HARVARD T.H. CHAN SCHOOL OF PUBLIC HEALTH
Department of Social and Behavioral Sciences

Vaughan W. Rees, PhD
Lecturer on Social and Behavioral Sciences
Director, Center for Global Tobacco Control

Summary of opioid overdose deaths: Massachusetts, January – June, 2014

Data on drugs implicated in opioid overdose deaths in Massachusetts for the first six months of 2014 were obtained from the Massachusetts Office of the Chief Medical Examiner.

We interpreted the data for common trends in drug types, by looking first at the major category of opioid drug, and then by other drugs used in combination with the primary opioid drug.

Opioid drugs were categorized as heroin, prescribed opioids (including oxycodone & hydrocodone), fentanyl, methadone and opioids of a non-specified type.

Drugs reported taken in combination with opioids included fentanyl (probably consumed as an adulterant of heroin), alcohol, cocaine, benzodiazepines (a class of prescribed sedative and anxiolytic medications), and general prescribed drugs (including antidepressants, anti-epileptics, muscle relaxants, antihistamines). Because many combinations of drug types were observed, the data were simplified

Key Findings

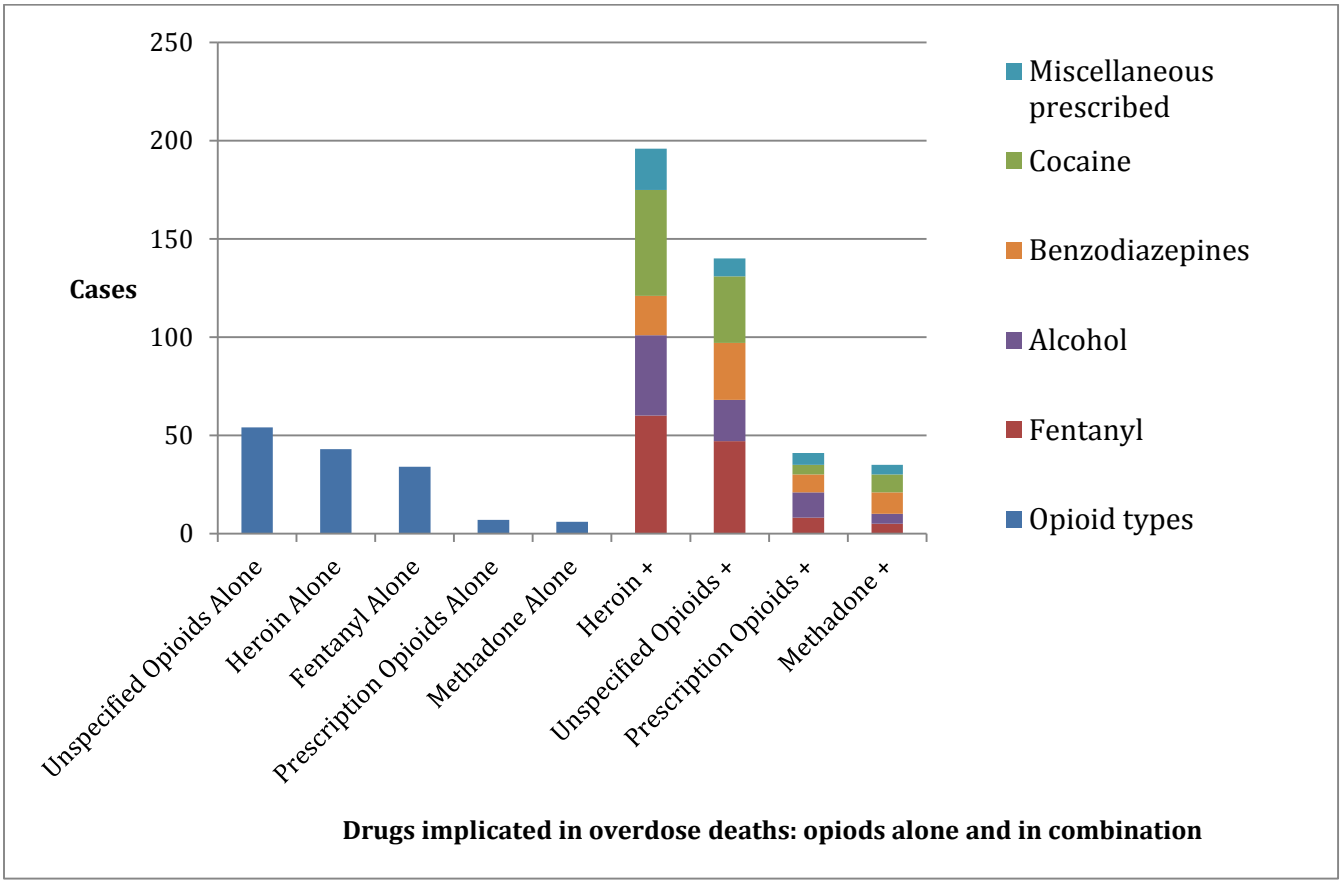
The most frequent drug category cited in overdose deaths was heroin (39.1%), followed by non-specified opioids (36.9%) and fentanyl (also 36.9%). Cocaine was cited in 23.4% of cases, ethanol (alcohol) 18.8%, and benzodiazepines 13.0%. “Chronic substance use”, a vague description which did not refer to a specific drug class but infers that drug use was implicated in the death, was cited 2.4% of cases.

The vast majority of cases involved more than one drug. When various categories of drug type were considered in conjunction with an opioid drug, a major contribution of fentanyl became apparent. Alcohol, cocaine and other prescription meds were all implicated, but to a lesser extent. The graph below shows a breakdown of major opioid drugs alone, and then in combination with other drug types.

It is evident that along with heroin, and cases where an unspecified type of opioid was used, fentanyl is a leading contributor to overdose in Massachusetts. It is especially deadly when combined with heroin or other opioids. In general, heroin and other opioids are most deadly when combined with fentanyl, alcohol or cocaine

The figure below displays a summary of the findings. On the left, opioid drug types that were implicated in overdose death without the contribution of other drugs (that is opioids alone) are displayed. On the right side, we demonstrate the other drug types that were fatally used in combination with an opioid. The addition of fentanyl to heroin and unspecified opioids was the single biggest contributor to overdose death, followed by alcohol, cocaine and benzodiazepines.

677 Huntington Ave, Kresge Building, 6th Floor,
Boston, MA 02115
TEL: 617 432 6345 | FAX: 617 432 3123
vrees@hsph.harvard.edu
hsph.harvard.edu/social-and-behavioral-sciences/



Drugs implicated in overdose deaths: opiods alone and in combination

Please do not hesitate to contact us if further information or clarification is needed.

Vaughan W. Rees, PhD
Lecturer on Social and Behavioral Sciences
Director, Center for Global Tobacco Control

Christopher D. Knapp
Medical Student and MPH Candidate

Contact:
Department of Social and Behavioral Sciences
Harvard T.H. Chan School of Public Health
677 Huntington Ave, Kresge, 6th Floor
Boston, MA 02115
Ph. 617-432-6345
vrees@hsph.harvard.edu