

Impact of Abuse Deterrent Opioids on Street Prices

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RADARS System
Annual Meeting

Washington, DC

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Slides at
@epidemico



See what others paid

e.g. dilaudid california

Search

Did you get a good deal?

Submissions are anonymous

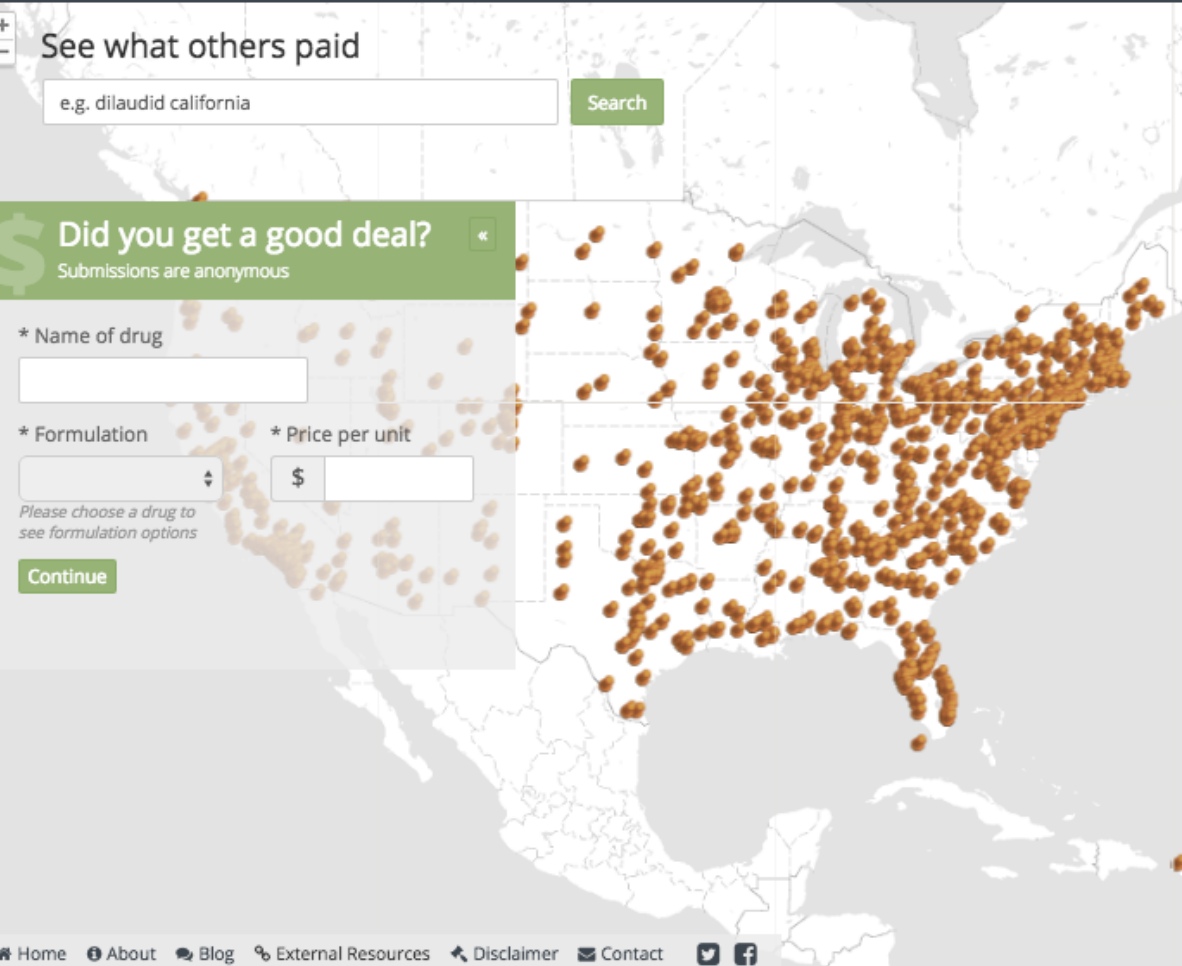
* Name of drug

* Formulation

* Price per unit

Please choose a drug to see formulation options

Continue



\$7 Apr 10 2015 Adderall, 15mg pill Morgantown, West Virginia Rate: \$ \$ \$ \$ \$ \$

\$1.50 Apr 10 2015 Xanax, 2mg pill Richmond, California Rate: \$ \$ \$ \$ \$ \$

\$3 Apr 10 2015 oxycodone, 5mg pill Tennessee Rate: \$ \$ \$ \$ \$ \$

\$8 Apr 10 2015 oxycodone, 5mg pill California Rate: \$ \$ \$ \$ \$ \$

\$2 Apr 10 2015 Klonopin, 2mg pill North Carolina Rate: \$ \$ \$ \$ \$ \$

\$40 Apr 10 2015 heroin (powder), bag powder Oregon Rate: \$ \$ \$ \$ \$ \$

\$3 Apr 10 2015 Adderall, 5mg pill Indianapolis, Indiana Rate: \$ \$ \$ \$ \$ \$

\$2 Apr 10 2015 Vicodin, 5mg/300mg pill New York Rate: \$ \$ \$ \$ \$ \$

\$2 Apr 10 2015 Adderall XR, 25mg pill overland Park, Kansas Rate: \$ \$ \$ \$ \$ \$

\$30 Apr 10 2015 Apo-Oxycodone CR (imprinted APO OCD), 80mg pill Pennsylvania Rate: \$ \$ \$ \$ \$ \$

