

Colorado Public Safety and Public Health Information- Sharing

Leveraging Social, Behavioral, and Health Data

2018 COAP Grantees Meeting

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COLORADO
Department of Public
Health & Environment



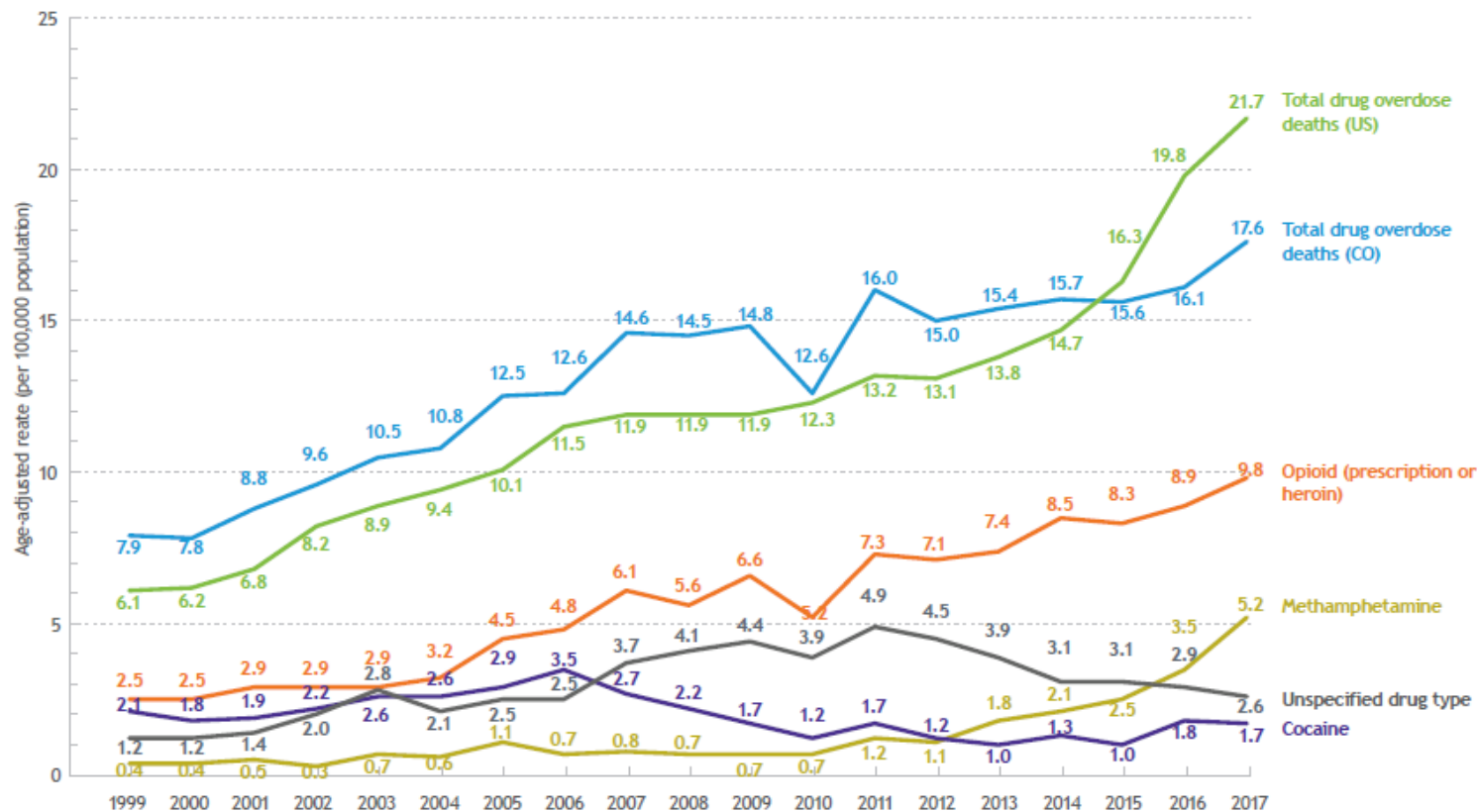
