Prescription Drug Overdoses: Public Health Response to the Epidemic

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Centers for Disease Control and Prevention
Reduce abuse and overdose of opioids and other controlled prescription drugs while ensuring patients with pain are safely and effectively treated.
Motor vehicle traffic, poisoning, and drug poisoning (overdose) death rates US, 1980-2009

Source: NCHS Data Brief, December, 2011, updated with 2009 mortality data. Some overdose deaths were not included in the total for 2009 because of delayed reporting of the final cause of death. The reported 2009 numbers are underestimates.
Drug Overdose Deaths per 100,000 People, United States, 2004-2008
Number of drug overdose deaths involving opioid pain relievers and other drugs
US, 1999-2009

Source: NCHS Data Brief, December, 2011, updated with 2009 mortality data. Some overdose deaths were not included in the total for 2009 because of delayed reporting of the final cause of death. The reported 2009 numbers are underestimates.
28,578 unintentional overdose deaths in 2009

Unintentional Drug Overdose Deaths
United States, 1970-2009

Death Rate per 100,000 Population

Heroin

Cocaine

Rx
Drug overdose deaths by major drug type
US, 1999-2009

Source: CDC/NCHS National Vital Statistics System, CDC Wonder
Prescription drug overdose deaths involving and not involving opioids, US, 1999-2009

Number of Deaths

Source: CDC/NCHS National Vital Statistics System, CDC Wonder
Overdose deaths by select prescription drug type, US, 1999-2009

Number of Deaths

- Opioids
- Benzodiazepines
- Antidepressants
- Antipsychotics
- All Non-Opioid Analgesics

Source: CDC/NCHS National Vital Statistics System, CDC Wonder
## Opioid deaths in comparison with other pharmaceuticals, US, 2009

<table>
<thead>
<tr>
<th>Type of pharmaceutical</th>
<th>Related causes of death (defining ICD10 codes)</th>
<th>No. of deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opioid analgesics</td>
<td>• Overdose (OD codes* with T40.2-T40.4)</td>
<td>15,597</td>
</tr>
<tr>
<td></td>
<td>• Overdose without benzodiazepine or antidepressant</td>
<td>10,115</td>
</tr>
<tr>
<td>All non-opioid analgesics</td>
<td>• Overdose (X40, X60, Y10)</td>
<td>465</td>
</tr>
<tr>
<td>--- Acetaminophen</td>
<td>• Overdose (OD codes with T39.1)</td>
<td>871</td>
</tr>
<tr>
<td></td>
<td>• Toxic liver disease/liver failure from any cause except alcohol or viruses (K71-K72)</td>
<td>4,021</td>
</tr>
<tr>
<td>--- NSAIDS</td>
<td>• Overdose (OD codes with T39.0, T39.2, T39.3)</td>
<td>250</td>
</tr>
<tr>
<td></td>
<td>• GI ulcers/gastritis from any cause (K25-K29)</td>
<td>3,242</td>
</tr>
<tr>
<td>Antidepressants</td>
<td>• Overdose (OD codes with T43.0-43.2)</td>
<td>3,768</td>
</tr>
<tr>
<td></td>
<td>• Overdose without opioid analgesic</td>
<td>1,605</td>
</tr>
<tr>
<td>Benzodiazepines</td>
<td>• Overdose (OD codes with T42.4)</td>
<td>5,567</td>
</tr>
<tr>
<td></td>
<td>• Overdose without opioid analgesic</td>
<td>1,440</td>
</tr>
<tr>
<td>Antipsychotics</td>
<td>• Overdose (OD codes with T43.3-43.5)</td>
<td>1,301</td>
</tr>
<tr>
<td></td>
<td>• Overdose without opioid analgesic</td>
<td>604</td>
</tr>
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Source: CDC/NCHS National Vital Statistics System, CDC Wonder
Drug overdose deaths by type of opioid involved, US, 1999-2009

Number of Deaths

Source: CDC/NCHS National Vital Statistics System, CDC Wonder
Rates of Opioid Overdose Deaths and Sales
United States, 1999-2010
Drug overdose death rate 2008 and opioid pain reliever sales rate 2010

Kg of opioid pain relievers used per 10,000

Age-adjusted rate per 100,000

- 5.5 - 9.4
- 9.5 - 12.3
- 12.4 - 14.6
- 14.9 - 27.0
Public Health Impact of Opioid Pain Reliever Use

For every 1 overdose death there are

- Abuse treatment admissions: 9
- ED visits for misuse or abuse: 30
- People with abuse/dependence: 118
- Past Year Nonmedical users: 795
Economic Costs

- $72.5 Billion in healthcare costs

- Opioid abusers generate, on average, annual direct health care costs 8.7 times higher than nonabusers

Populations at High Risk for Overdose

- “Doctor Shoppers”
- People on high daily dosages of opioid pain relievers and poly-drug abusers
- Low-income people and those living in rural areas
- Medicaid populations
- People with mental illness or history of substance abuse
Administration’s Rx Abuse Plan
Where Does CDC Fit In?