External Referrals



Find Treatment

SAMHSA, ADIN, DroguesInfoService.fr, L'ANAPAA, DBDD



Overdose Prevention

Medication safety sites, HRC, naloxone



Safe Storage, Disposal & Takeback

FDA, Health Products Stewardship Association



Safe Pain Management & Advocacy

Canadian Pain Coalition, PainAustralia.org, RBK Stuttgart



Harm Reduction

HRC, EuroHRN

Unique Visitors per Day

1.2 Million visitors per year



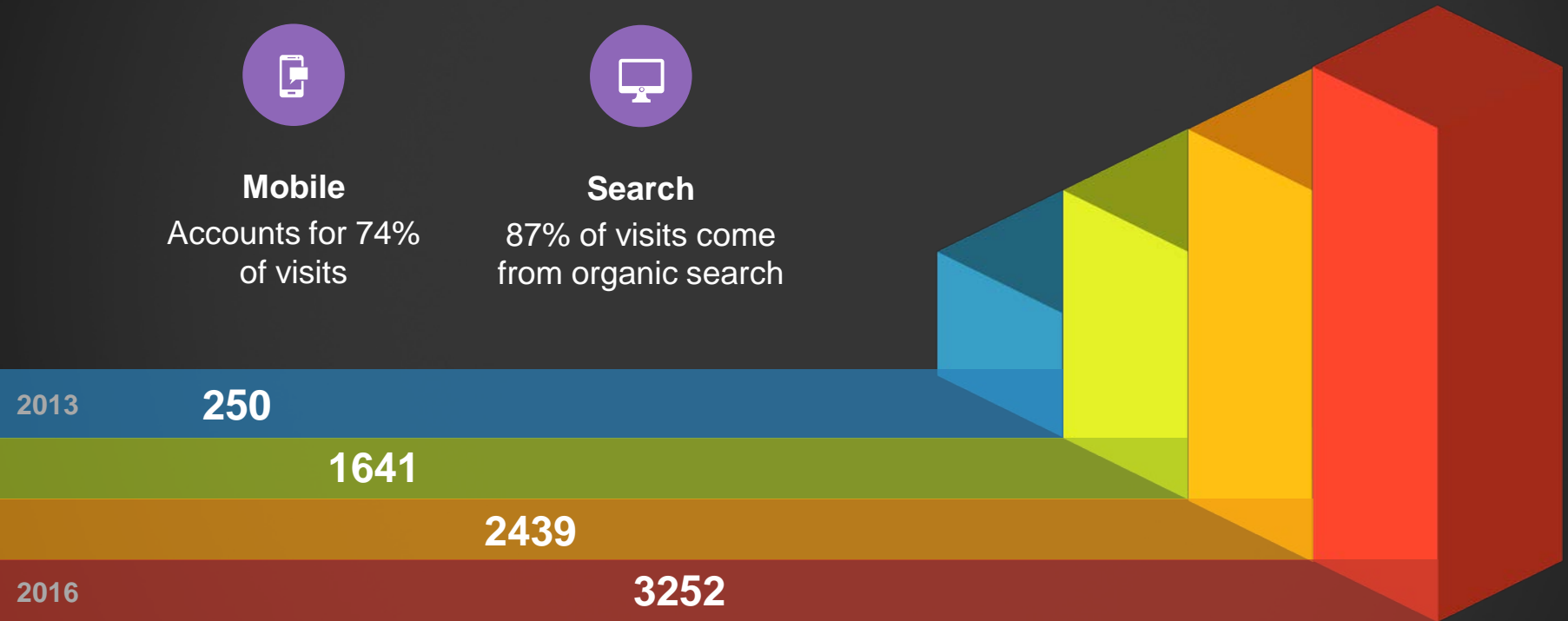
Mobile

Accounts for 74% of visits



Search

87% of visits come from organic search



Visitor Demographics

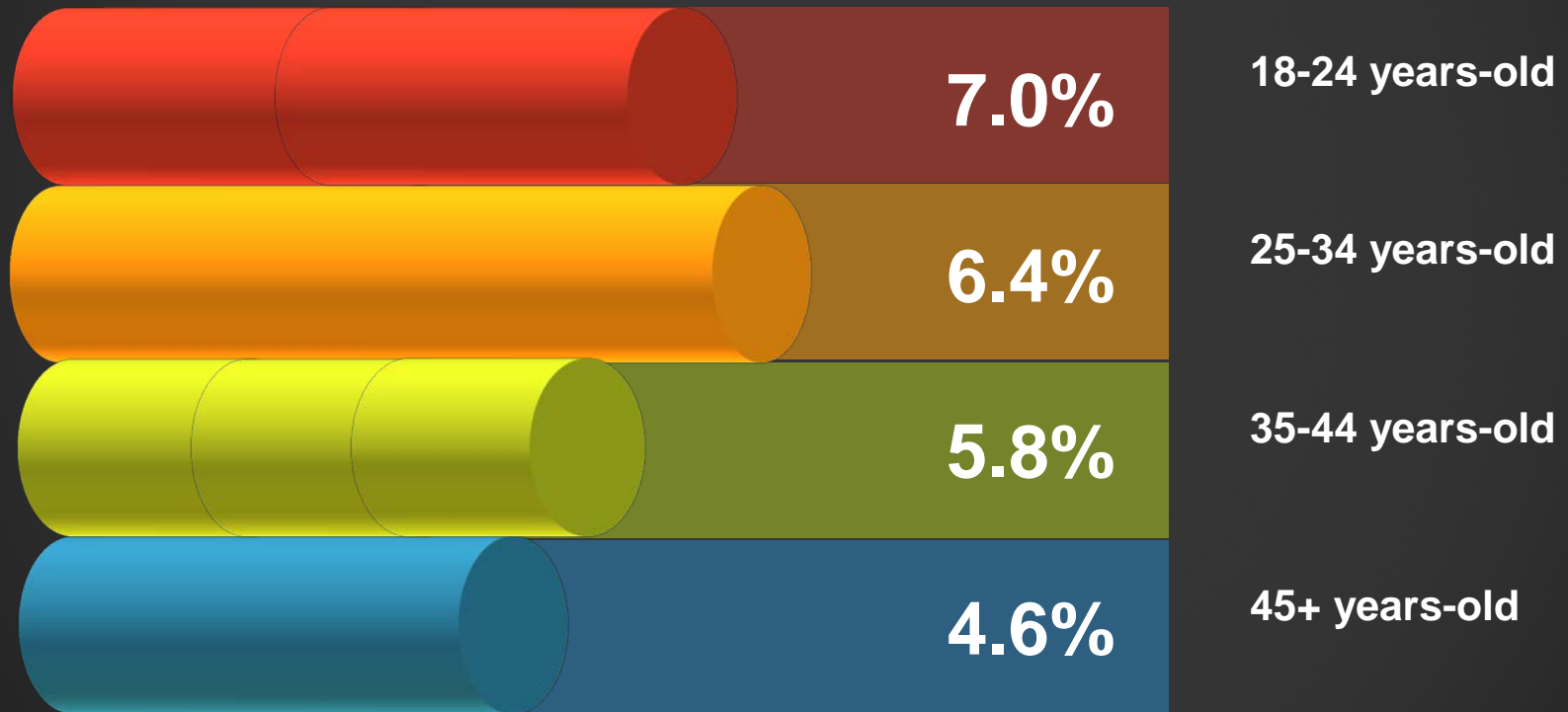
Based on 58% of known demographics from Google account users



As captured by Google Analytics. January 1 through March 31, 2016

Who is Likely to Submit a Price?

Percent of visitors, 58% of known Google Account users, 1Q2016



Methods

Do different deterrence strategies result in discernible street price differences?