Department of Emergency Medicine

SCHOOL OF MEDICINE

UNIVERSITY OF COLORADO ANSCHUTZ MEDICAL CAMPUS

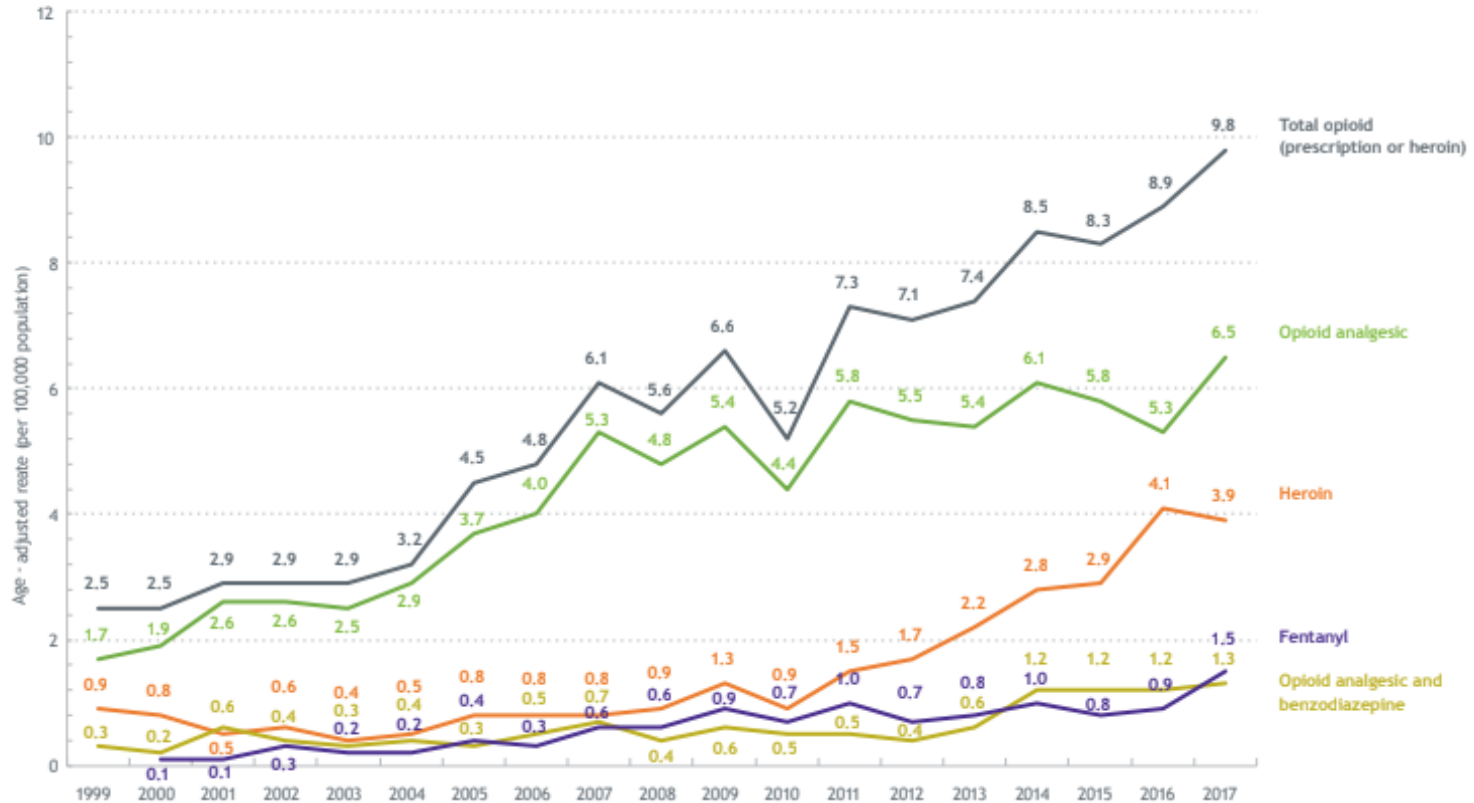
Colorado crisis: All Drugs

Figure 1. Age-adjusted drug overdose death rates, by involvement of specific drug types: Colorado residents, 1999-2017.



