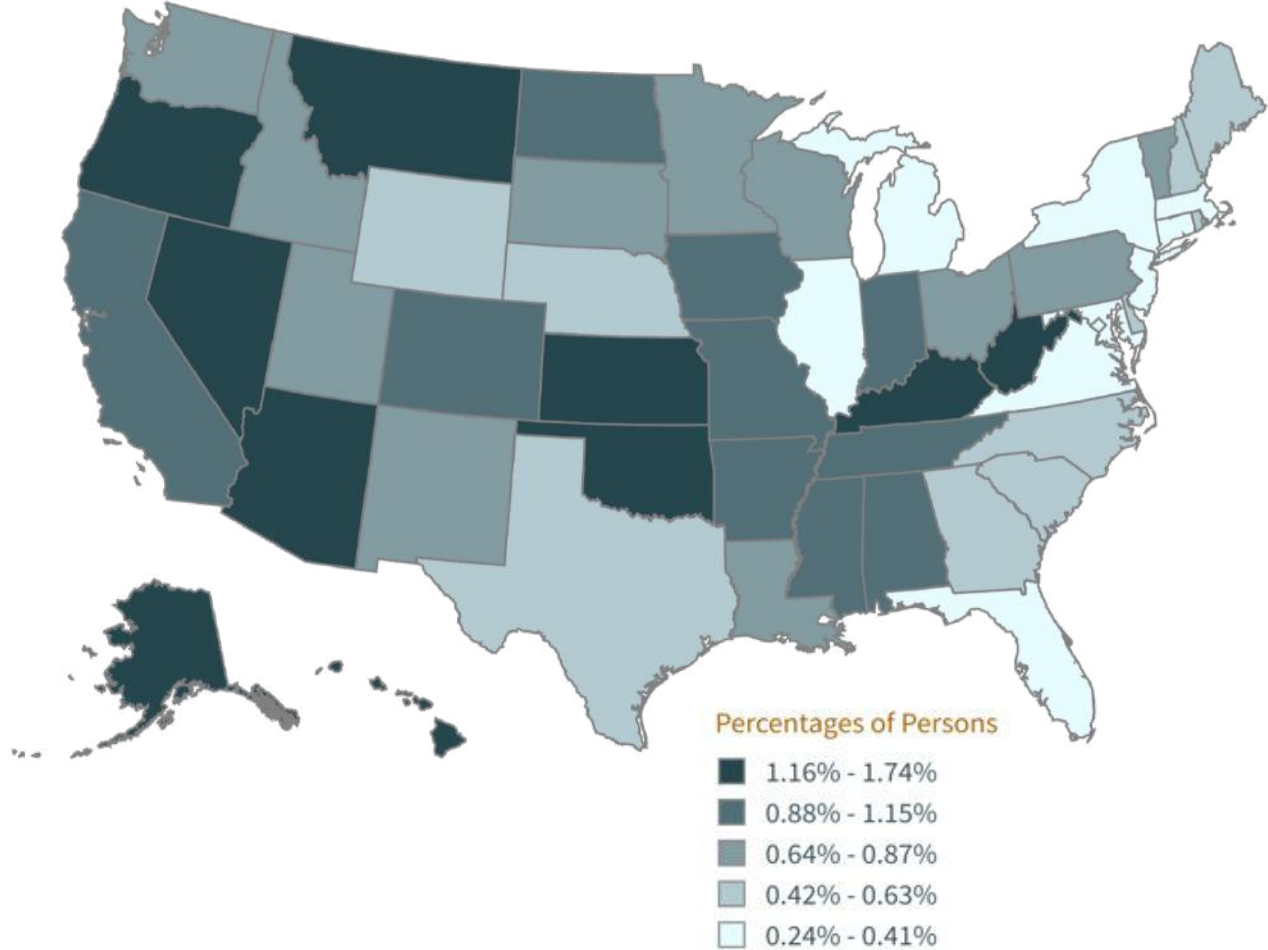
Behavioral Health Administration(BHA)