STEP 1

USA Data in USD
Nov 1, 2010 through Apr 30, 2016
Solid oral formulations



STEP 2

Compare unprotected to ADF
price per milligram, within
active ingredient



STEP 3

Geometric means and 95% CI
N = 139,434



STEP 4

Non-parametric Wilcoxon
rank-sum (Mann-Whitney)
tests

(Partial-) Antagonists: Subutex vs. Suboxone

Prodrugs: morphine vs. codeine; Vyvanse vs. Adderall

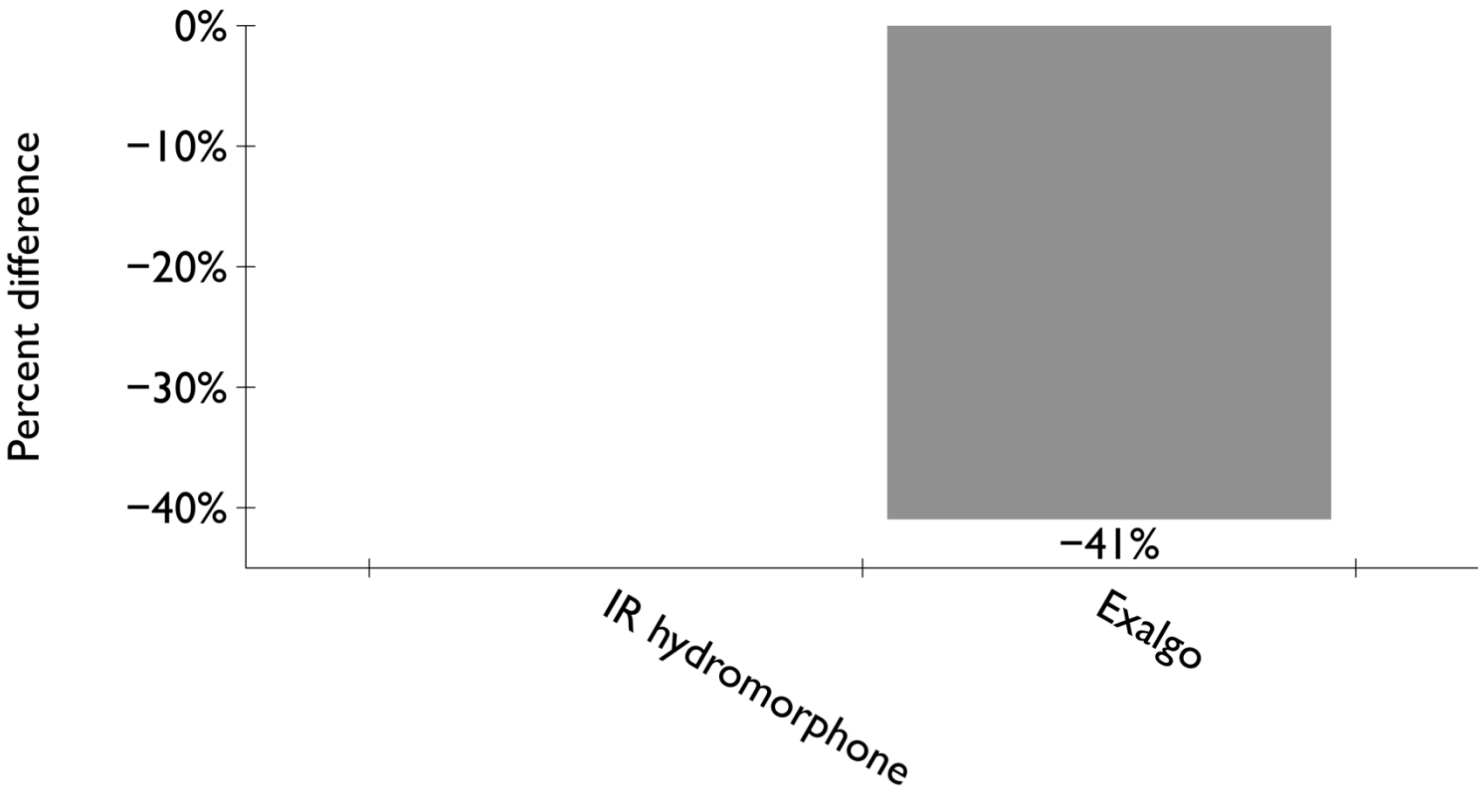
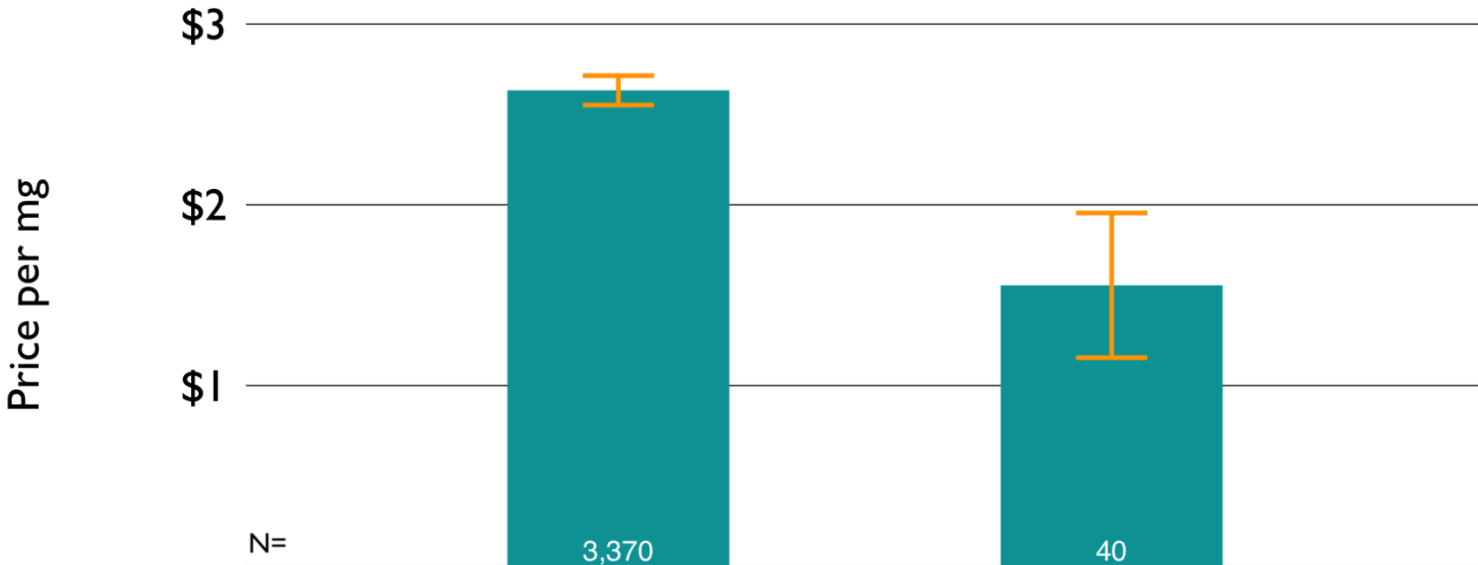
*Physical barriers: Zohydro vs. IR hydrocodone vs. Hysingla ER; OxyContin OC vs. OP;
Opana ER original vs. reformulation; Xartemis XR vs. IR oxycodone;
IR hydromorphone vs. Exalgo; Ritalin vs. Concerta; morphine*

Not enough data to evaluate yet:

Targin(iq), Oxytrex, Oxecta, Quillivant XR, Talwin, Amrix, Xtampza ER, MorphaBond