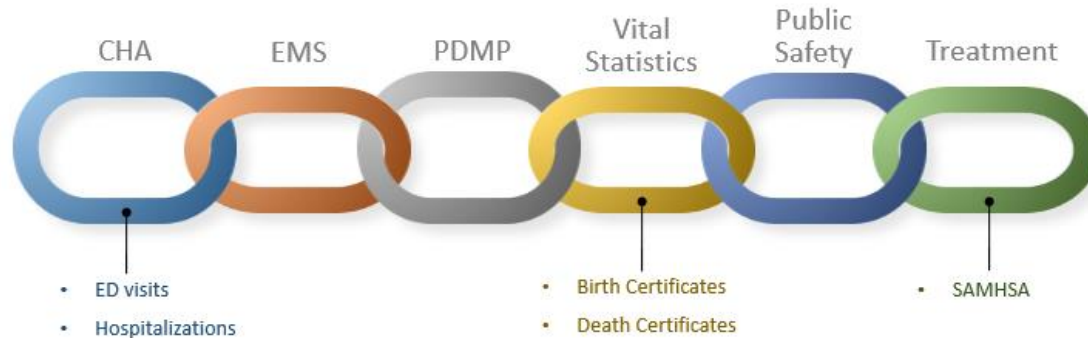
Colorado crisis: Opioids

Figure 2. Age-adjusted drug overdose death rates, by involvement of opioids (prescription and illicit): Colorado residents, 1999-2017.



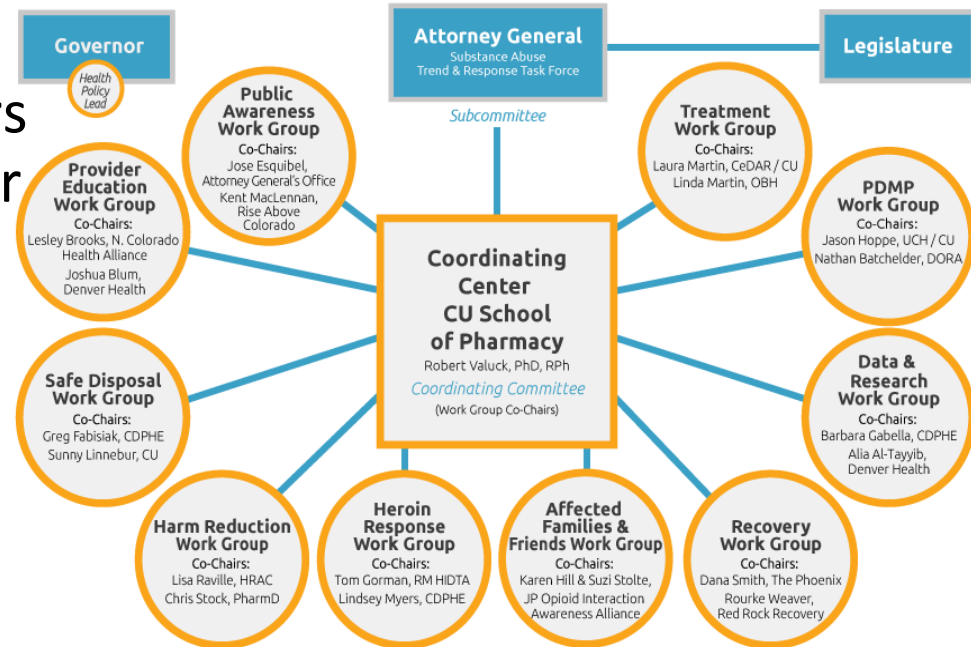
Goal 1: Enhance public safety/behavioral health/public health/treatment partnerships to leverage key data sets to better understand Colorado's opioid epidemic

- Objective 1.1: Increase public health surveillance of the opioids by linking PDMP data to various public health data sets
- Objective 1.2: Increase data sharing between public safety, behavioral health, and public health partners