email: amy.curtis@doh.hawaii.gov

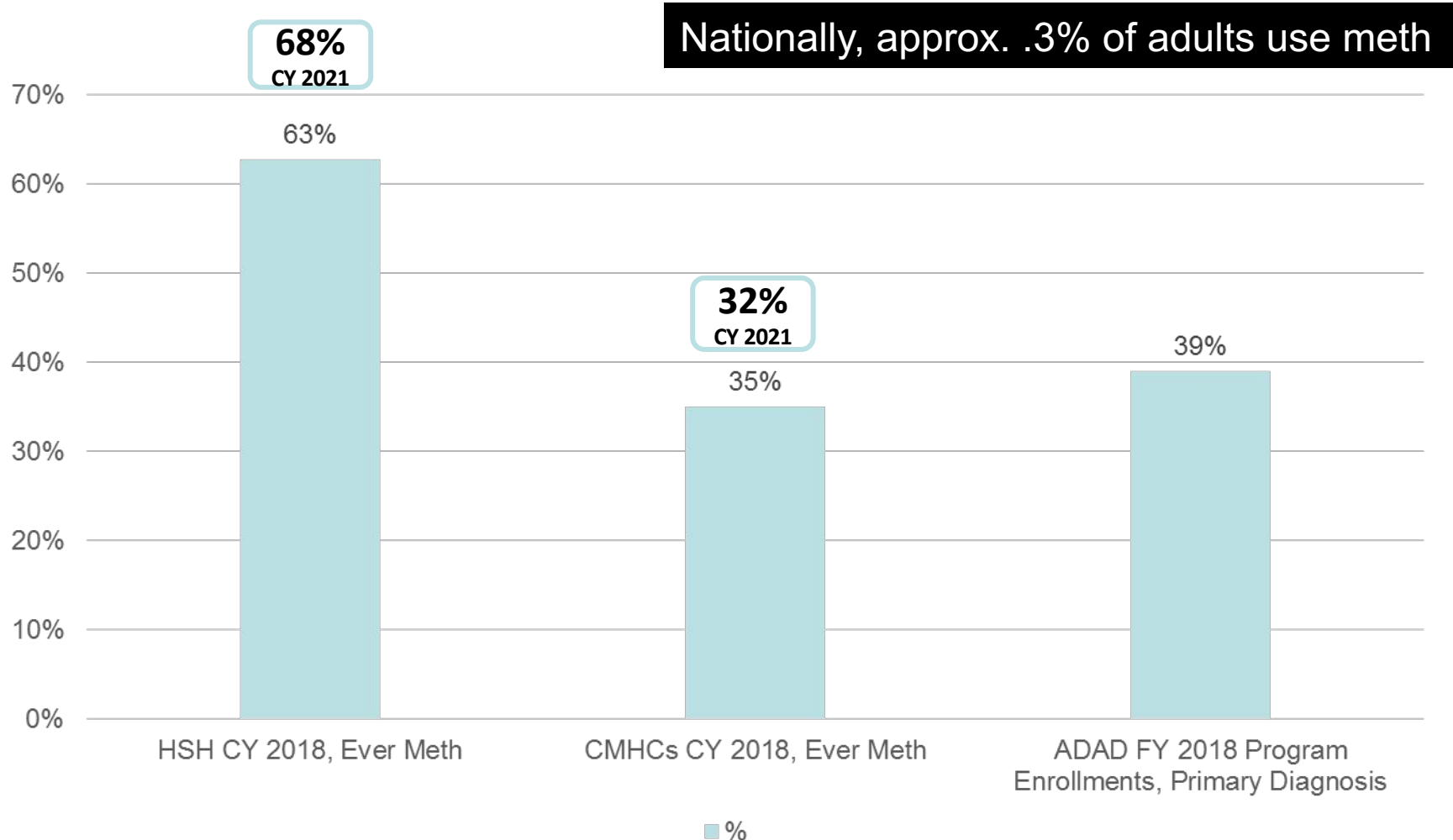
Meth Use High In Hawaii



Methamphetamine Use in the Past Year among Individuals Aged 12 or Older, by State: 2018-2019

