Buprenorphine diversion

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Disclosures

Dr. Martin has no financial conflict of interest in this presentation.

Dr. Martin's bias is that medication-assisted treatment should be equitably available in medical settings.

Case example: Ms. Merrill

Discussion in small groups.

What is diversion? When is it bad?

Outpatient services in lieu of ED and hospital visits: GOOD diversion

Addiction treatment pre-plea or pre-incarceration: GOOD diversion

Child finds a salmon-colored tablet and pops it into mouth: BAD diversion

Patient sells half her dose to a stranger: ?BAD diversion

Patient shares dose with household heroin users who want to cut back: ? BAD diversion, or possibly lack of treatment access?

Patient stockpiles drug to go on vacation: ?BAD diversion, or rigid treatment protocols?

NO Diversion: is it a good thing?

If there is zero diversion in a community, does it mean well structured care, or does it mean no access to this medication?

What is a diversion control plan?

Structured approach to preventing and addressing diversion

Usually includes a range of observation, including directly observed dosing.

Usually includes toxicology and buprenorphine testing.

Usually includes a patient agreement about behavior, and refill policy.

Often has a variety of levels of concern: selling versus stockpiling or sharing, early refills versus late refills, presence vs absence of buprenorphine in urine, etc.

(Usually not completely evidence-based.)

Evidence base, review of literature on diversion in MAT

Review of diversion literature

'Buprenorphine diversion' yielded 169 results in pubmed.

Several articles discussed in this slide set on topics of:

- Statistics and variability by formulation and setting
- Risks and benefits of diversion
- Types of 'diversion' – definition variable
- Patient and clinician attitudes about diversion

Overall statistics

Lavonas et al, Journal of Substance Abuse Treatment 47 (2014) 27–34:

Roughly 2 year study period, 2011-2012, drawing from multiple sources, including surveys of patients entering treatment and college entrants, police and poison control centers.

(750,000 persons filled prescriptions for buprenorphine in the last three months of 2012).

1,068 reports of intentional non-medical use of buprenorphine reported to poison control

4,669 patients entering treatment endorsed recent non-medical use (37.8%)

183 college students reported non-medical use.

1,374 cases of diversion reported by law enforcement.

Statistics, cont. film vs tablet, bup vs bnx

Lavonas et al, Journal of Substance Abuse Treatment 47 (2014) 27–34:

"**Combination film rates were significantly less than rates for either tablet formulation in all programs**. …

The availability-adjusted **injection abuse rate** for single ingredient buprenorphine tablets was 20 times the injection abuse rate for the combination film, and combination tablet injection was reported at a supply-adjusted rate 2.5 times that of combination film."

Bup vs bnx; film vs. tablet, Australia

Larance et al, Drug Alcohol Depend. 2014 :

Diversion and non-adherence of BNX was similar to methadone among 543 MAT clients in 2012.

More injection use was reported by BUP than BNX.

Statistics on risk: overdose

Paone et al, Drug Alcohol Depend. 2015 :

Review of blood samples from 98 unintentional overdose decedents in New York City in 2013.

All had multiple substances.
Only 2 of 98 had buprenorphine metabolites.

Statistics on risk: youth addiction

Richert and Johnson, Harm Reduct J. 2013 :

Less that 0.1% of Swedish high schoolers reported illicit use of buprenorphine or methadone. (However 54% youth and young adults in compulsory treatment tested positive.) So diverted MAT not seen as a 'gateway drug'.

Reports of benefits of diversion:

Monico et al, J Subst Abuse Treat. 2015 :

Examines association between use of non-prescribed buprenorphine and subsequent retention in treatment.

Among 300 African American patients entering treatment, there was significantly higher odds of remaining in treatment at 6 months for those with prior illicit use. 20 patients were interviewed about non-prescribed use.

Reasons given were:

"1) perceived effectiveness of the medication;

2) cost of obtaining prescription buprenorphine compared to purchasing non-prescribed medication;

3) convenience of obtaining the medication via daily-dosing or by prescription compared to non-prescribed buprenorphine."

Diversion during observed dosing, motivation and method of diversion

Winstock et al, Journal of Addictive Diseases, 2009:

Interviews upon suspected diversion after observed dosing, 71 episodes among 52 clients in public MAT programs in Sydney Australia, 2005-6. (all were tablets)

35/71 diverted by removal from mouth, usually to hand or clothing,

28/71 diverted by moving tablet to other place in mouth.

4/71 diverted by leaving before dose dissolved

Plans:

15/71: stockpiling for later use

11/71: discarding

5/71: giving to another person

Motivation for diversion when given:

Winstock et al, Journal of Addictive Diseases, 2009:

Dose too high, Stockpile to manage withdrawal, want to split dose, divert to friend, unpleasant taste or burning, fear hard to get off, too long to dissolve, peers standing there expecting, didn't want dose that day, wanted self detox.

Clients recommended crushed tablets and mouth rinsing as ways to manage diversion.

Extended diversion: self maintenance

Richert and Johnson, Harm Reduction Journal (2015) 12:1

27 opioid users of methadone or buprenorphine for period of 5mos to 7 years in Sweden were interviewed.

Wanted to improve life, or cut back heroin. Perceived barriers to MAT:

(1) difficulties in gaining access to OST due to strict inclusion criteria, limited access

to treatment or a bureaucratic and arduous assessment process,

(2) difficulties remaining in treatment, and

(3) ambivalence toward or reluctance to seek OST, primarily due to a fear of stigmatization or disciplinary action.

Prisoners and diversion

Havnes et al. Harm Reduction Journal 2013, 10:24

12 Norwegian prisoners on MAT were interviewed in depth , most of them twice.

Diversion patterns were similar in and out of prison, including informal economy, and sharing with individuals experiencing withdrawal.

Clinician experience:

Schuman-Olivier et.al, Am J Addict. 2013 :

Survey of 369 SUD clinicians in 2010 done at a conference.

40% saw BNX diversion as dangerous, and that group was more likely to say that diversion was to get high, and diversion caused overdoses.

Clinicians who perceived BNX diversion as less dangerous believed that diversion was sharing with peers who don't have access to treatment.

Clinician experience, cont.

Johnson and Richert, J Psychoactive Drugs. 2014 :

25 clinicians from 8 MAT programs in Sweden interviewed. Diversion was seen as a problem. Reasons given:

Overdose risk, producing new addiction, ongoing criminal milieu, undermines MAT legitimacy.

On the other hand, makes up for low access and perceived as safer than heroin.

Summary: buprenorphine diversion

Diversion is seen wherever buprenorphine is available

Persons who inject drugs prefer buprenorphine to buprenorphine/naloxone

Patient experience of diversion includes informal economy, as well as care of other persons in withdrawal.

In situations of difficult access to care, self-treatment, even self-maintenance is seen.

Clinicians have a range of concerns and beliefs about diversion.

Formal treatment programs may have a diversion control plan.