Goal 2: Increase data driven responses to Colorado's opioid epidemic

- Objective 2.1: Increase data dissemination among members of the Colorado Consortium for Prescription Drug Abuse Prevention
- Objective 2.2: Increase data-driven responses in high-risk counties related to the local drivers of opioid abuse and overdose



Goal 3: Assess the implementation of Colorado SB 18-22 on PDMP utilization and patient outcomes

- Objective 3.1: Evaluate the impact of Colorado Senate Bill 18-022 on prescriber behavior across Colorado
- Objective 3.2: Evaluate the impact of Colorado Senate Bill 18-022 on patient outcomes within the UCHealth system

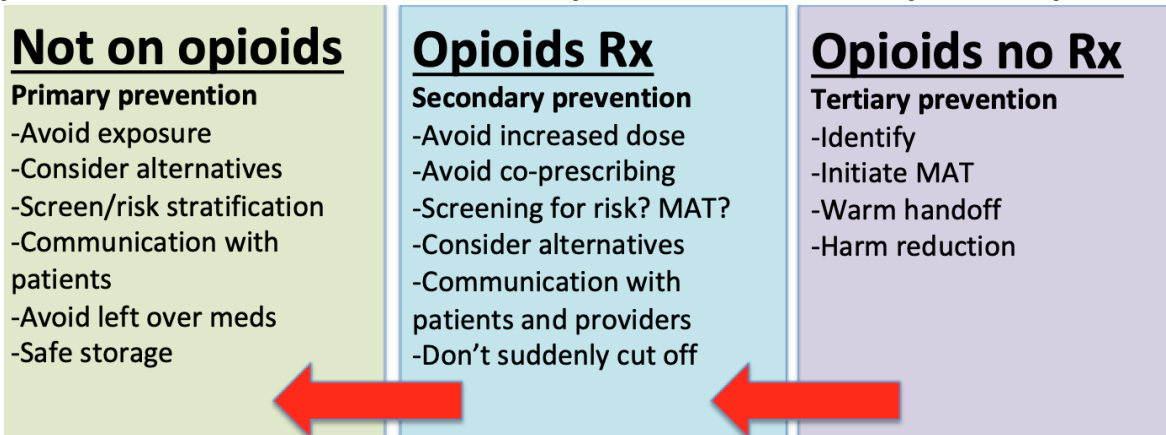


SENATE BILL 18-022

5/21/18

CO SB 18-022 overview

- 1) Initial opioid prescription ≤ 7 days supply
- 2) May refill for 1 additional opioid rx ≤ 7 days supply
- 3) Required to check PDMP prior to 2nd opioid prescription



[https://content.govdelivery.com/accounts/CODORA/bulletins/1f1efcc,](https://content.govdelivery.com/accounts/CODORA/bulletins/1f1efcc)

https://leg.colorado.gov/sites/default/files/documents/2018A/bills/2018a_022_enr.pdf

Why? Initial prescribing → future opioid use

FIGURE 1. One- and 3-year probabilities of continued opioid use among opioid-naïve patients, by number of days' supply* of the first opioid prescription — United States, 2006–2015