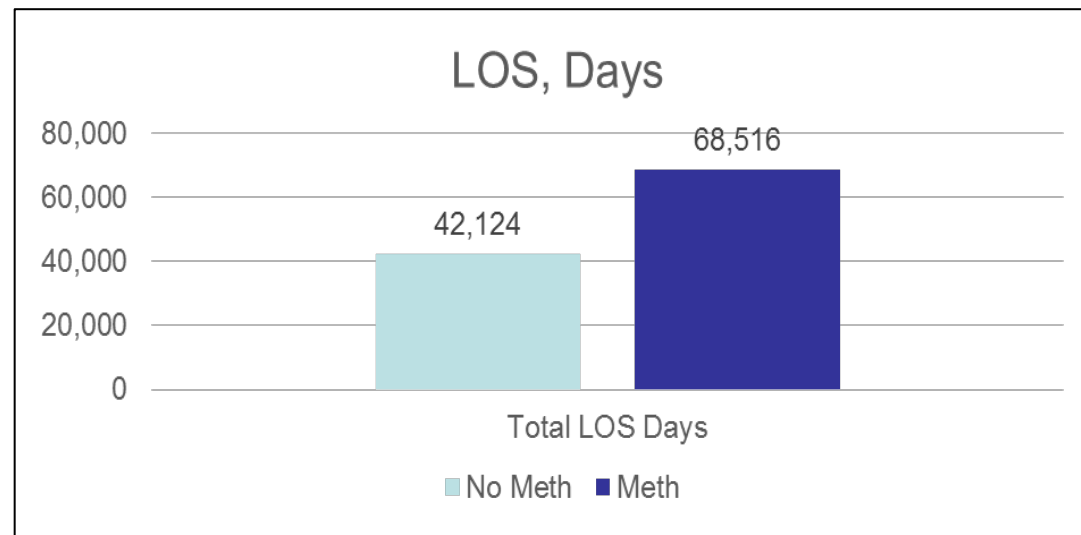
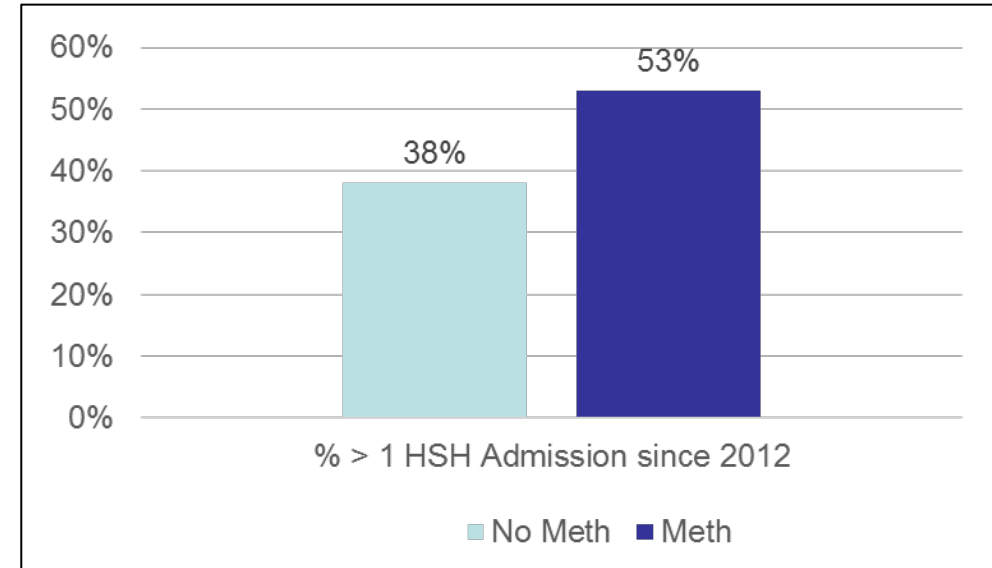
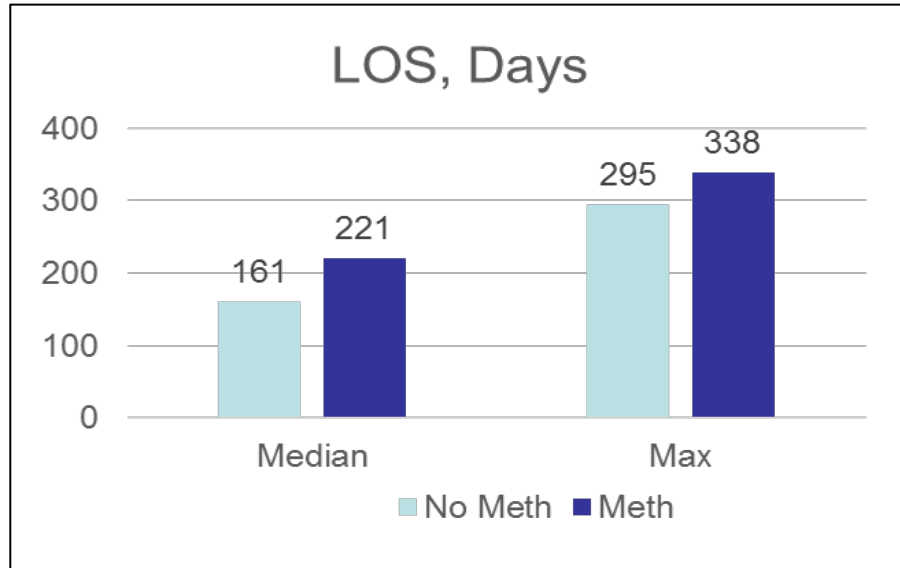


Percent Meth Involvement, AMHD, 2018 QOLI Results, n=653



Note: CY=calendar year; these results were from 5/1/18 to 12/24/18 after these QOLI questions became more regularly implemented. 653 results represent 405 different individuals.

Hawaii State Hospital Length of Stay (LOS) and Readmission by Meth Ever Status, 2012-2018



Meth Use Data Summary



- Meth use HIGH in Hawaii as well as among:
 - Adult Mental Health Division (AMHD) consumers
 - Risk Factors:
 - (Re)admission to Hawaii State Hospital (HSH)
 - ICM+ Participation
- Substance use (SU) relapse/current use related to:
 - Ability to remain in **community*** environment and;
 - Participation in positive activities for those in ICM+

