

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



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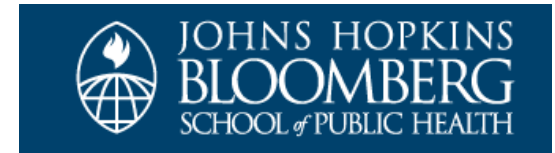
VA Center for Clinical Management Research

# Outline

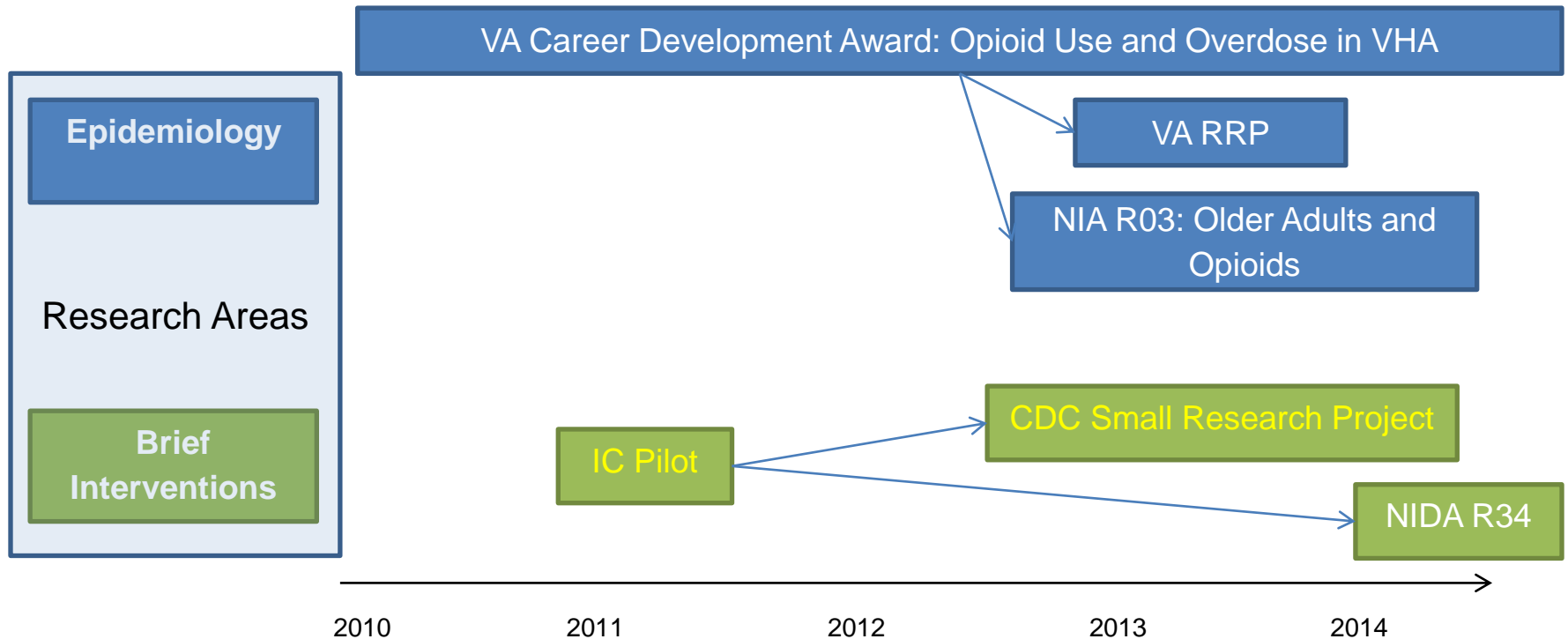
1. Training and project background
2. Context of prescription drug overdose
3. Recent research projects