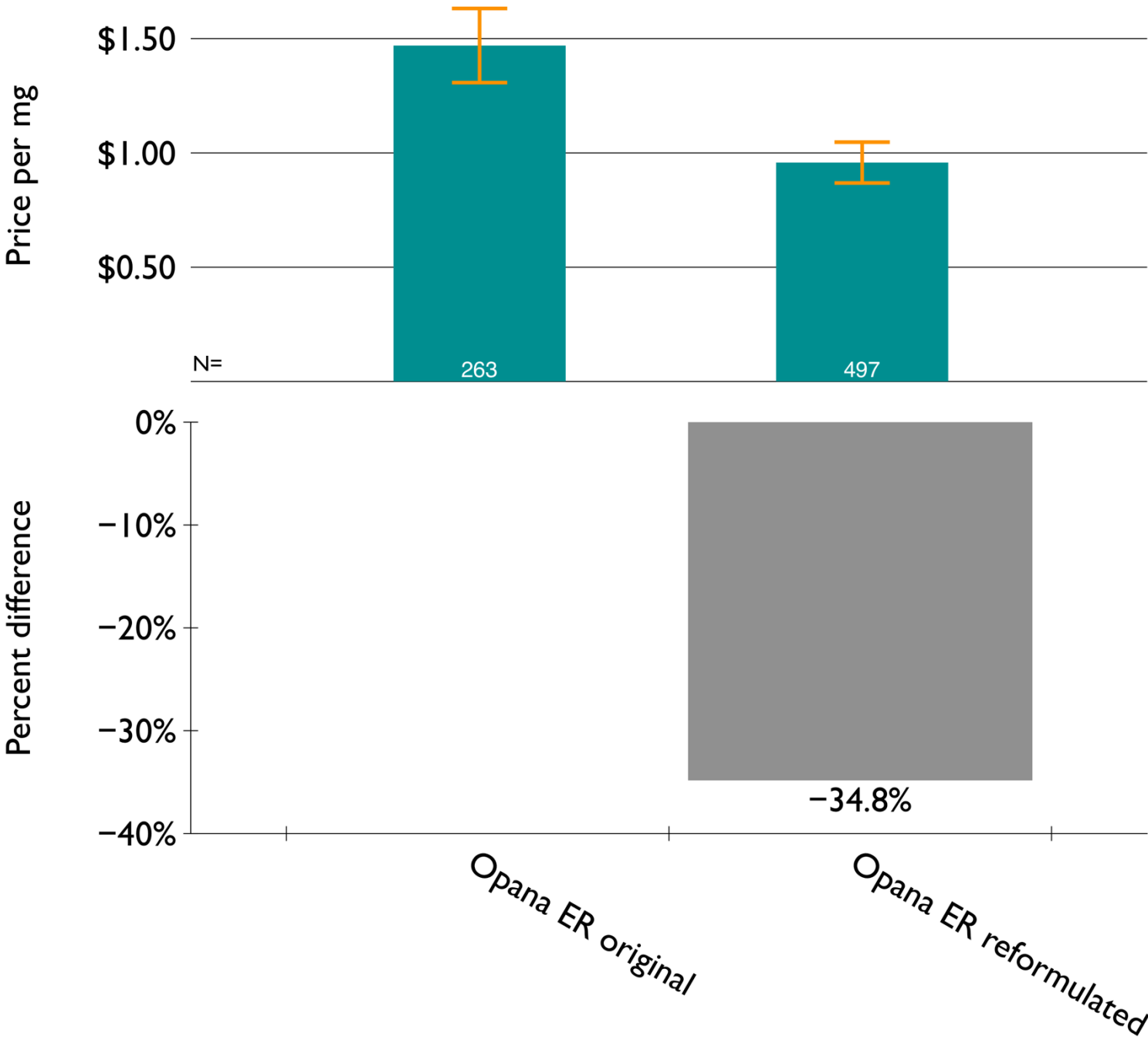
Hydromorphone

\$2.63/mg



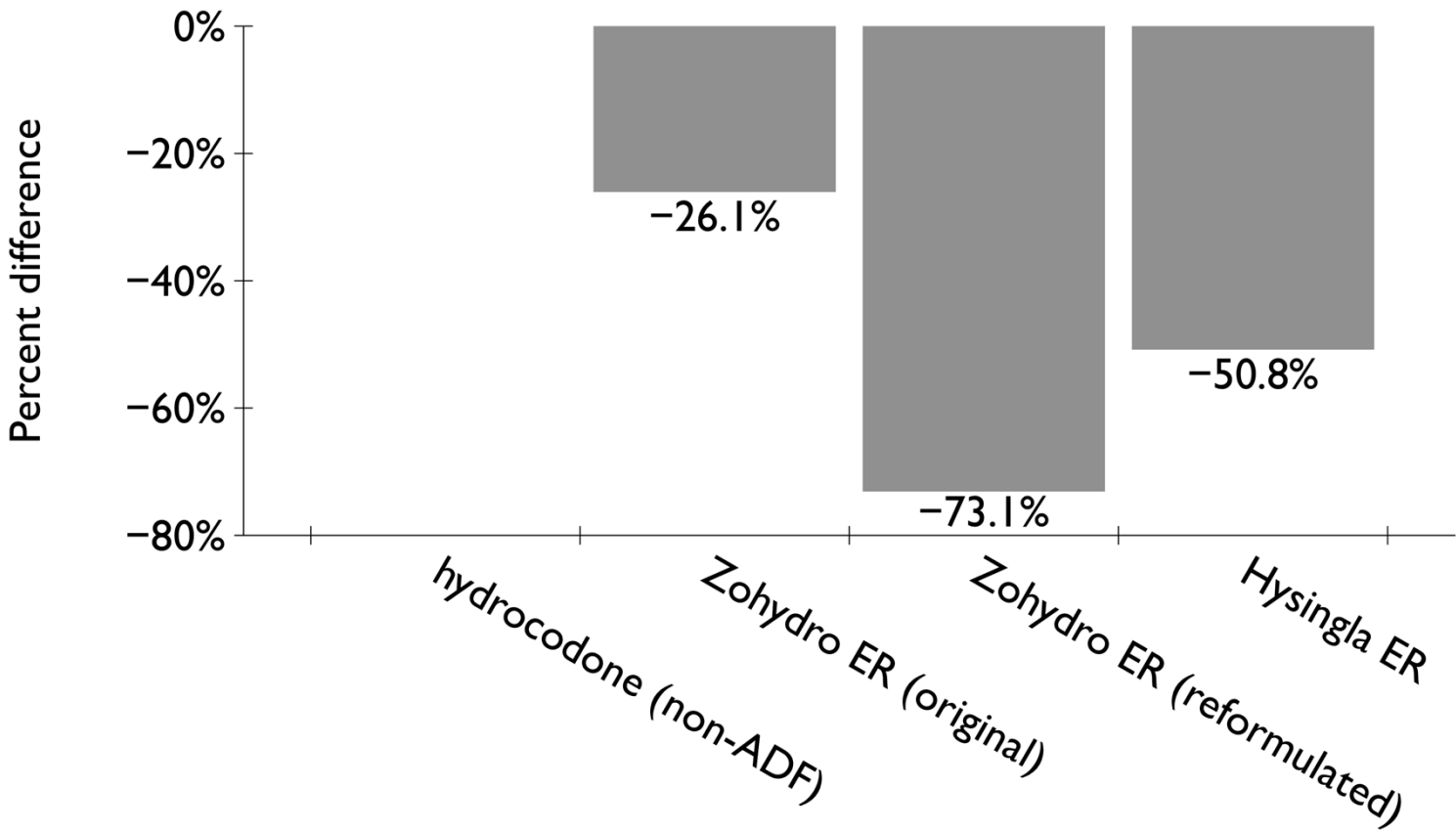
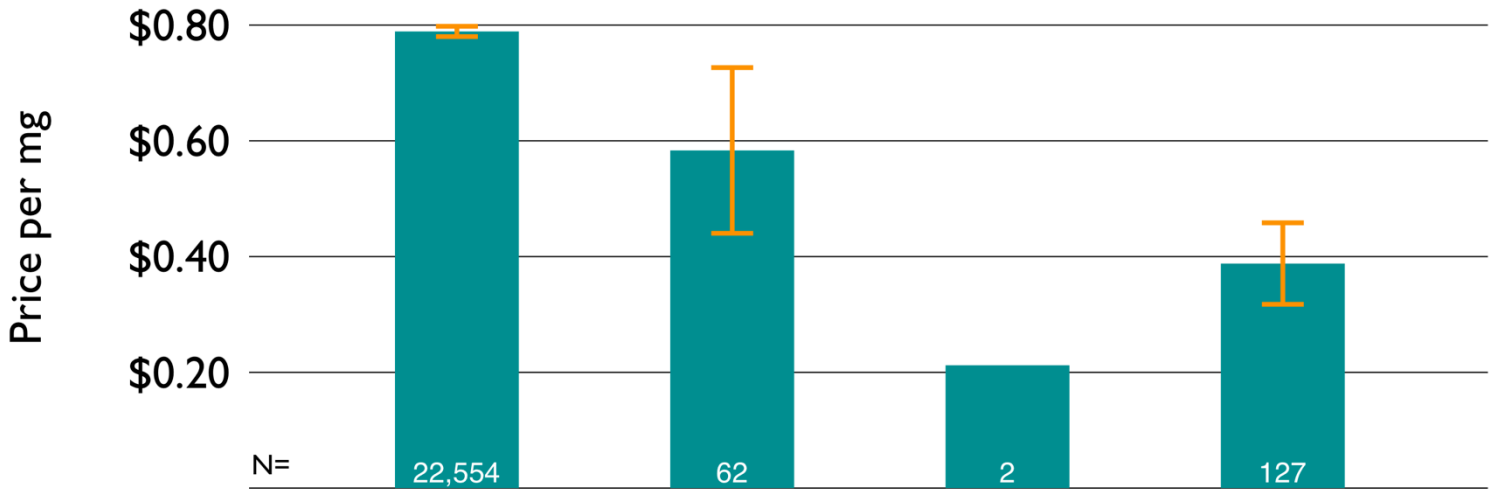
Oxymorphone