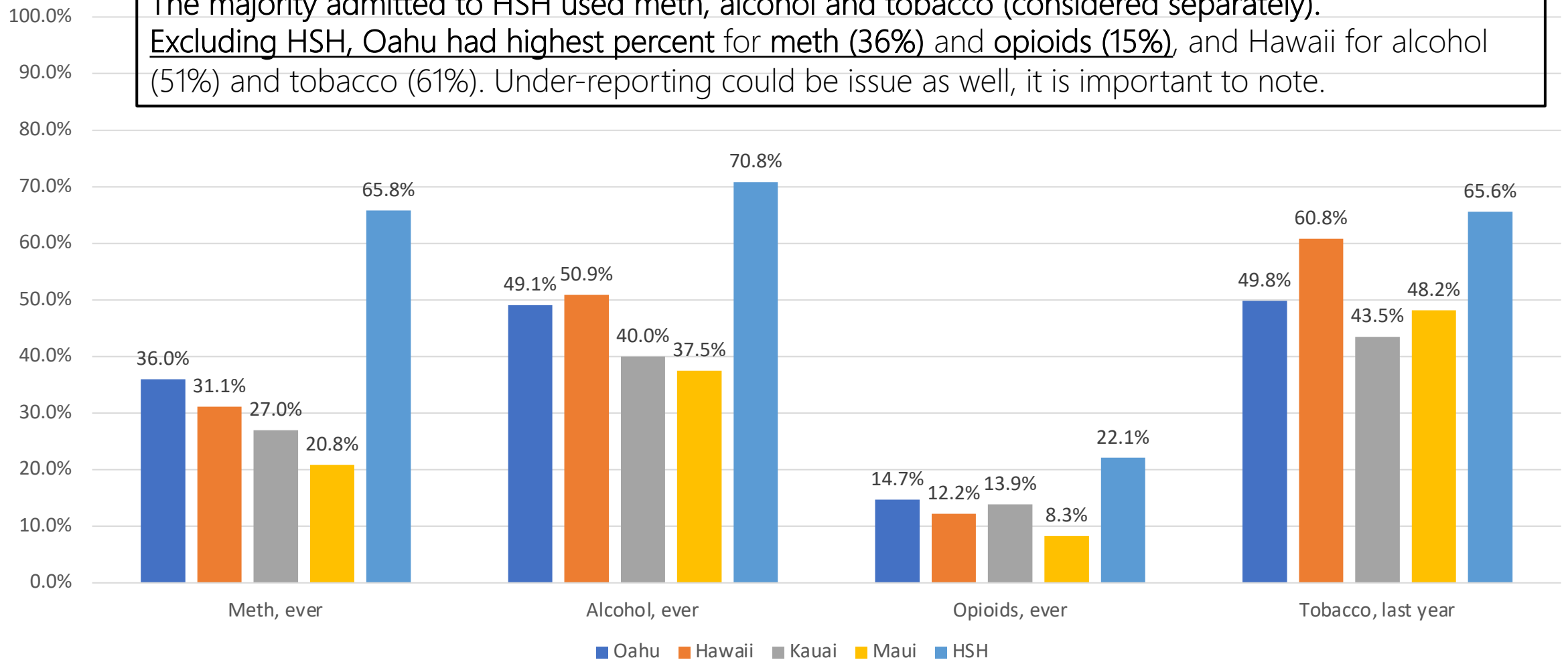
**successful community tenure here defined as not institutionalized within 6 months of HSH discharge*

Quality of Life Inventory (QOLI)

Substance Use (Clinician Report) by County, QOLI Reporting May-Oct 2018



The majority admitted to HSH used meth, alcohol and tobacco (considered separately). Excluding HSH, Oahu had highest percent for meth (36%) and opioids (15%), and Hawaii for alcohol (51%) and tobacco (61%). Under-reporting could be issue as well, it is important to note.