# 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



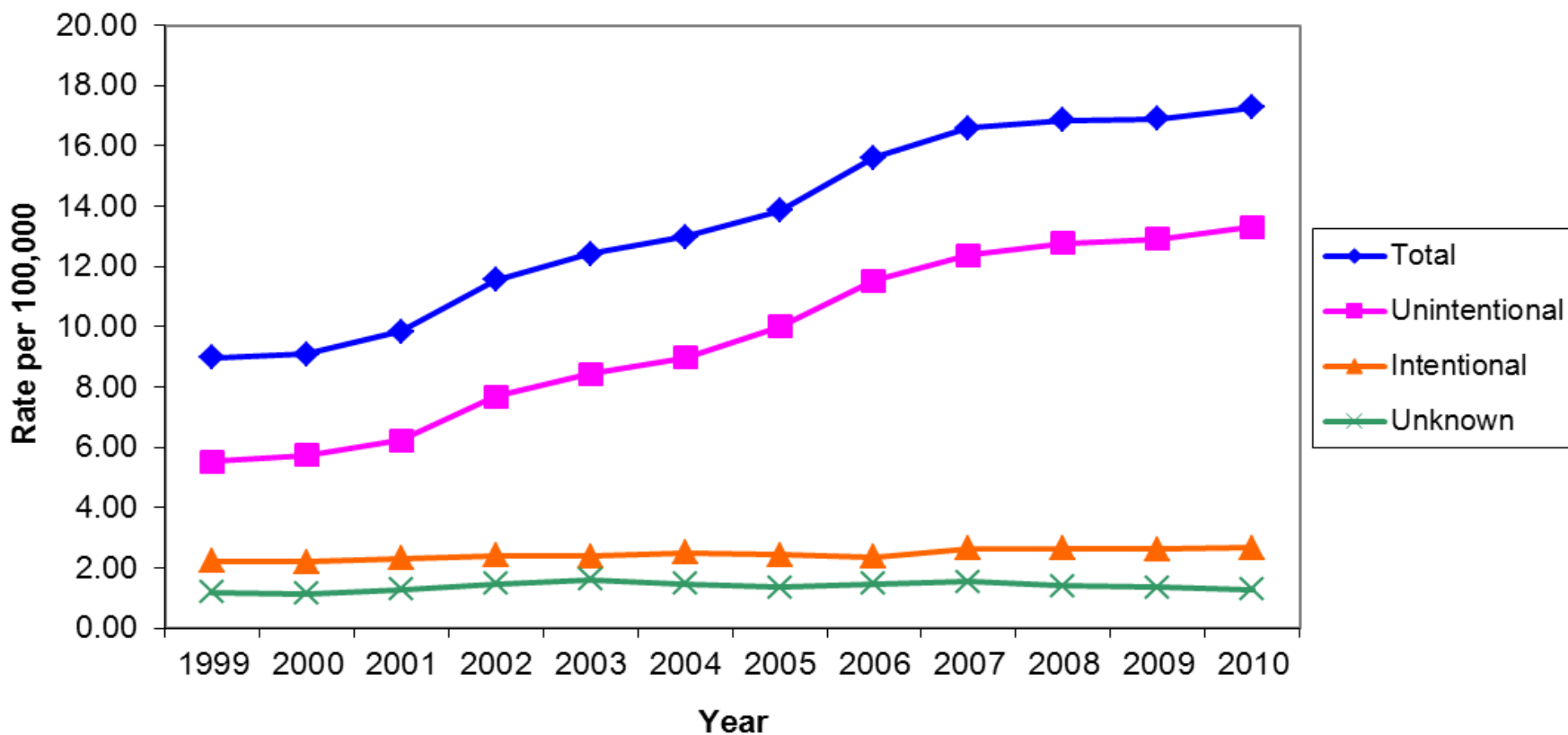
# Research Focus: Prescription Opioid Use and Overdose

