

Abuse-Deterrent Opioids

**A tool to help curb
prescription opioid abuse**

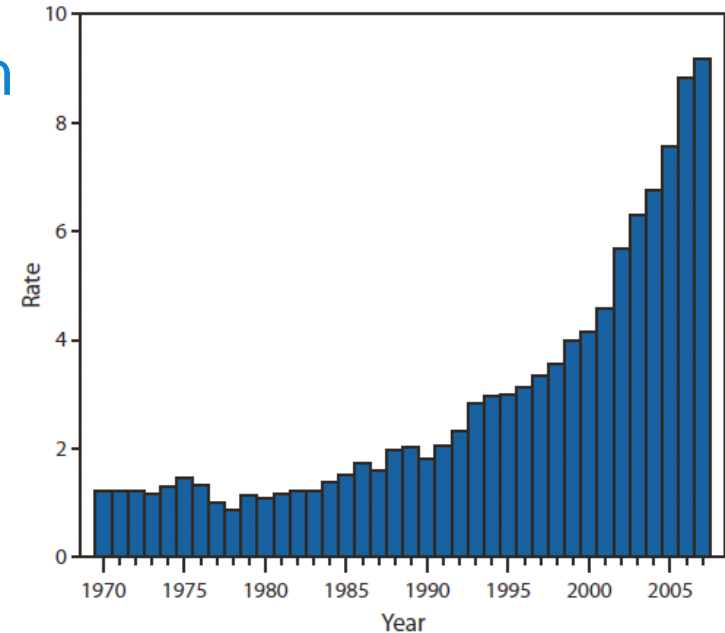


Agenda

- The Problem
- What are Abuse-Deterrent Opioids?
- How and Why Abuse-Deterrent Opioids Work
- Call to Action: Legislation

The Problem: Rx Abuse

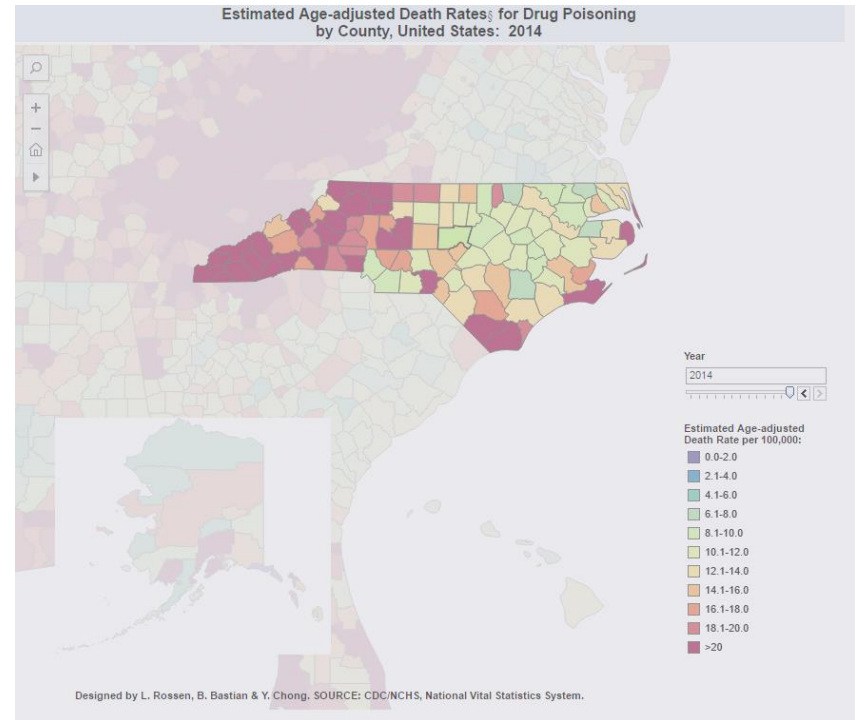
- Increase in overdose deaths (4x in 15 years)
- Misuse of prescription drugs
 - 70% of nonmedical users get drugs from a friend or relative (given, stolen, etc.)
 - 84% of those people say that they got it from a doctor (Source: National Survey on Drug Use and Health)
- Societal costs
 - \$56 billion a year in health care, law enforcement, and lost work productivity



2013 National Survey on Drug Use and Health
<http://www.ncbi.nlm.nih.gov/pubmed/21392250>

Rx Abuse in North Carolina

- 1,358 deaths in 2014 (up 7% from 2013)
- \$582 million in annual health care costs



http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6450a3.htm?s_cid=mm6450a3_w

Matrix Global Advisors: Healthcare Costs from Opioid Abuse: A State by State Analysis

What are Abuse-Deterrent Opioids?

FDA's definition:

- Abuse-deterrent properties are defined as those properties shown to meaningfully deter abuse, even if they do not fully prevent abuse.