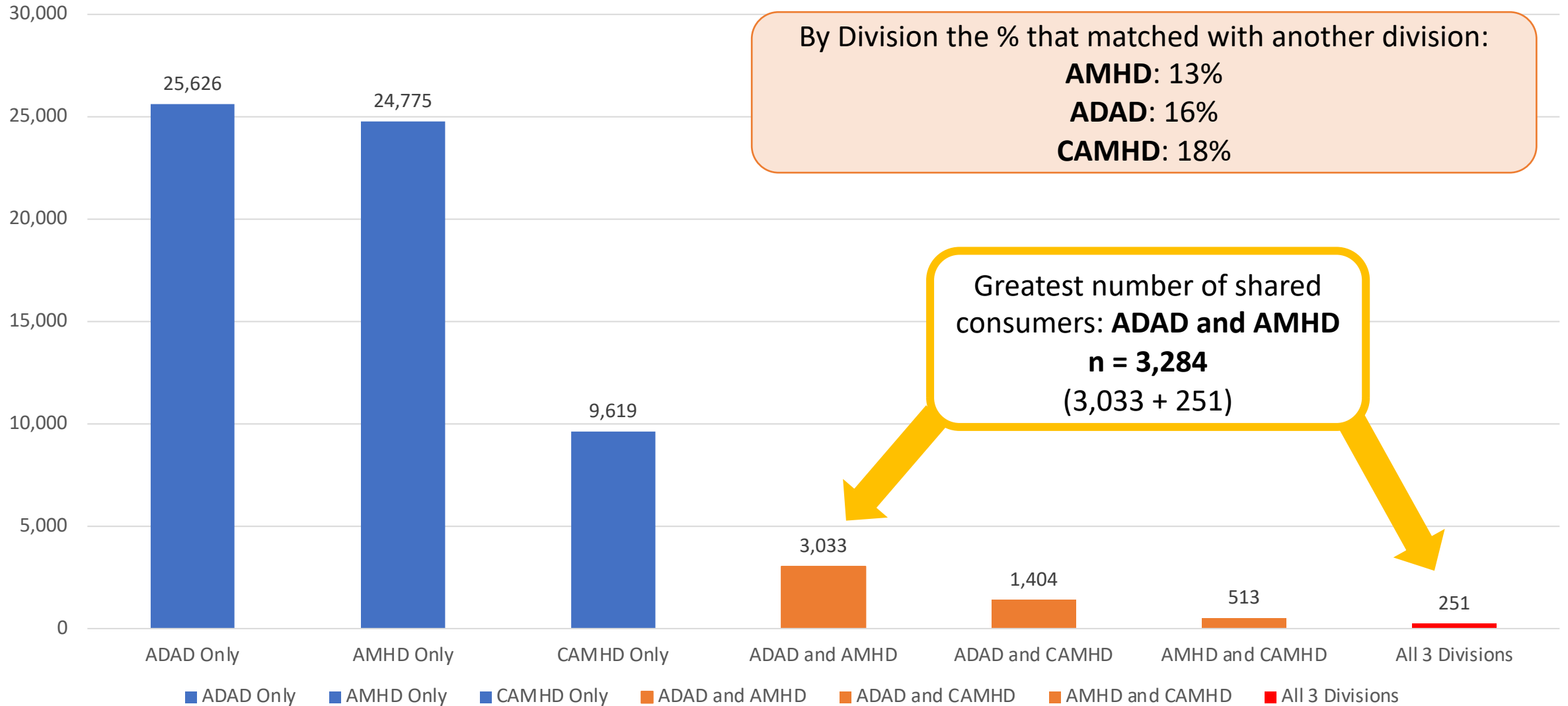


*n = 1,425 for period, but 8 individuals excluded who were missing meth and 9 missing other substance use questions.