## **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

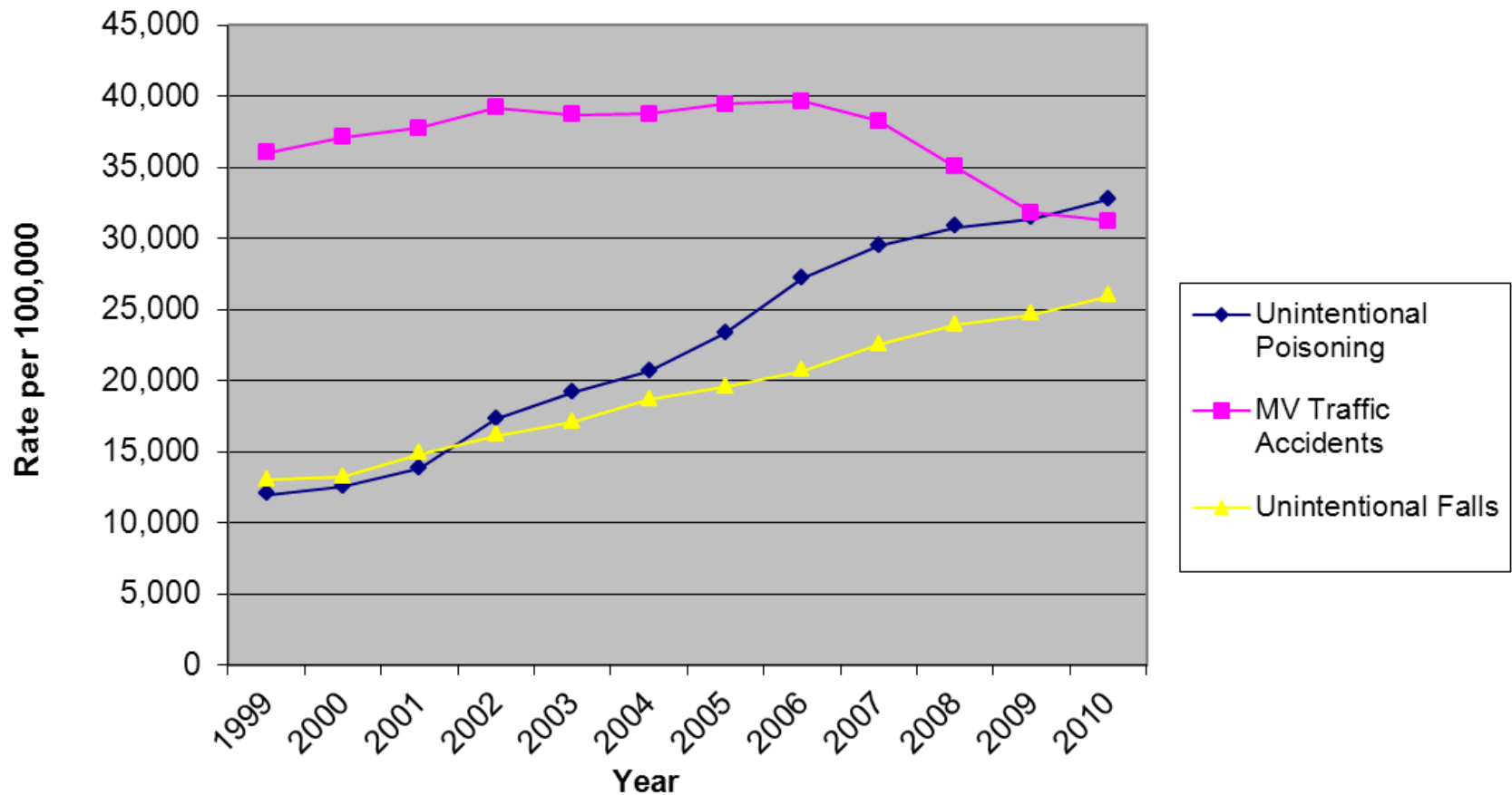