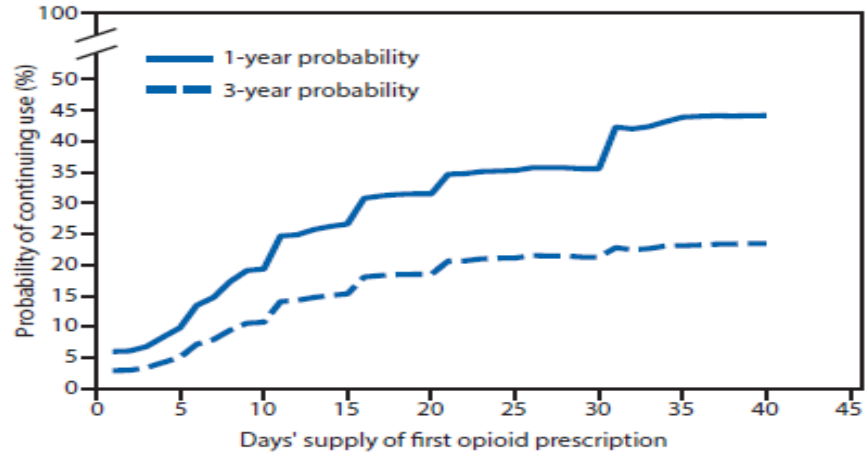
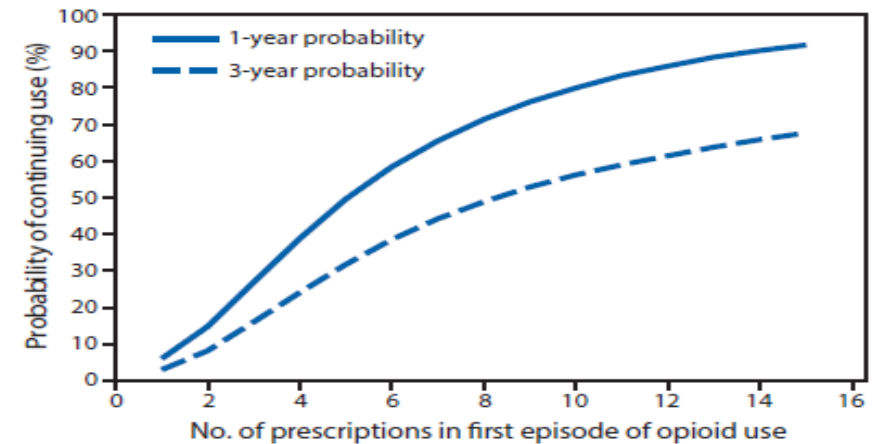


FIGURE 2. One- and 3-year probabilities of continued opioid use among opioid-naïve patients, by number of prescriptions* in the first episode of opioid use — United States, 2006–2015



Why? Initial month → future opioid use

Table 2 Long-Term Opioid Use* in the Full Patient Cohort, by Number of Prescriptions Filled and Total Morphine Equivalents Dispensed in the Initiation Month

Opioid prescriptions during initiation month	Number of patients	No. (%) who became long-term opioid users*	<i>p</i> value [†]	Odds ratio (95 % CI) adjusted for urban or rural residence and categorical age
Number of opioid prescriptions filled			<0.0001	
1	429,597	12,559 (2.9 %)		Reference
2	76,663	8156 (10.6 %)		2.25 (2.17, 2.32)
3	20,093	3351 (16.7 %)		2.60 (2.47, 2.73)
≥4	10,414	2719 (26.1 %)		3.21 (3.03, 3.40)
Morphine equivalents dispensed (MME)			<0.0001	
1–119	210,469	4141 (2.0 %)		Reference
120–279	194,652	6832 (3.5 %)		1.43 (1.37, 1.49)
280–399	46,408	3223 (6.9 %)		2.24 (2.13, 2.36)
400–799	54,858	5683 (10.4 %)		2.98 (2.85, 3.13)
800–1599	21,759	4049 (18.6 %)		4.65 (4.40, 4.91)
1600–2399	5202	1485 (28.5 %)		7.20 (6.66, 7.77)
2400–3199	2377	891 (37.5 %)		11.09 (10.06, 12.21)
3200–3999	1042	481 (46.2 %)		16.07 (14.07, 18.37)

*Long-term use defined as ≥ 6 opioid fills in the 12 months following the initiation month