- **Blueprint for Federal government**

- **4 Focus Areas**
  - Education
  - Monitoring
  - Disposal
  - Enforcement

- **CDC focusing on areas that fit within our mission and complement other Federal agencies**
CDC Strategic Focus Areas

- Enhance Prescription Drug Abuse Surveillance
- Inform Policy
- Improve Clinical Practice
PRESCRIPTION DRUGS

Strategies and points of intervention for preventing misuse, abuse, and overdose, while safeguarding access to treatment.

MANUFACTURERS / WHOLESALERS / DISTRIBUTORS

Intervention

PILL MILLS

Interventions

PROBLEM PRESCRIBING

Interventions

GENERAL PRESCRIBING

Interventions

HOSPITALS / EMERGENCY DEPARTMENTS

Interventions

PEOPLE AT HIGH RISK FOR OVERDOSE

Interventions

INSURERS / PBM

Interventions

PHARMACIES

Interventions

GENERAL PATIENTS / PUBLIC

Interventions

NOTE: What is presented here are the priority strategies that are likely to have the greatest impact. This is not an exhaustive list.
Intervention Points

- Pill Mills
- Problem Prescribing
- General Prescribing
- EDs & Hospitals
- Pharmacies
- Insurer & Pharmacy Benefit Managers (PBMs)
- General Patients & The Public
- People at High Risk of Overdose
CDC Policy Recommendations

- Prescription Drug Monitoring Programs (PDMPs)
- Patient Review & Restriction Programs
- Laws/Regulations/Policies
- Insurers & Pharmacy Benefit Managers (PBM) mechanisms
- Clinical Guidelines
Prescription Drug Monitoring Programs (PDMPs)

- Operational in 40 states
- **Focus PDMPs**
  - On patients at highest risk of abuse and overdose
  - On prescribers who clearly deviate from accepted medical practice
- **Implement PDMP Best Practices**
  - Allow access for all prescribers and dispensers
  - Allow access for regulatory boards, state Medicaid and public health agencies, Medical Examiners, and law enforcement (under appropriate circumstances)
  - Provide real-time data
  - Develop interoperability
  - Integrate with other health information technologies to improve use among health care providers
  - Have ability to send unsolicited reports
Patient Review and Restriction Programs (aka “Lock-In” Programs)

- For patients with patterns of inappropriate use of controlled substances
- Improve coordination of care and appropriate access for patients at high risk for overdose
- Evaluations show cost savings as well as reductions in ED visits and numbers of providers and pharmacies
- Need to evaluate these programs and identify best practices
Some states have enacted laws and policies aimed at reducing diversion, abuse, and overdose.

- Policies can strengthen health care provider accountability.
- Safeguard access to treatment when implementing policies.
- Rigorous evaluations to determine effectiveness and identify model aspects.
Insurer/Pharmacy Benefit Manager (PBM) Mechanisms

- Reimbursement incentives/disincentives
- Formulary development
- Quantity limits
- Step therapies/Prior Authorization
- Claims analysis programs
Clinical Guidelines

- Improve prescribing and treatment
- Basis for standard of accepted medical practice
- Several consensus guidelines available
Increase Access to Substance Abuse Treatment

- Access to substance abuse treatment is critical
- Effective, accessible treatment programs can reduce abuse and overdose among people struggling with dependence and addiction
- States should plan for increased demand, including access to medication-assisted therapies like buprenorphine and methadone
PREScription Drugs
Strategies and points of intervention for preventing misuse, abuse, and overdose, while safeguarding access to treatment.

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<th>Policy Interventions</th>
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A little on Delaware

- Delaware 9th highest drug overdose death rate in 2009
  - 15.5 deaths per 100,000 population
  - National average 12.0 deaths per 100,000 population
  - Drug overdose death rate increased 142% between 1999-2009

- 5.6% of Delaware residents 12 and older report nonmedical use of opioid pain relievers
  - National average 4.8%

- Delaware 5th highest for opioid sales in 2010
  - 10.2 KG per 10,000 population
  - National average 7.1 KG per 10,000 population

- Substance abuse treatment admission rates for opioids increased over 2,750% between 1999 and 2010
Conclusions

- Overdose deaths from prescription drugs have reached epidemic levels in the United States
- A concerted public health and public safety approach is essential
- Critical to identify the drivers of the epidemic and tailor policy interventions to address them
- States are essential to reversing the epidemic. A multi-sector approach is required
Thank You

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.