# Poisoning Mortality Rate

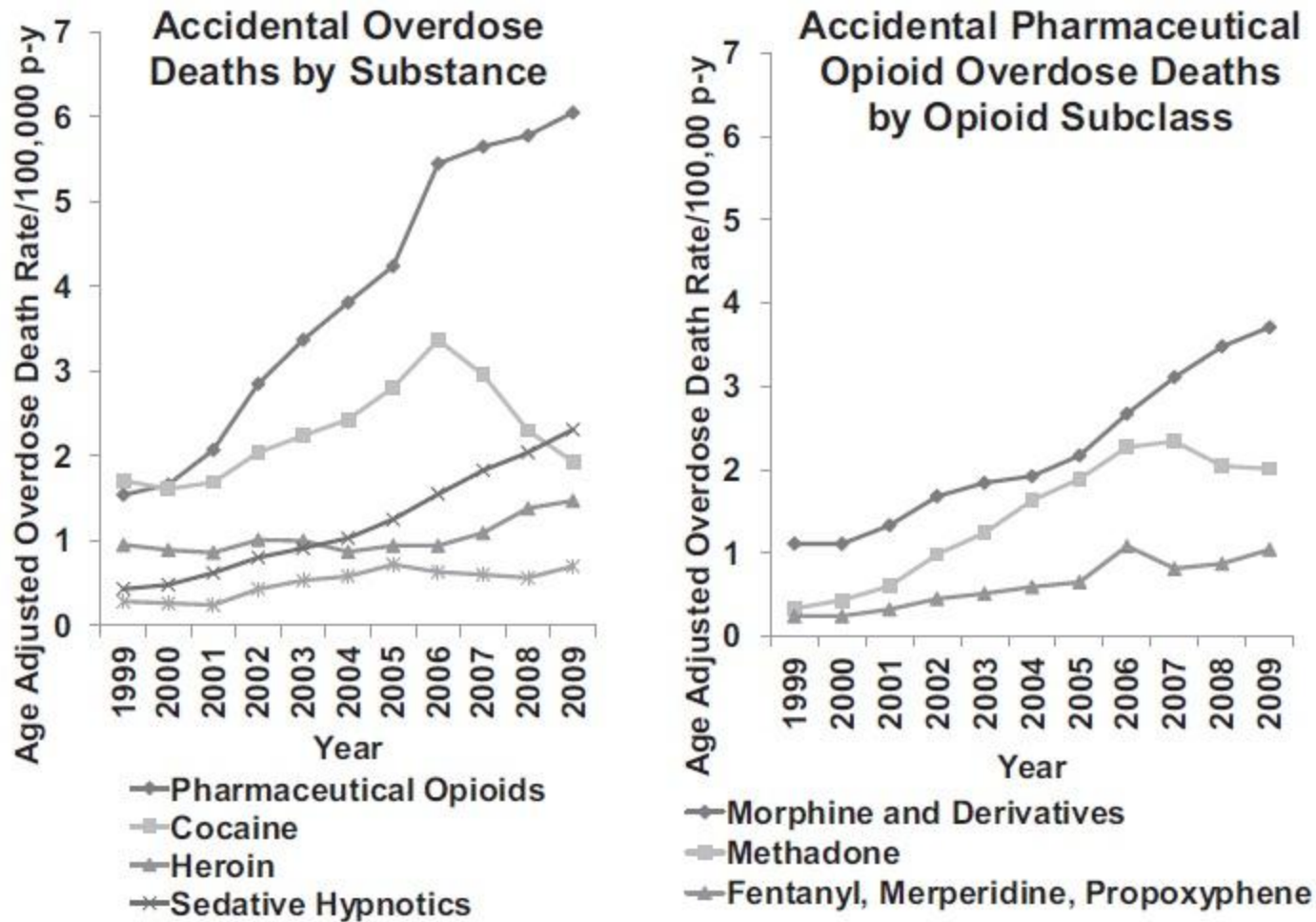
Poisoning Mortality, by Intent, US Adults age 15+