\$1.47/mg



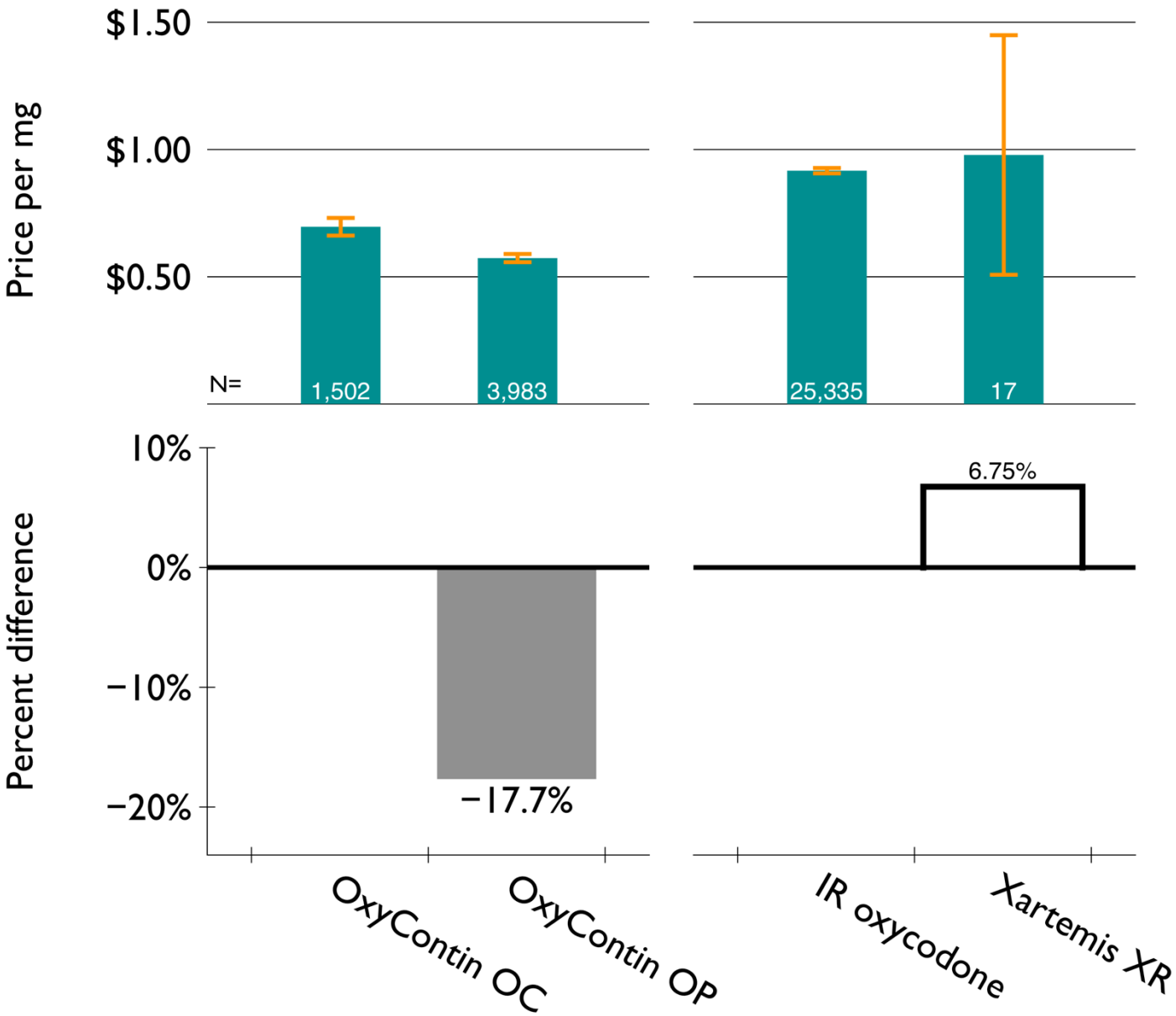
Hydrocodone

\$0.79/mg



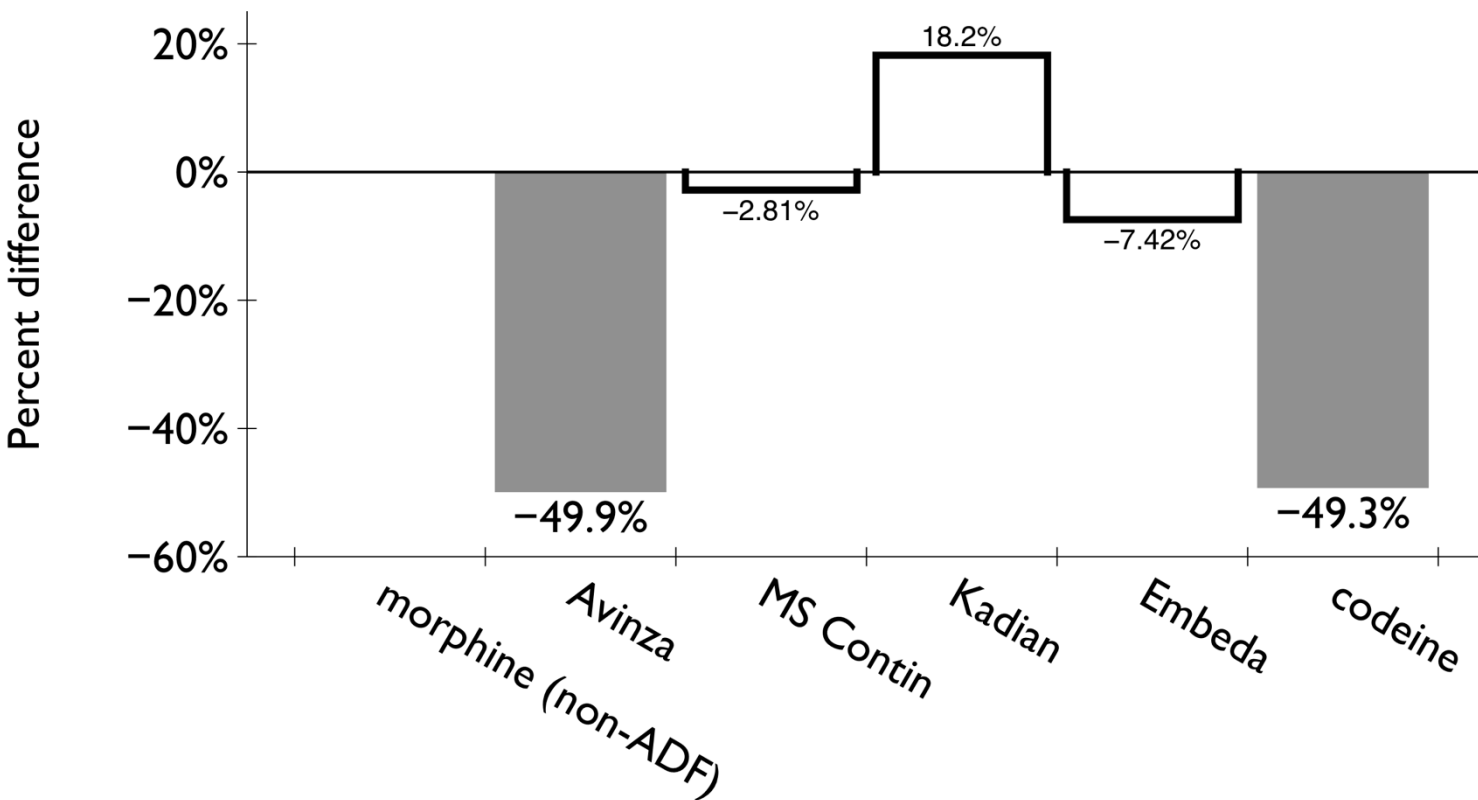
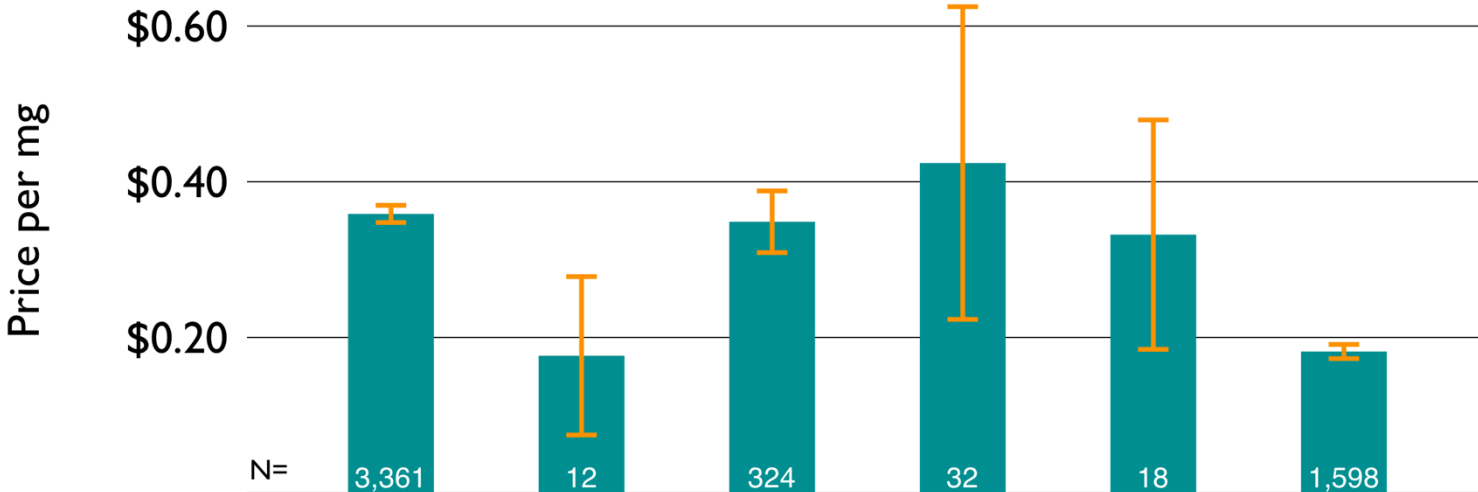
Oxycodone