Why? Momentum is difficult to stop

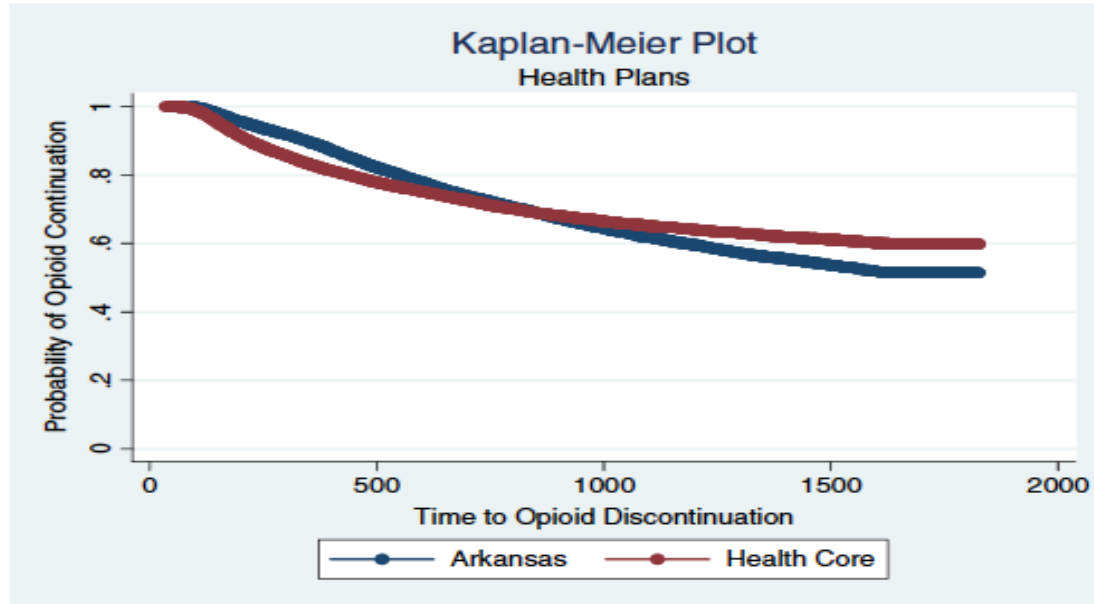


Figure 1. Days until opioid discontinuation by health plan type, 2001–2005.

CO SB 18-022 details

- Initial opioid prescription ≤ 7 days supply
 - If the prescriber has not written an opioid rx in 12 mos
- May refill x 1 additional opioid prescription ≤ 7 days supply
 - No further restrictions after the 2nd opioid rx
- Required to check PDMP prior to 2nd opioid rx
 - Required to enter specialty when entering PDMP
- Exc: chronic pain (>90 days), cancer pain, palliative care, hospice, surgery with pain expected to last > 14 days
- Inc: MD/DO, NP, PA, dentist, optom, podiatry, veterinary

SB 18-022 Compliance



- “Failure to check the PDMP constitutes unprofessional conduct if the prescriber repeatedly fails to comply with this new PDMP requirement”
- “A violation of the new requirements does not constitute negligence or contributory negligence per se and does not create a private right of action or serve as the basis of a cause of action”
- No ability to actively monitor of compliance*



Evaluation 3.1: Prescriber behavior

- Approach:
 - Retrospective cohort, pre/post, all prescribers in CO PDMP
 - Prescribing to opioid naïve pts (12 mo w/o opioid)
 - Intervention: SB 19-022 (3/21/18)
- Variables: provider, specialty, zip code, prescription information
- Comparison: Prescribing before SB 18-022
- Analysis plan: Interrupted time series analysis