# Comparison to Other Major Unintentional Injury Causes of Death

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



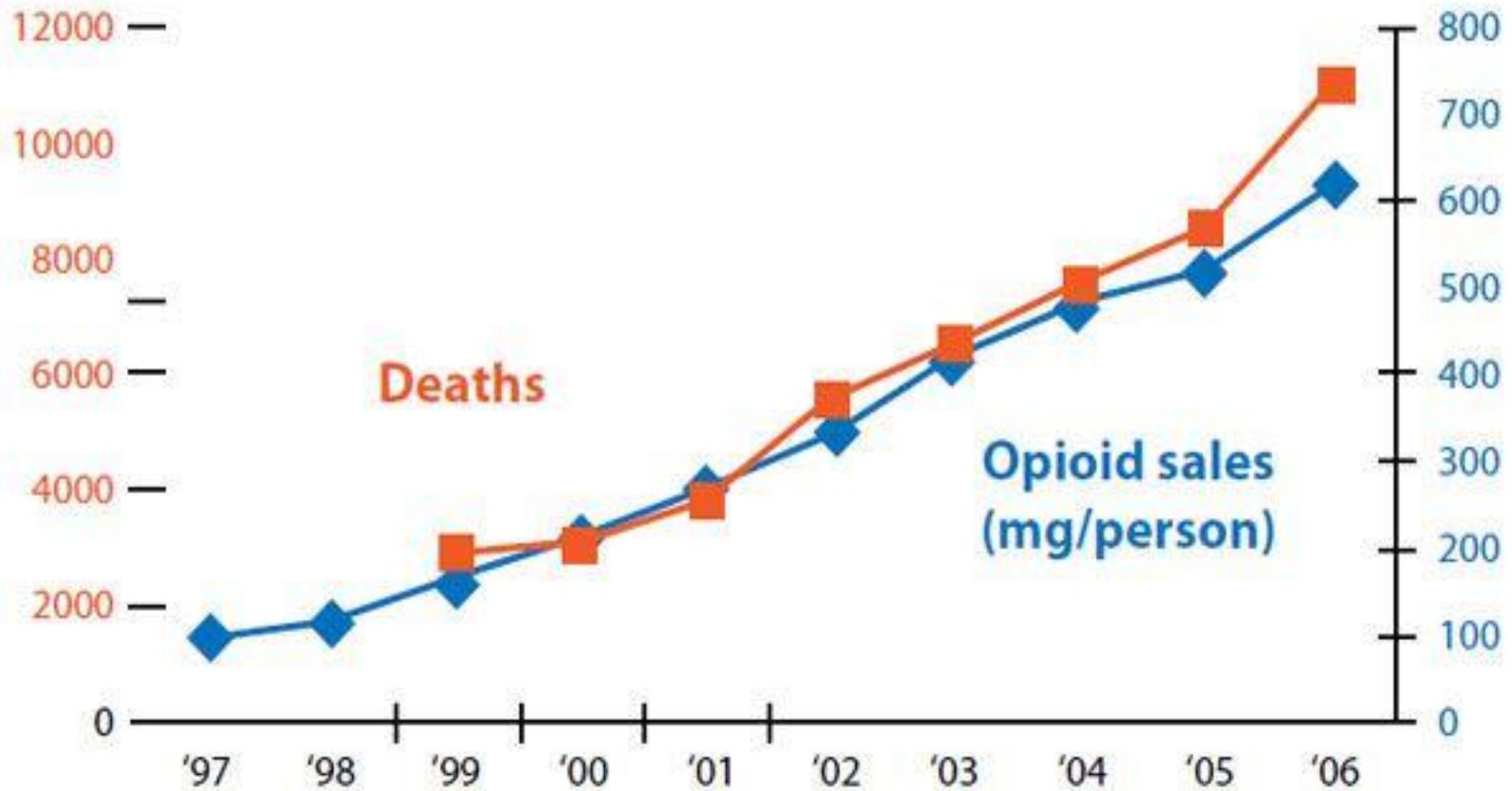


All trends in rates are significant by the Cochran Armitage Trend test ( $p < 0.001$ )

Fig. 1. Age adjusted overdose death rates in 15–64 year olds 1999–2009.