\$0.92/mg



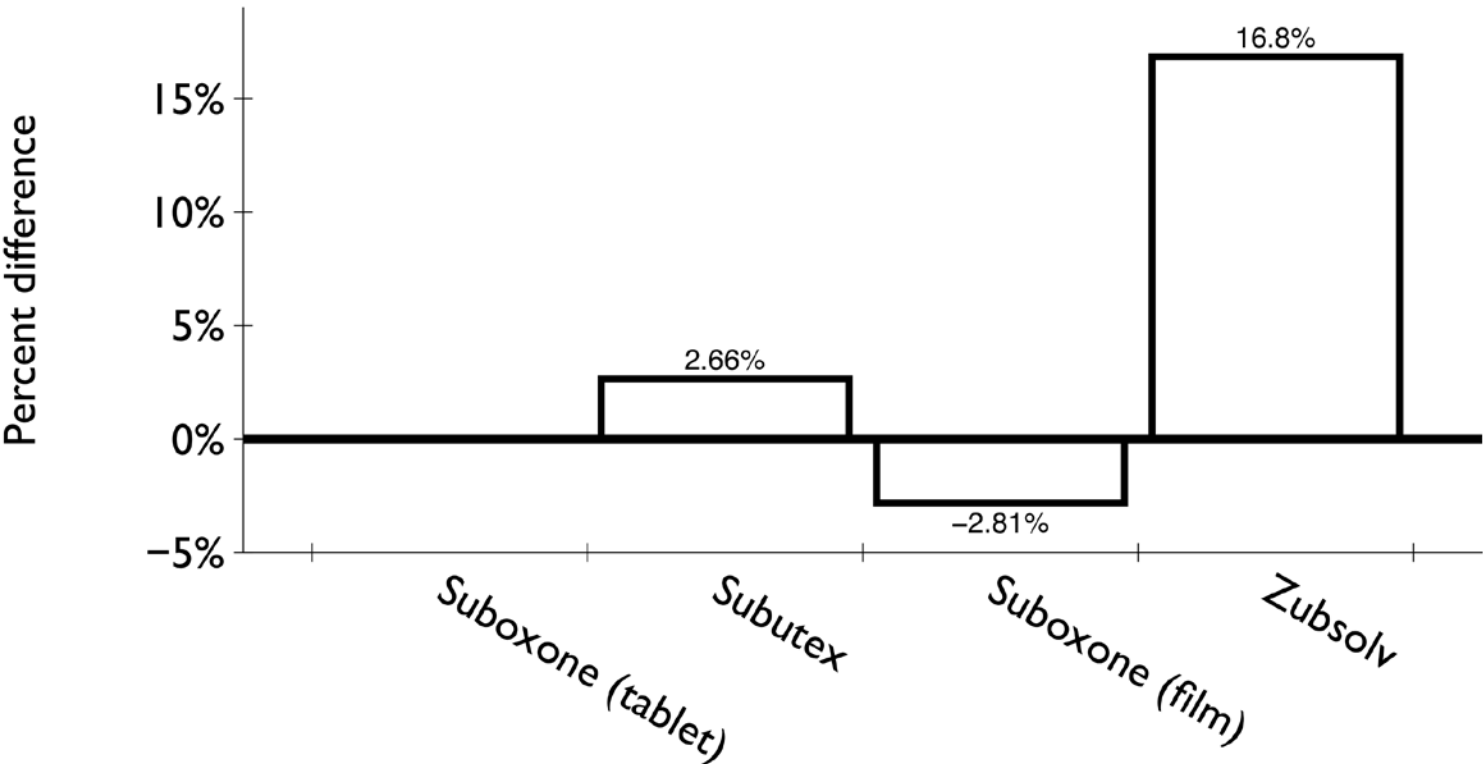
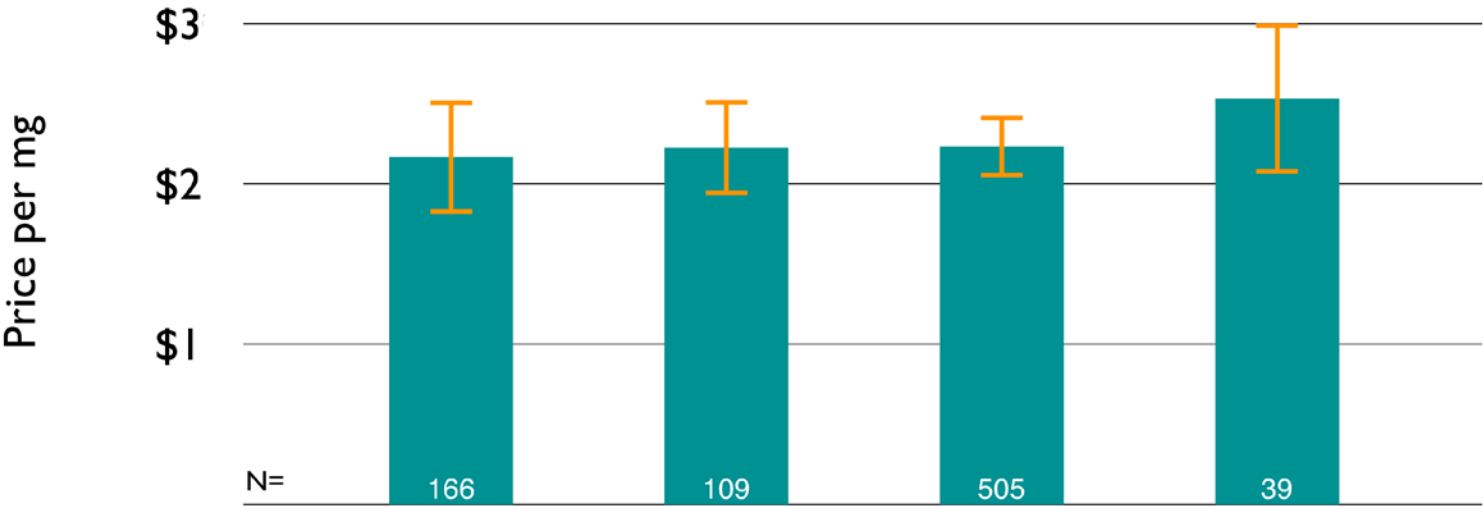
Morphine