Consumer Matching

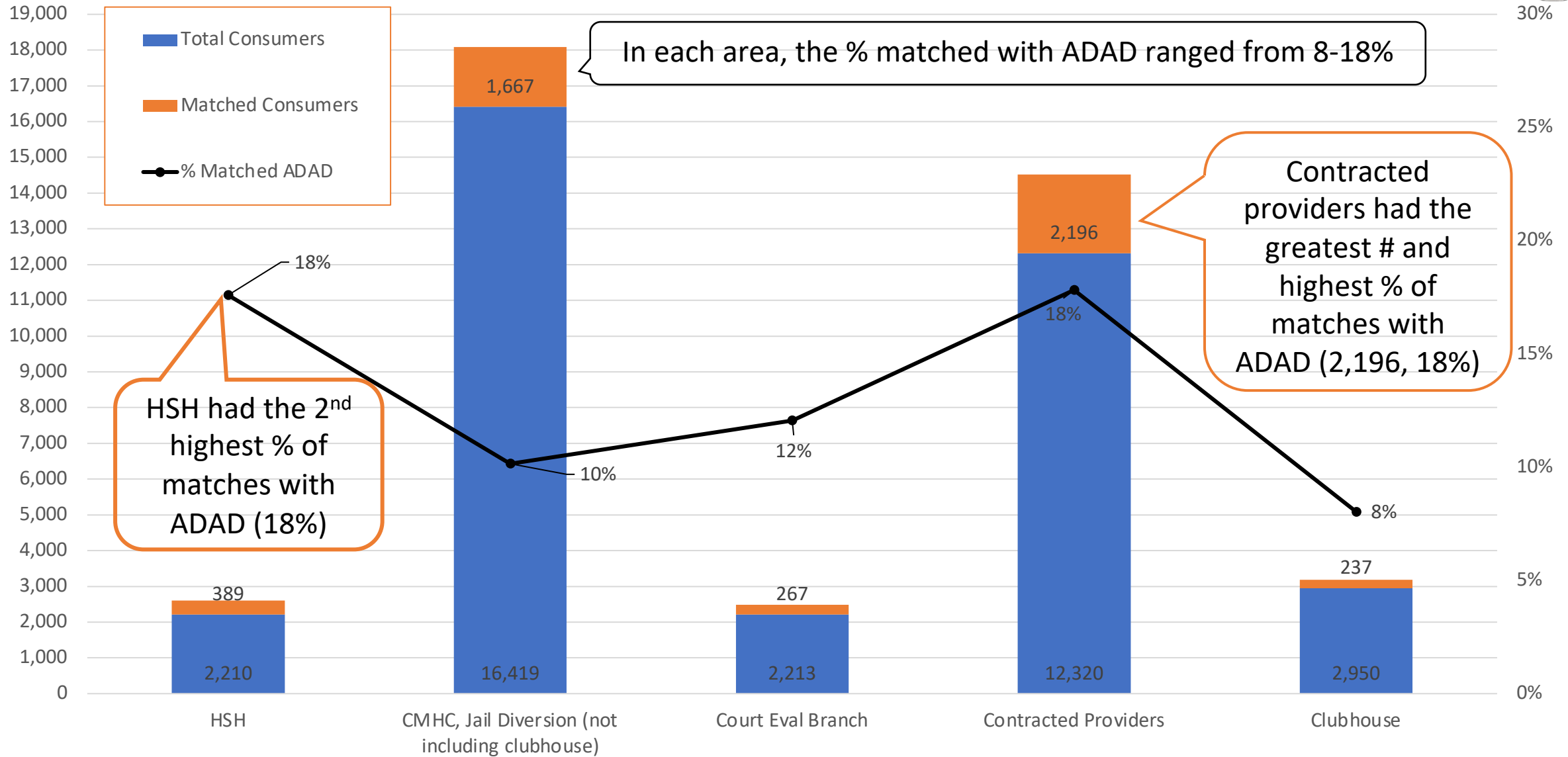


Number of Total and Matched Consumers, 2002-2018*





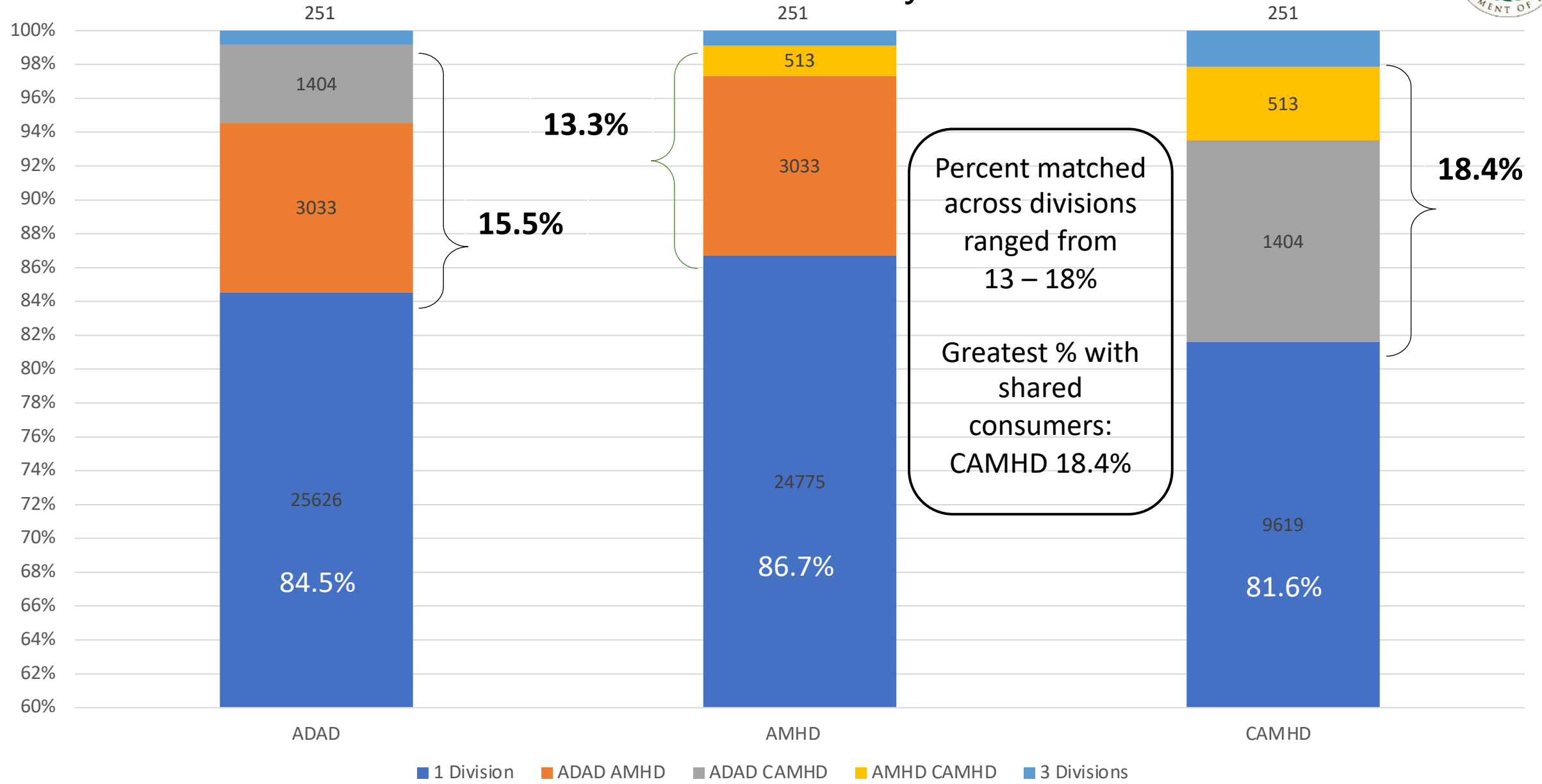
Number of Consumers in AMHD and ADAD Match, 2002-2018*



Note: These categories are not mutually exclusive. Individuals may be in more than one category. CEB only from 2015-2018.