Evaluation 3.1: Prescriber behavior outcomes

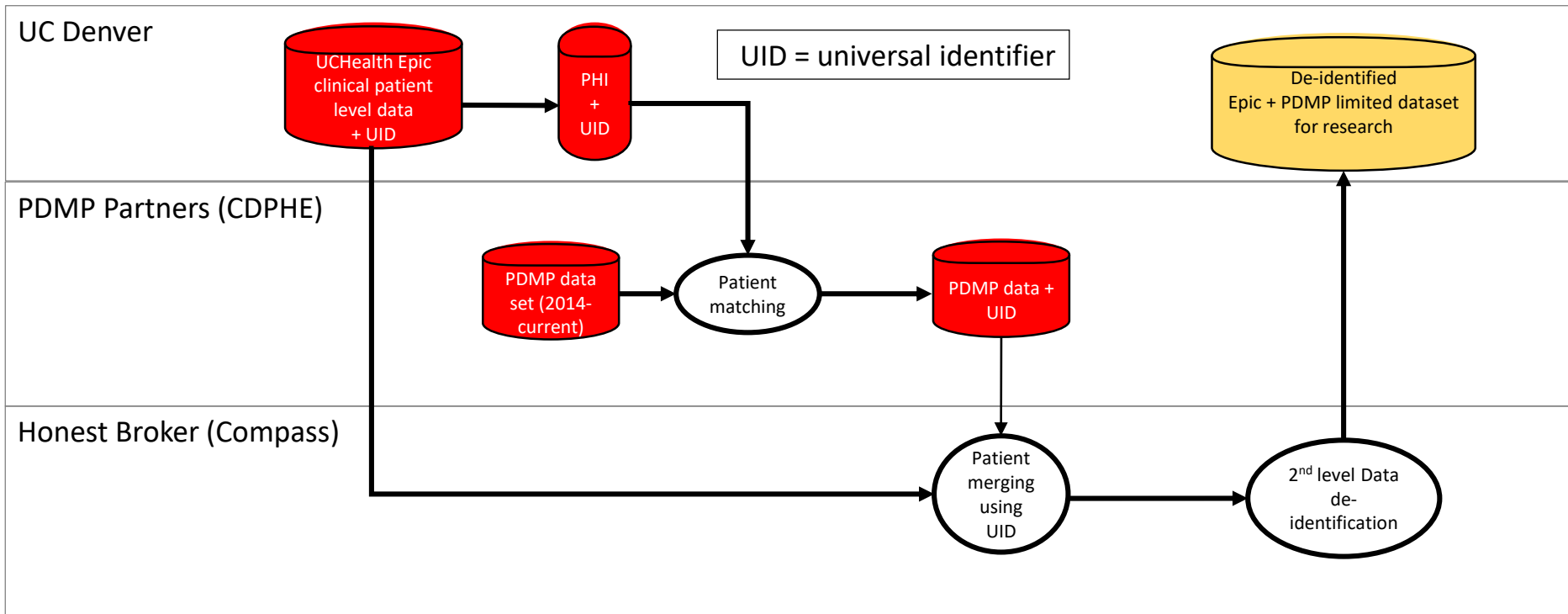
- (1) Does the legislation change prescribing for acute pain in opioid naïve patients?
 - 1st opioid prescription \leq 7 days, 2nd prescription for \leq 7 days
- (2) Does the legislation change compliance with existing opioid prescribing guidelines?
 - Compliance with CDC opioid prescribing
- (3) Does law meant for acute pain management negatively impact patients with chronic pain treated with opioids?
 - For patients chronically on opioids: multiple provider episodes, overlapping prescriptions, or sudden decrease in opioid prescribing

UC Denver approved PDMP Data Flow for Research

Color code:

Clear-text PHI

De-identified data



UCHealth 2018:
3.4 million outpt visits/yr
130k admissions/yr
500k ED visits/yr



Evaluation 3.2: Patient specific

- Approach: Retrospective cohort, patient level EHR and PDMP data, after law
 - Opioid naïve patients receiving opioid rx in UCHealth primary care clinics
 - Intervention: SB 18-022
- Variables: PDMP use, patient characteristics available in EHR, PDMP controlled med information x 6 months after index visit
- Comparison: Patients receiving opioid rx not-complaint with law
- Analysis plan: Descriptive

Evaluation 3.2: Patient specific outcomes

- (1) Is SB 18-022 PDMP check associated with improved patient outcomes?
 - (a) Long-term opioid use in PDMP
 - (b) Aberrant opioid use in PDMP
 - (c) Chronic pain diagnosis in EHR
 - (d) SUD diagnosis in EHR
- (2) Does compliance with PDMP check and/or SB 18-022 have negative consequences for patients?
 - Repeat clinic visits and ED visits in UCHealth system between groups
 - Multiple provider episodes
 - Opioid prescriptions outside UCHealth system

Pros/Cons

- **Provider specific:**
 - Pros: large number, generalizable, reproducible
 - Cons: missing PDMP check data, missing provider specialty, may have multiple providers in same group, definitions, confounding
- **Patient specific:**
 - Pros: merge data → add PDMP checks and patient level clinical info
 - Cons: proxy patient outcomes, limited information re: visits outside system, confounding

Questions

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- <http://www.corxconsortium.org/>