\$0.36/mg



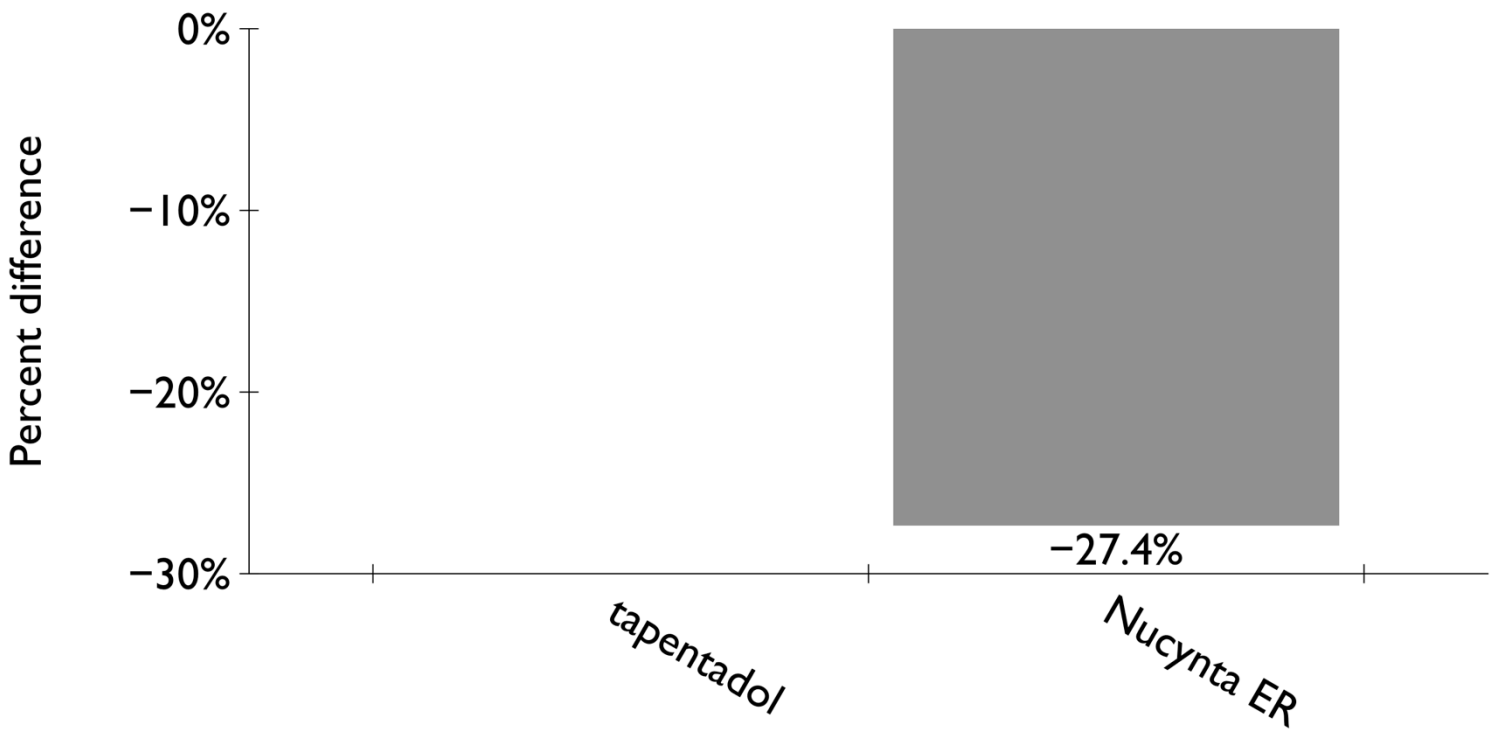
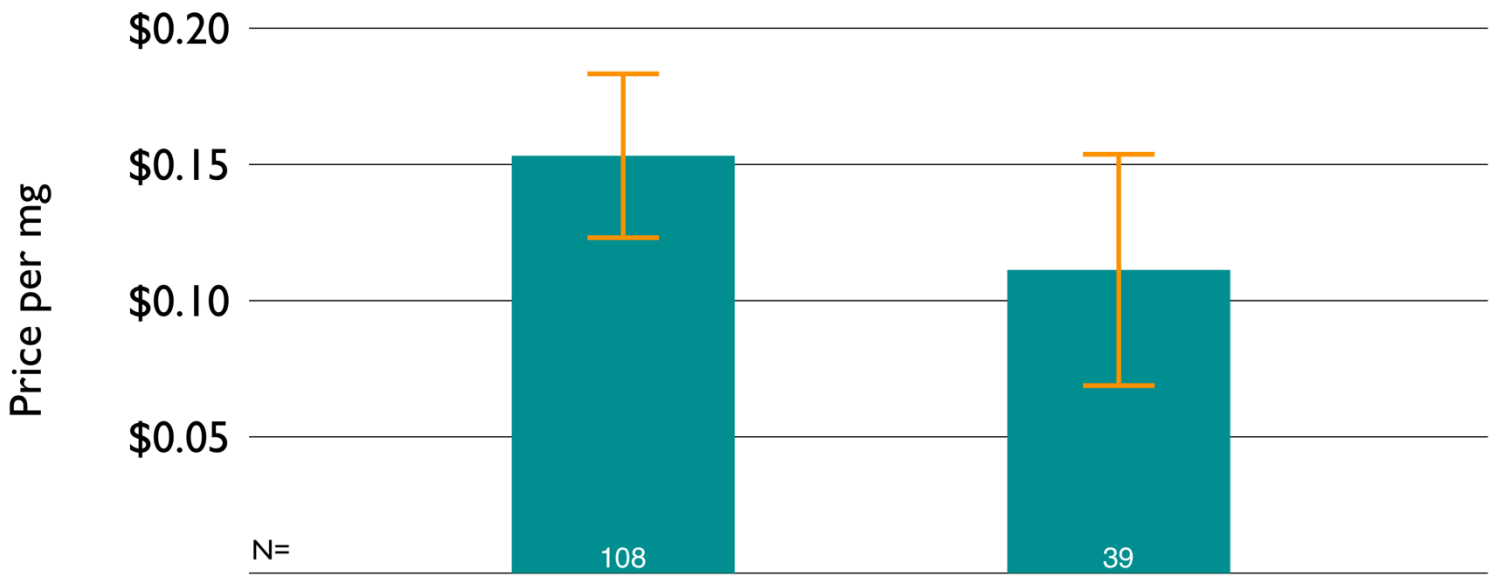
Buprenorphine

\$2.12/mg (Suboxone)



