RADARS® System
Buprenorphine

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College on Problems of Drug Dependence

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Opioids and the Stars
Some celebrities have been publicly linked with use of these powerful painkillers (in several cases, with more than one such medication).

Reported past users of OxyContin, generic oxycodone, or Percocet (which consists of oxycodone and acetaminophen):

- Heath Ledger (actor; oxycodone was in his blood when he died)
- Rush Limbaugh (radio talk show host)
- Courtney Love (singer)

Reported past users of hydrocodone, which is chemically similar to oxycodone, including Vicodin (which consists of hydrocodone and acetaminophen):

- Jamie Lee Curtis (actress)
- Eminem (singer)
- Brett Favre (retired football star)
- Cindy McCain (businesswoman, wife of Sen. John McCain)
- Winona Ryder (actress)
- Steven Tyler (singer, American Idol judge)
- Walter Payton (late football legend)
- Matthew Perry (actor)
- Nicole Richie (reality TV personality)
Objectives

• How has availability of buprenorphine expanded?
• Is Suboxone an abuse deterrent formulation?
• Misuse and abuse of buprenorphine in high risk populations
• What happens to innocent bystanders?
What is the RADARS® System?

• History
  – 2006, Acquired by Denver Health and Hospital Authority
  • Multiple pharmaceutical subscribers
  • Independent program
  • Denver Public Safety Net Hospital for 150 years
  • State sanctioned independent authority

• Purpose
  – Measure rates of misuse, abuse and diversion of prescription drugs
Mosaic Strategy for Postmarketing Surveillance of Medications
RADARS® System Process
Adding the Denominator

Numerator compiled by each program

Two Denominators:

1. Population
   Tried and true - Disease burden on whole population
   Does not account for drug availability

2. Unique Recipients of Dispensed Drug (URDD)
   Number of unique people filling prescription for drug
   Accounts for availability of drug in community
   Relates events to corresponding patient benefit
   Alternatives – pill count, total mgs of drug
Buprenorphine Data Comparison
RADARS System & CESAR Fax
Availability of Buprenorphine has Expanded
Unique Recipient of Dispensed Drug (URDD)
Buprenorphine Rates
Poison Center, Drug Diversion Programs
Population Rate (2006 – 2011)

Poison Center

Drug Diversion
Opioid Treatment Program
Population Rate 2010 Q1 - 2011 Q4

- Total Buprenorphine

- SI Buprenorphine
- Suboxone Tablets
- Suboxone Oral Film
Survey Key Informants’ Patients
Population Rate, 2010 Q1 - 2011 Q4

- Total Buprenorphine

SI Buprenorphine
Suboxone Tablets
Suboxone Oral Film
Total Buprenorphine
Survey Key Informant Patients
URDD Rate, 2010 Q1 - 2011 Q4

Population Rate

2010 2011
SI Buprenorphine Suboxone Tablets Suboxone Oral Film Total Buprenorphine

URDD Rate

2010 2011
SI Buprenorphine Suboxone Tablets Suboxone Oral Film Total Buprenorphine
Drug Diversion
Population Rate, 2010 Q1 - 2011 Q4
RADARS® System
Poison Center Program –
Medical Outcomes and Exposure Reasons
Poison Center Program
Unintentional General, Medical Outcome
Children 0-12 Years (2009 Q4 – 2011Q2)

Rate per 100,000 Population

Rate per 1,000 URDD

SI Buprenorphine
Suboxone
Suboxone Oral Film
Poison Center Program
Unintentional General, Medical Outcome
Children 0-12 Years (2009 Q4 – 2011Q3)

Bar chart showing the number of cases for different effects of poisoning for SI Buprenorphine, Suboxone, and Suboxone Oral Film. The x-axis represents the severity of effects: No effect, Minor effect, Moderate effect, Major effect, and Death. The y-axis represents the number of cases. The chart indicates that SI Buprenorphine has the highest number of cases, followed by Suboxone and then Suboxone Oral Film.
Poison Center Program
Exposure Reasons (2011 Q3)
RADARS® System
Drug Diversion and StreetRX Programs
Buprenorphine Street Price
StreetRx – Price Per mg
(1/1/2011 – 2/13/2012)
Drug Diversion SPQ – Price Per mg (2011 Q3)
Conclusions

• Has availability of buprenorphine expanded?
  – Dramatic increase in people filling a prescription (URDD)
  – Marked increase of misuse and abuse in all systems
  – Street price is higher than other opioids
  – Single ingredient is on the rise, highest in OTP and SKIP

• Is Suboxone an abuse deterrent formulation?
  – Yes, endorsements are falling and lower than SI

• Misuse and abuse of buprenorphine in high risk populations (OTP and SKIP)
  – Total endorsements rising quickly
  – Single ingredient is generally preferred
Conclusions

• What happens to innocent bystanders?
  – Unintentional Exposure Rates in the pediatric population have declined over the past year and a half
  – Majority of “Major” and “Death” outcomes associated with single ingredient buprenorphine
Thank You!