Prescription Drug Misuse and Overdose: An Emerging and Critical Injury Problem

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1. Training and project background

2. Context of prescription drug overdose

3. Recent research projects
Training and Education

• BA, University of Maryland, 2002
  – Psychology and English

• MHS and PhD, Johns Hopkins Bloomberg School of Public Health, 2008
  – Department of Mental Health
  – Drug Dependence Epidemiology T32

• Post-Doctoral Fellow, Ann Arbor VA & University of Michigan, 2010
  – Health Services Research
  – Brief Interventions, RCTs
Research Portfolio Development

Research Areas

- Epidemiology
- Brief Interventions

2010 - 2014

- VA Career Development Award: Opioid Use and Overdose in VHA
- VA RRP
- NIA R03: Older Adults and Opioids
- CDC Small Research Project
- NIDA R34

IC Pilot
Research Focus: Prescription Opioid Use and Overdose

Context:

• Opioid (narcotic pain medication) use is common for acute and chronic pain
• Opioid medications are also a drug of abuse
• Opioid overdose has increased substantially, driving increases in overdose morbidity and mortality
Comparison to Other Major Unintentional Injury Causes of Death

Number of Unintentional Deaths by Selected Injury Causes among adults age 18+ in the US

- Unintentional Poisoning
- MV Traffic Accidents
- Unintentional Falls
All trends in rates are significant by the Cochrane Armitage Trend test (p<0.001)

Fig. 1. Age adjusted overdose death rates in 15–64 year olds 1999–2009.
Opioid Medications: pain medications that contain opioids (naturally occurring or synthetic) and require a prescription in the U.S., including codeine, percocet, fentanyl etc.
Prevention Strategies

Pain Treatment

- Prescription monitoring systems
- Prescribing practices
- Patient and caregiver education

Extra-Medical Use

- Diversion reduction
- Universal prevention to reduce initiation
- Harm and use reduction

Naloxone
- Changes to pharmacology of medications
Research Questions

• Who is at highest risk for overdose?

• How can adverse outcomes of opioid use be prevented?

• How can injuries related to medication and substance use be reduced?
Opioid Overdose-Related Studies

Two Projects:

1. Opioid dose and overdose in Veterans Health Administration
   - VA Career Development Award

2. Safety & Prevention Outcomes Study (SPOS)
   - Brief opioid overdose prevention intervention in the ED
   - CDC Injury Center Small Research Project
Association Between Opioid Prescribing Patterns and Opioid Overdose-Related Deaths

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Opioid Dose and Risk of Unintentional Overdose Death

Hazard Ratio, compared to 1 to <20 MEM

Daily Prescribed Dose, Morphine-Equivalent mg

- Chronic Pain, all Ages
- Older Adults
A recent VHA case-cohort study evaluated the association of maximum prescribed daily opioid dose with risk of opioid overdose death among veterans in various diagnostic subgroups. Data were obtained from 154,684
SPOS: Objective

• To develop and conduct a randomized controlled trial of a BI aimed at:
  – Reducing risky overdose-related behaviors
  – Improve response when witnessing an overdose
  – Outreach to at-risk friends
Setting

- Location: University of Michigan Emergency Department
- Rationale: 1/3 of patients leave ED with an opioid, non-medical use of opioids common, setting where overdoses are treated
Eligibility Criteria

- Past 3 month extra-medical prescription opioid use
- Age 18-60
- Able to provide informed consent
- Oversampled individuals with prior overdose
Protocol

• Research staff approach while waiting for care

• Consent and screen via computer tablet - Part 1

• Those eligible recruited and consented for Part 2

• Baseline survey via computer tablet, computer randomized to intervention or enhanced usual care
Intervention Elements

• Brief Motivational Enhancement (ME) Interventions
  – Non-judgmental, empathetic
  – Focused on increasing self-efficacy, setting goals, overcoming barriers to change

• Overdose Witness Response Interventions
Intervention Delivery

- Master’s level trained therapists
- Computer aid to enhance fidelity and provide prompts as needed
- Enhanced Usual Care: pamphlets
Sample

• N=203 completed baseline and post-test
• 64% female
• Age: mean 37 (SD=13), range 18-60
• Race: 20% Black, 75% White, 5% Other
• Overdose history: 76%
Perceived Helpfulness

• Among intervention participants:
  – 93% said they “liked” or “liked a lot”

  – 83% said they found it “somewhat helpful” or “very helpful” to talk about how to reduce risk of overdose

  – 95% said they found it “somewhat helpful” or “very helpful” to talk about what to do if they saw an overdose
Conclusions

• Brief interventions delivered in the emergency department to prevent overdose and improve overdose bystander response are feasible and highly acceptable to patients who are at risk for overdose.

• No intervention effects on behavioral intentions.
Next Steps

• 6 month follow-up data
  – Conservative follow-up rate of 81%
  – A few weeks remaining to contact those who have not yet responded

• Outcomes: overdose risk behaviors, extra-medical opioid use
Future Plans

1. Epidemiology- VHA overdose risk score
2. Brief Interventions- Technology assisted opioid overdose safety intervention for post-ED pain care

Thank you! amybohne@med.umich.edu