Tapentadol

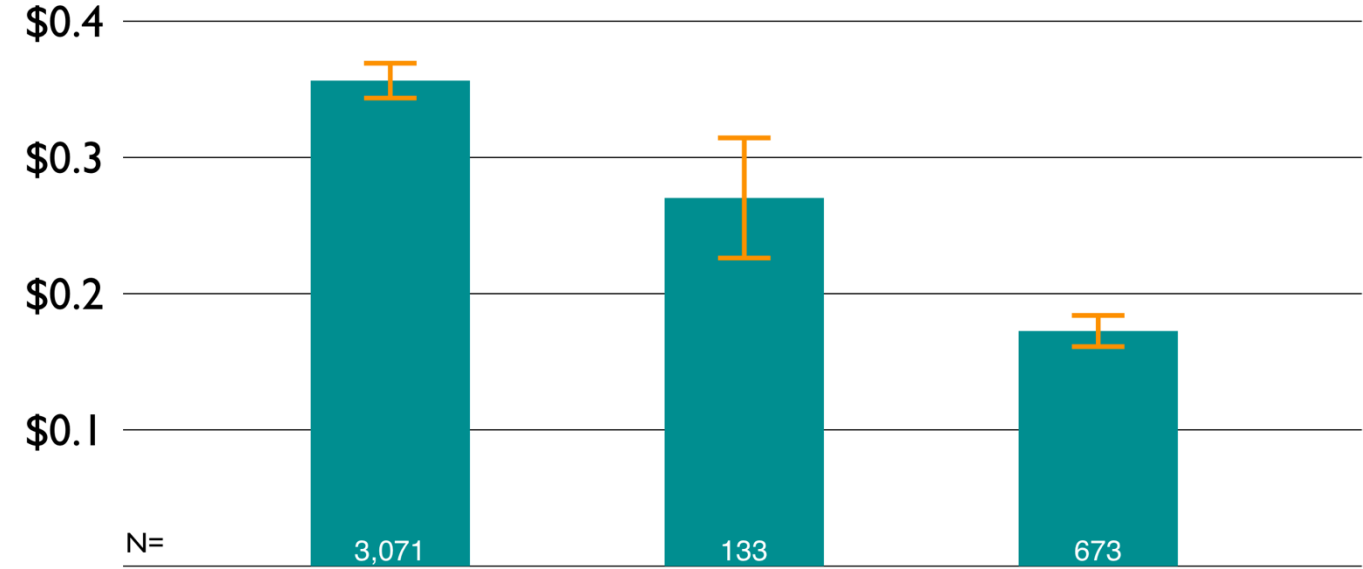
\$0.15/mg



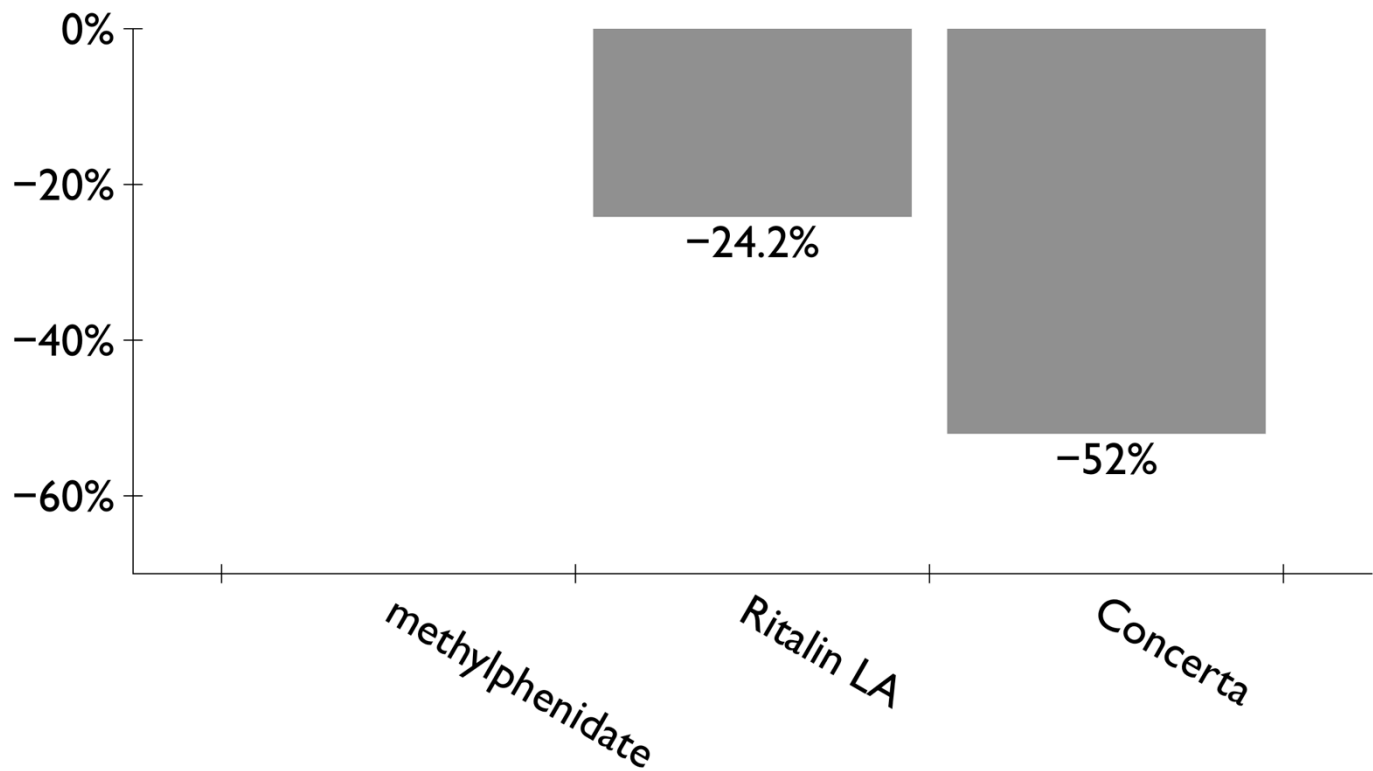
Methylphenidate

\$0.36/mg

Price per mg

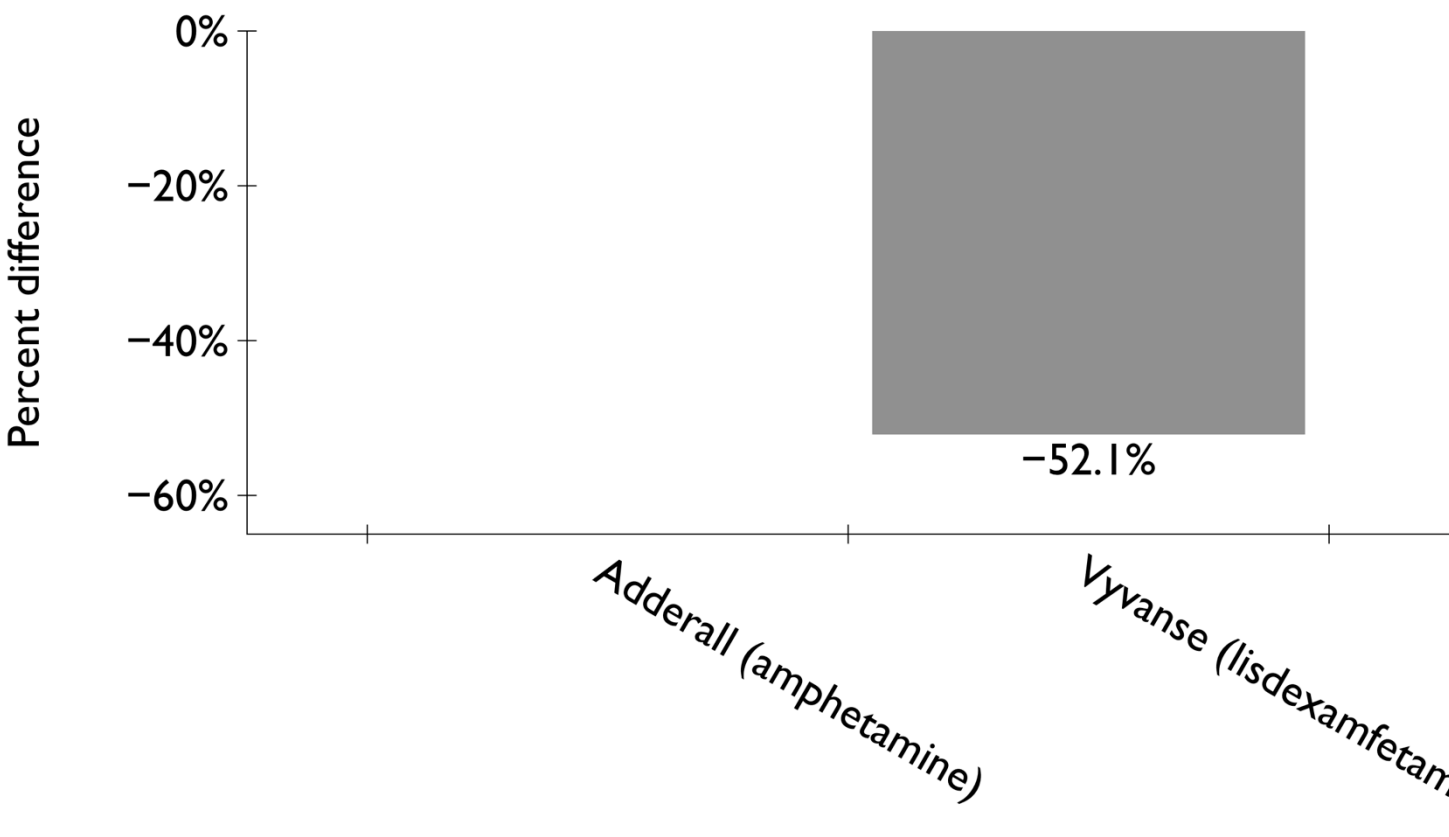
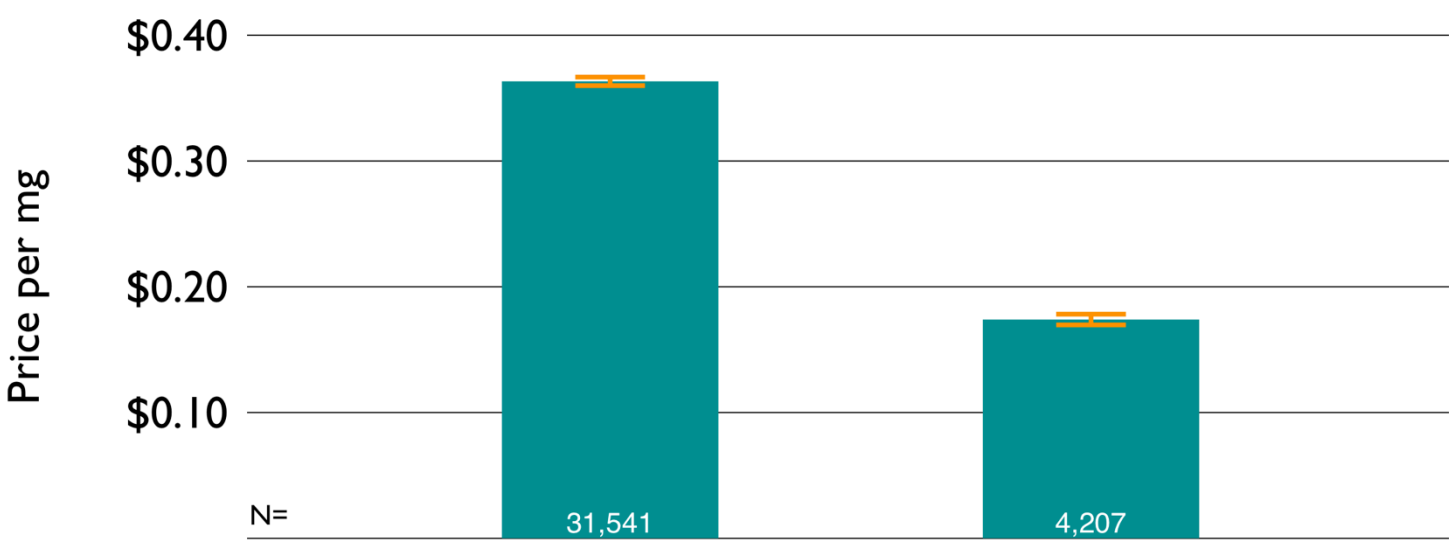


Percent difference



Amphetamine

\$0.36/mg



Percent Discount for ADF Versions

Putative abuse-deterrent formulation versus unprotected formulations with same active ingredient, using statistical comparison that is less influenced by outliers.