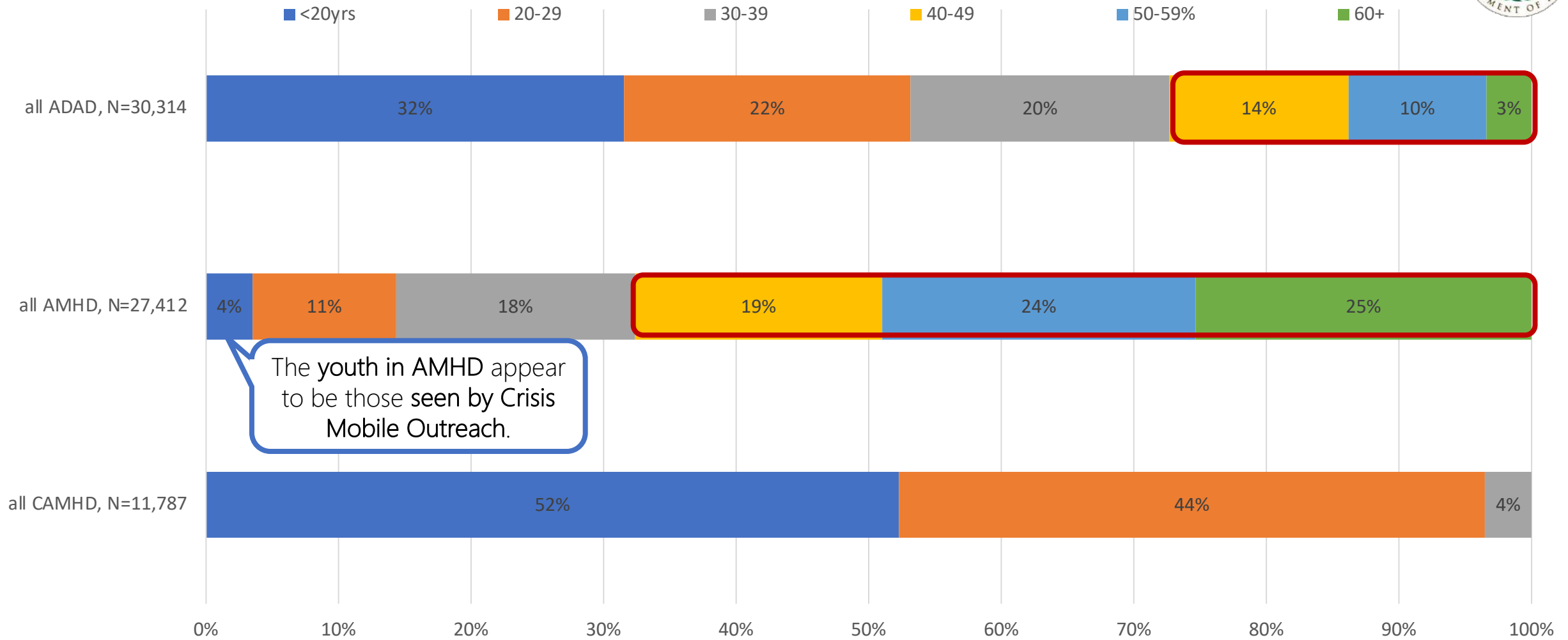
Percent of Consumers by Divisions



Current Age Distribution of Consumers by Division



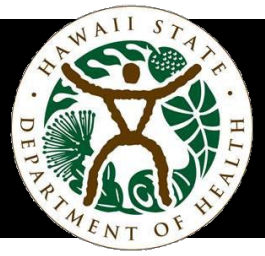
 = currently 40+ years of age



The youth in AMHD appear to be those seen by Crisis Mobile Outreach.

Although the majority (68%) of AMHD clients are currently 40+ years of age, 0% of CAMHD consumers included those 40+ years of age. For ADAD, 37% are 40+ years of age as well. Would expect higher % match of CAMHD and other divisions if had older CAMHD data.

Master Patient Index



- Limits to manual matching evidence
 - Through OD2A are creating a master patient index
 - Assuring all data systems are interoperable
-

CSTE Overdose Surveillance Capacity Building

Danielle Boyd, MPH, CHES
dboyd@cste.org



Council of State and Territorial Epidemiologists

CSTE National Initiatives

- CSTE [Position Statements](#) undergo a rigorous review process by members and are then ratified by the Council (the epidemiologists representing each member State and Territory) at the Annual Business Meeting. Once approved, position statements provide the case definitions needed to standardize surveillance, maintain the Nationally Notifiable Condition List, and address policy issues
- Advocacy for Data Modernization and Policy Improvements
([Data: Elemental to Health](#))

CSTE Communities of Interest

- [Overdse Subcommittee](#) (Calls every other month)
- [PMP Subcommittee](#) (Calls every other month)
- [Cannabis Subcommittee](#) (Calls every other month)
- [Alcohol Subcommittee](#)(Calls every other month with ad hoc workgroups)
- [NSSP Community Of Practice](#) (see website for workgroups and call schedule)

Relevant Online Resources



CSTE Overdose Surveillance Capacity Building

- Website of CSTE [Overdose Surveillance Capacity Building Activities](#)

RELEVANT TOOLKITS

- [Jurisdictional Vulnerability Assessments](#) Toolkit outlining process and examples of assessments
- [CSTE Injury Surveillance Toolkit](#) Provides standardized guidance to epidemiologists and others who use ICD-10-CM medical administrative discharge data for injury and drug overdose surveillance
- [CSTE Overdose Anomaly Toolkit](#) outlines information on commonly used data sources, planning and action steps, in addition to providing alert protocol evaluation tips.

CSTE Substance Use and Injury Connection, [SUBSCRIBE TODAY](#)

- Quarterly newsletter highlighting resources, funding opportunities, member spotlights

PMP HOW to GUIDE (Part 1 and 2)

- Two-part guide providing instructions for new PMP data users.
 - [CSTE Prescription Drug Monitoring Program How to Guide: Part 1](#)
 - [CSTE Prescription Drug Monitoring Program How to Guide: Part 2](#)

CSTE LEARN

- Online suite of public health resources, [FREE registration](#)

New Resource In Development:

- Dashboard Development Guide
 - Overview of Key steps needed for data preparation and dashboard development including
 - Data Harmonization
 - Public Data Sets
 - Data Visualization Principles
 - Evaluation
 - Workbook
 - In-depth, technical instructions for building dashboards in Tableau
 - Will feature videos
 - Tableau instructions available for cross-walk