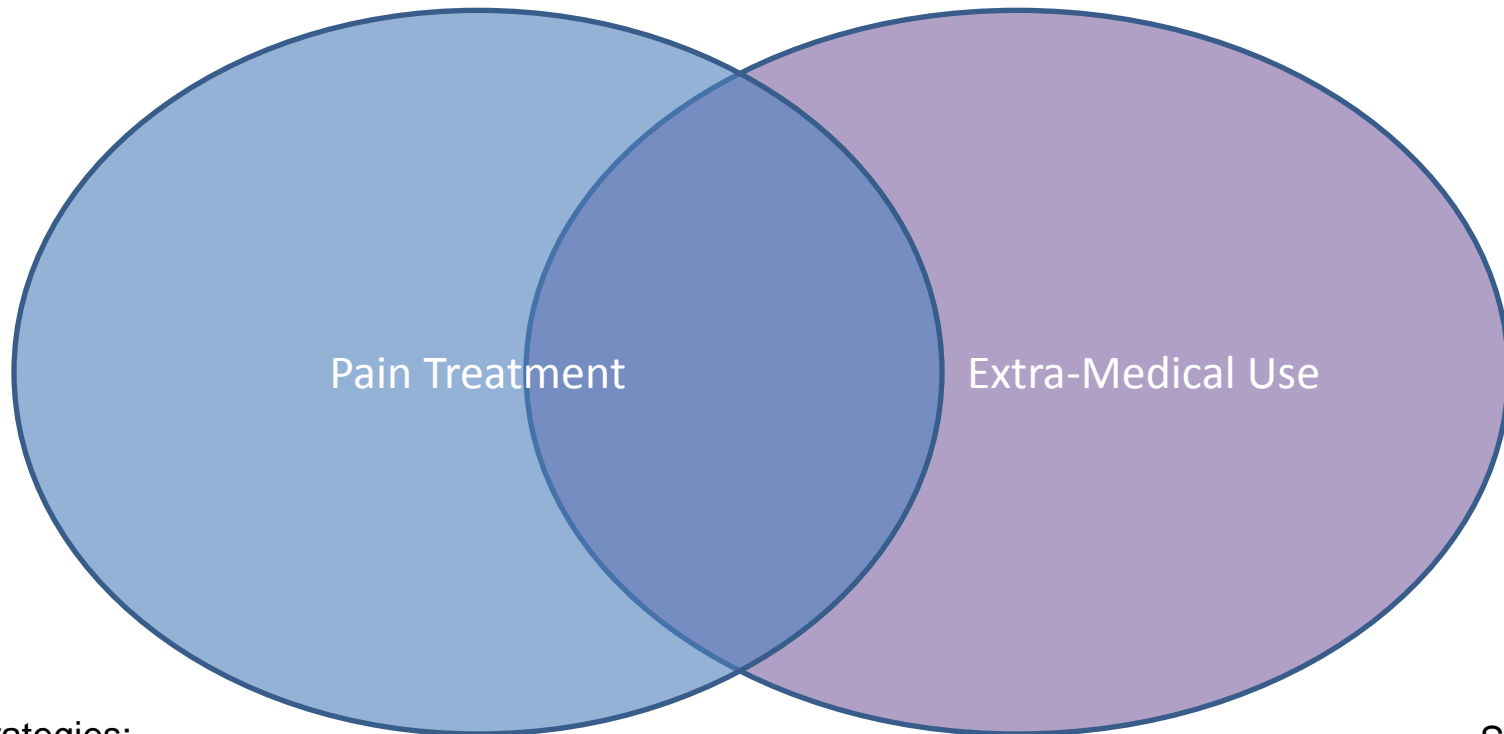
# Role of Opioid Medications in Overdose Trends



Medscape

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



## Strategies:

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

- Naloxone
- Changes to pharmacology of medications

## Strategies:

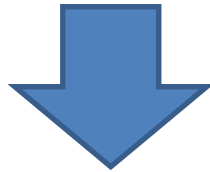
- Diversion reduction
- Universal prevention to reduce initiation
- Harm and use reduction