Abuse-deterrent opioids (ADO) can also be referred to as Opioids with Abuse-Deterrent Properties (OADP/ADP) or Opioids with Abuse-Deterrent Formulation (OADF/ADF)

How Do Abuse-Deterrents Work?



OADP Technology: Mechanisms

The FDA has categorized abuse-deterrent properties as follows:

- **Physical or Chemical barriers:** can prevent a pill from being turned into a powder or extracted using solvents
- **Agonists/Antagonist:** can reduce the euphoria associated with the use or abuse of a product
- **Aversion:** create unpleasant effects at higher doses
- **Delivery Systems:** such as sustained release patches, that prevent excessive dosing at one time
- **Prodrugs:** require metabolic activity to turn into the active substance
- **Combinations:** 2 or more approaches, such as a prodrug with physical barriers

What Does the FDA Say About OADP?

" The development of abuse-deterrent opioid analgesics is a public health priority for the FDA...The FDA, together with other public health agencies, continues to encourage the development of abuse-deterrent formulations of opioids and believes that such products will help reduce prescription drug abuse "

" Feb. 4, 2016...today Dr. Robert Califf, the FDA's Deputy Commissioner for Medical Products and Tobacco,. (Dr. Califf was a professor of medicine and vice chancellor for clinical and translational research at Duke University. He also served as director of the Duke Translational Medicine Institute and founding director of the Duke Clinical Research Institute
... Expand access to, and encourage the development of, abuse-deterrent formulations of opioid products "

3 Arguments in Favor of OADP

1. OADP works to reduce abuse and save lives.
2. OADP reduces overall societal costs.
3. OADP legislation would allow patients access to abuse-deterrents and preserve the sanctity of the doctor-patient relationship.

Chronic Pain Initiative – CPI PURPOSE

- Reduce risk of patient overdose
- Reduce risk of patient medication diversion
- Treatment of chronic pain responsibly and safely
- Funding; KBR Trust, NC Office of Rural Health, Project Lazarus and MAHEC



OADP is Effective

- Abuse by snorting, smoking and injecting declined by 66%.
- Drug diversion declined by 50%.
- 87% reduction in overdose deaths.

Butler et al (2013) [http://www.jpain.org/article/S1526-5900\(12\)00803-6/abstract](http://www.jpain.org/article/S1526-5900(12)00803-6/abstract)

Severtson et al (2013) [http://www.jpain.org/article/S1526-5900\(13\)00989-9/abstract](http://www.jpain.org/article/S1526-5900(13)00989-9/abstract)

Sessler et al (2014)

<http://onlinelibrary.wiley.com/doi/10.1002/pds.3658/abstract;jsessionid=164518AE49105A99C1A07AC3400E0CD3.f01t04>



Womack Army Medical Center Opioid Risk Mitigation Plan Operaton OpioidSafe – Project Lazarus

“ WAMC has created a tiered system of care ...

All stakeholders in pain management adhere to a framework of opioid prescribing that risk stratifies patients, emphasizes balancing of risk and benefit, employs opioid safety risks mitigation strategies ...

Opioid Refills ... Abuse deterrent formulations ... All long-acting at Womack ...

has resulted in decreased healthcare utilization and improvement in patient satisfaction.”

OADP Saves Money

Over \$1 billion in benefits.

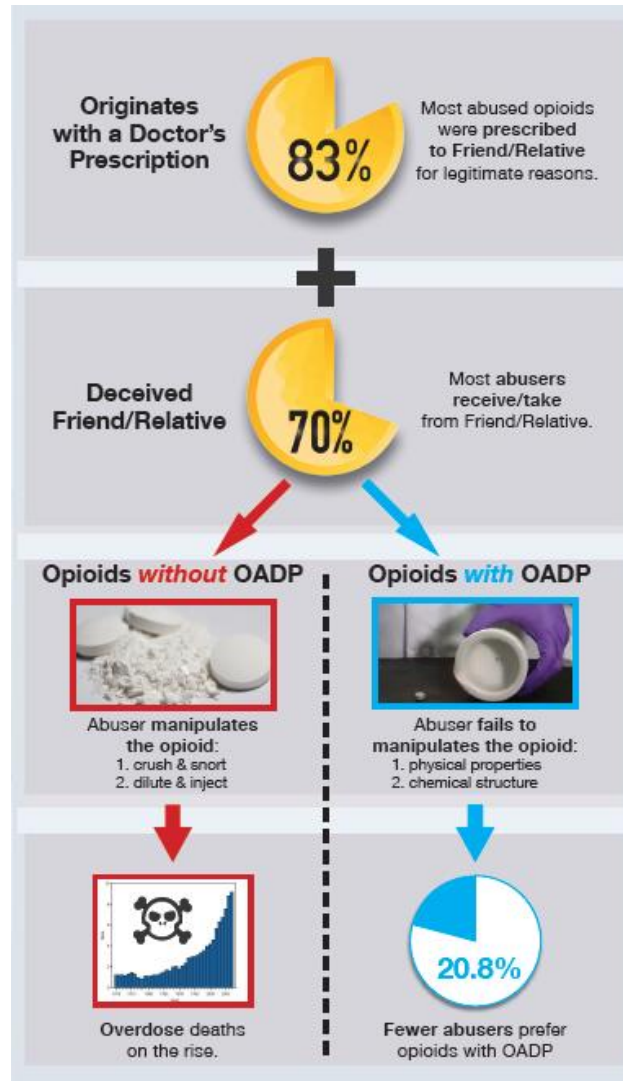
- \$430 million in medical cost savings.
- \$100 million in criminal justice cost savings.
- \$476 million in workplace productivity.