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WEBINAR 3 OF 4

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Mahalo and Questions

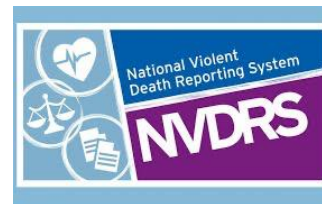


Data Sources for Opioid Surveillance

National Level

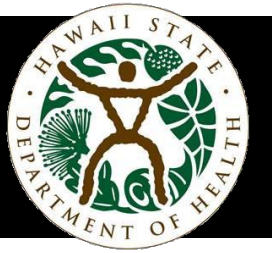


- National Syndromic Surveillance Program (NSSP) - BioSense Platform (ESSENCE application)
- National Vital Statistics System (NVSS)
- National Violent Death Reporting System (NVDRS)
- National Survey of Drug Use and Health (NSDUH)
- National Survey of Substance Abuse Treatment Services (N-SSATS)
- Nationwide Emergency Department Sample (NEDS)



Data Sources for Opioid Surveillance

State (or County) Level



- Adult Substance Use Survey - Revised (ASUS-R; Wanberg 2004)
- AVATAR Electronic Health Record (EHR) System
- Healthcare Cost and Utilization Project (HCUP)
- State Unintentional Drug Overdose Reporting System (SUDORS)

ASUS-R

AVATAR



SUDORS

Data Sources for Opioid Surveillance

Hawaii State



- AVATAR Electronic Health Record (EHR) System – Adult Mental Health Division (AMHD)
- Hawaii Health Information Corporation (HHIC)
- Hawaii Cares
- Hawaii Poison Center
- Hawaii State Hospital (HSH)
- Lailima Data Alliance
- Web Infrastructure for Treatment Services (WITS) – Alcohol & Drug Abuse Division (ADAD)



CAMHD



CO-OCCURRING SUBSTANCE USE DISORDERS: CONSUMER MATCHING, TREATMENT, AND RECOVERY

*From Data to Dashboard: A Behavioral Health Administration Approach,
Including Department of Health Divisions*

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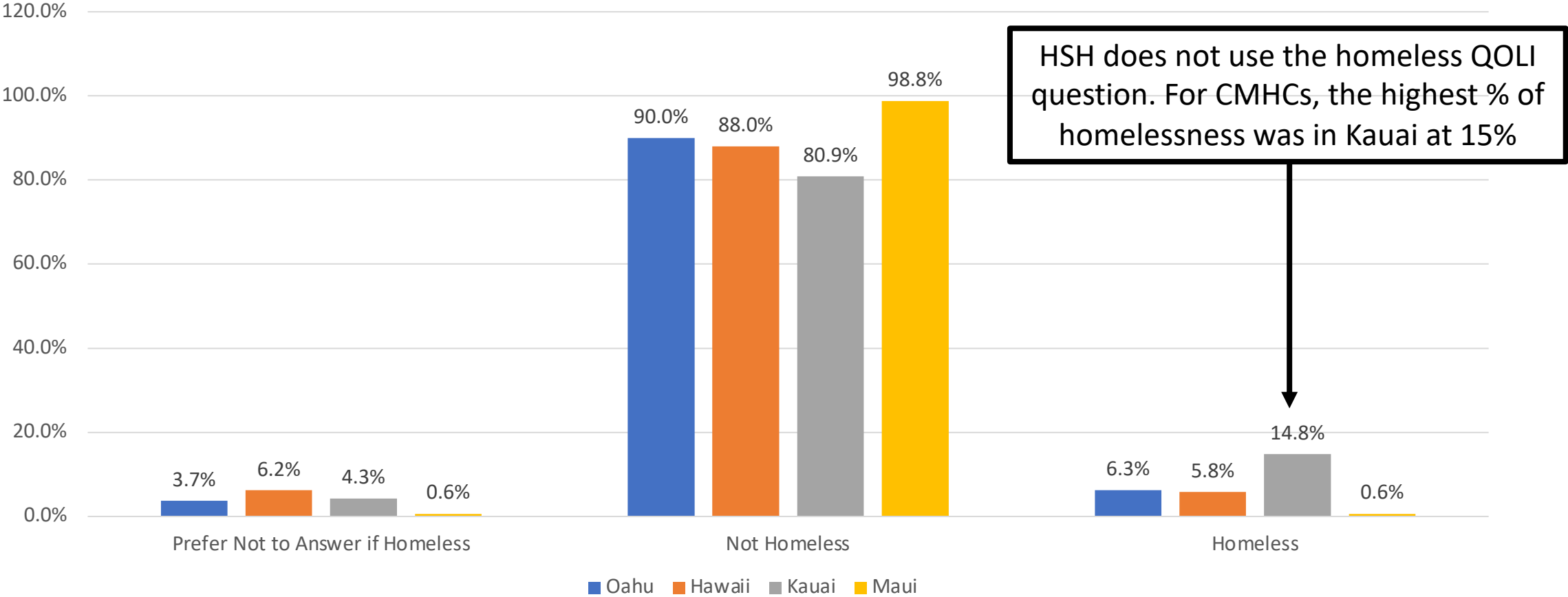
Adult Mental Health Division (AMHD)

Behavioral Health Administration (BHA)

email: amy.curtis@doh.hawaii.gov



Percent Homeless by County, QOLI Results May-Oct 2018 (n = 1,269)



Note: excluded HSH (n = 156) as they did not respond to that question