# 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

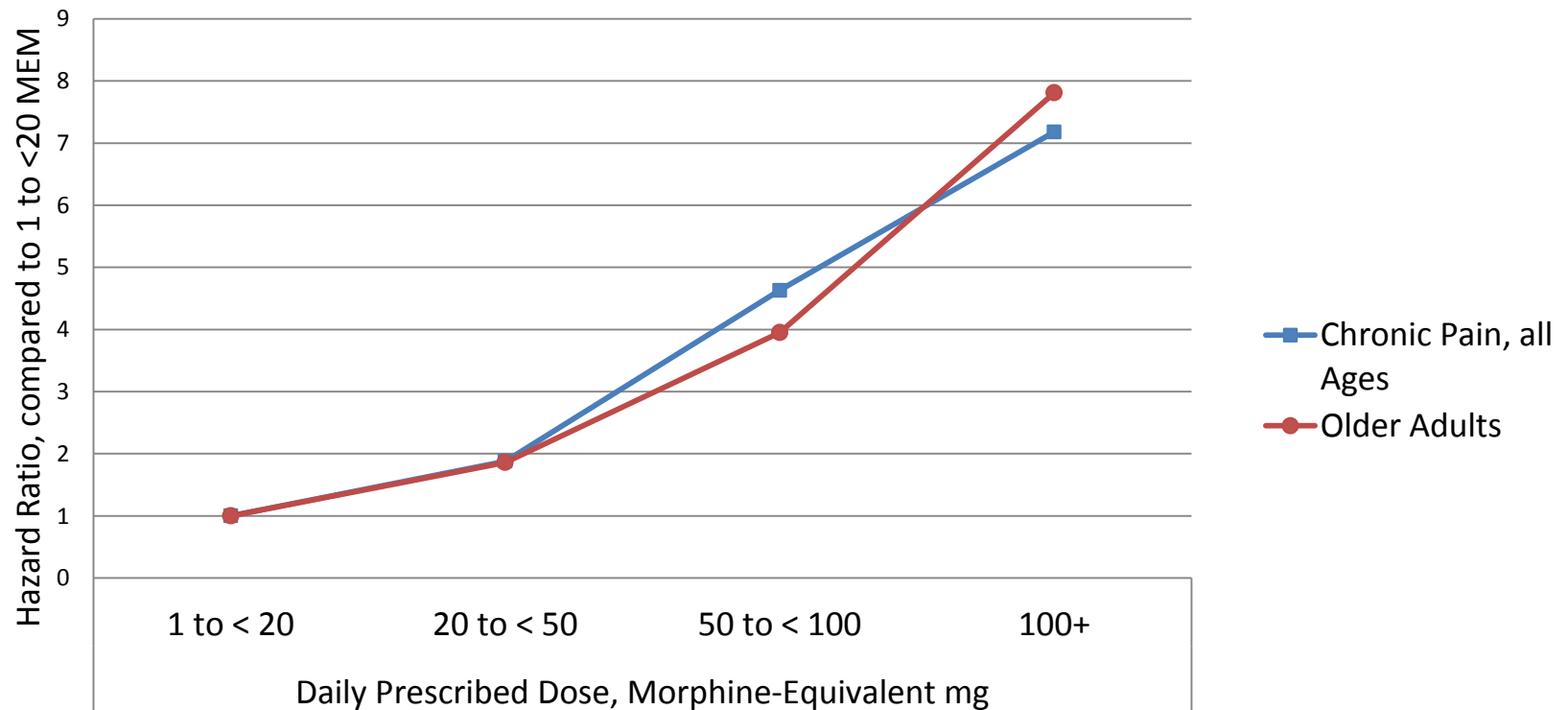
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*JAMA*. 2011;305(13):1315-1321. doi:10.1001/jama.2011.370.

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## Opioid Dose and Risk of Unintentional Overdose Death



# Dissemination and Policy Impact

▶ DRONEDARONE SAFETY CONCERNS ..... 3

## Medication *safety in seconds*

A MONTHLY PUBLICATION FROM VA MEDSAFE:  
VA'S COMPREHENSIVE PHARMACOVIGILANCE CENTER

### Helping to achieve safe medication use



#### POTENTIAL DOSE-RELATED RISK OF OPIOID DEATHS IN VETERANS

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

TABLE 1. Risk of Opioid Overdose-Related Deaths

DIAGNOSTIC SUBGROUP	HAZARD RATIO	95% CI	ARDA
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# 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*