Rossiter et al. (2014) <http://informahealthcare.com/doi/abs/10.3111/13696998.2014.897628>

OADP is Not Just Another Mandate

- Prescription drug abuse is a severe and escalating problem that needs solutions.
- OADP is equally effective in managing pain while helping reduce the risks of drug misuse and abuse.
- OADP legislation would allow patients increased access to abuse-deterrents and empower doctors to make appropriate medical decisions and protect their patients.

OADP Can Save Lives

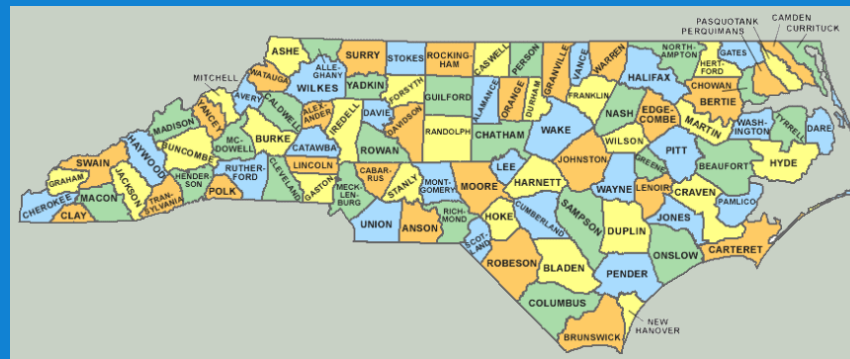


Call to Action: Pass OADP Law

Pass a law that will remove barriers to prescribe OADPs which can reduce drug abuse, save lives, and reduce societal costs for North Carolina.



*Robert Wood Johnson
Community Health Leader
Award 2012*



ABUSE-DETERRENT OPIOIDS: ADVANCES IN TECHNOLOGY

With an increase in prescription drug abuse, pharmaceutical manufacturers and the FDA have responded with product formulations that contain abuse-deterrent properties, as well as remote monitoring programs.

The following are routes of misuse and abuse seen today:



SWALLOWING
INTACT TABLETS



CHEWING



SMOKING



SNORTING



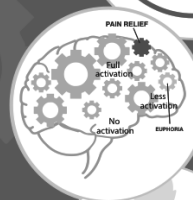
INJECTING

In April 2015, the US Food and Drug Administration issued final guidance to assist the pharmaceutical industry in developing opioid drug products with potentially abuse-deterrent properties.¹

AS A GENERAL FRAMEWORK, THE FDA HAS CATEGORIZED **ABUSE-DETERRENT PROPERTIES** AS FOLLOWS:

PHYSICAL/CHEMICAL BARRIERS

Physical barriers can prevent chewing, crushing, cutting, grating, or grinding. Chemical barriers can resist extraction of the opioid using common solvents like water, alcohol, or other organic solvents. Physical and chemical barriers can change the physical form of an oral drug rendering it less amenable to abuse.



AGONIST/ANTAGONIST COMBINATIONS

An opioid antagonist can be added to an opioid medication to interfere with, reduce, or defeat the euphoria associated with abuse. The antagonist can be sequestered and released only upon manipulation of the product. For example, a drug product may be formulated such that the substance that acts as an antagonist is not clinically active when the product is swallowed but becomes active if the product is crushed and injected or snorted.

PRODRUG

A prodrug that lacks opioid activity until transformed in the gastrointestinal tract can be unattractive for intravenous injection or intranasal routes of abuse.



AVERSION

Substances can be combined to produce an unpleasant effect if the dosage form is manipulated prior to ingestion or a higher dosage than directed is used.

DELIVERY SYSTEM

(including depot injectable formulations and implants) – Certain drug release designs or the method of drug delivery can offer resistance to abuse. For example, a sustained-release depot injectable formulation that is administered intramuscularly or a subcutaneous implant can be more difficult to manipulate.



COMBINATION OF TWO OR MORE OF THE ABOVE TRAITS