Post-Marketing Surveillance: Lessons Learned and Recommendations for the Future

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Conflicts of Interest (<$10,000)

- **Conflict of Interest**
  - Member, Scientific Advisory Board for the Researched Abuse, Diversion and Addiction Related Surveillance (RADARS®) System, which collects subscription fees from 14 pharmaceutical firms.
  - Consultant, Pfizer Pharmaceuticals
Regulatory Approaches to Opioid Abuse

- Phase I, II and III studies -> Drug approval
- Post-marketing surveillance
- Risk-management programs
- Risk Evaluation and Mitigation Strategies (REMS)
Limitations of Data Sources Currently Used by Regulatory Agencies

- Data available only months or years later.
- Late in uncovering a problem.
- Most are passive reporting systems.
- Use of restrictive quantitative measures.
Traditional Post-Marketing Programs

- DAWN: Drug Abuse Warning Network
- TEDS: Treatment Episode Data Set
- NFLIS: National Forensic Laboratory Information
- NSDUH: National Household Survey on Drug Use and Health
- MTF: Monitoring the Future
Proactive Post-Marketing Surveillance

- Most programs seek out abuse in vulnerable populations.
- RADARS: Researched Abuse, Diversion and Addiction Related Surveillance
- NAVIPPRO: National Addictions Vigilance Intervention and Prevention
Identification of risk is fairly easy.
Mitigation is difficult.
Supply AND Demand need to be understood
Most post-marketing surveillance systems fail to examine mitigation
Current focus only on SUPPLY
Sources of Diversion

- Dealer
- Doctor Prescription
- Friend or Relative
- Forged Prescription / Stolen
- Internet

Where or How Primary Drug Obtained

- Male
- Female
Sources of Diversion

**DEALER**

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<th>Age Group</th>
<th>Male</th>
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**PHYSICIAN**

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Supply-Side Interventions
Supply-Side Interventions: Physician-Focused

- Prescription Monitoring Programs (PMPs).
- Crackdown on ‘pill mills’ and ‘script doctors.’
- Physician Education.
- CDC Prescribing Guidelines.
Supply-Side Interventions: Drug-Focused

- Abuse-Deterrent Formulations
Anticipated Effects:
Reduced Opioid Abuse
Abuse-Deterrent OxyContin®

Unanticipated Consequences
Abuse-Deterrent OxyContin®

Shifts in Opioid Abuse Patterns

- Prescription Opioids Only
- Heroin+Prescription Opioids
- Heroin Only

Percentage of Respondents

Year: 2008 to 2014
“....The 2 dealers and the people around them are middle class white kids, not even kids we were all in the age range of 25-41. It just became easy, and we weren’t really looked at as being addicts because everyone thinks heroin addicts are all homeless, shady looking, dirty junkies.”
“I knew I liked it above all else, and once I had a drug dealer it became almost too easy to get.

I had access to money because I’m an upper middle class family and I also became close to my dealers, driving them around so I could get paid in drugs and just becoming super close, even if it meant sexually, so I could get the drug……”
Understanding the **DEMAND**
Getting ‘High’
“I loved the [feeling] of euphoria. I finally felt comfortable in my own skin. I could talk to anyone I felt what I thought I was supposed to fill like. Extremely happy. I knew I found the secret to my happiness. “
Is getting ‘high’ the sole motivation?
How do opioids make you feel?

Source: Cicero TJ, Ellis MS, Kasper ZA. Understanding the demand side of the prescription opioid epidemic: does the initial source of opioids matter? Drug and Alcohol Dependence. Accepted. In Press.
“I did not have any tools for coping with uncomfortable situations.

Which made using drugs my go to coping skill for anything from handling emotional abuse to taking a shower.”
“They made me feel like I could talk to people and not be scared or embarrassed to walk around and just talk and be part of society.”
“Mask inside emotions/traumas, feelings of fear, self-esteem, self-pity, anger and avoiding the growing stress and responsibility of life”
“It made me feel happy and gave me the energy and want to do daily activities such as working that otherwise wouldn’t have been possible due to the debilitating depression at that time in my life.”
75% self-report they used opioids to self-medicate psychiatric related issues.

85% self-report the use of opioids to “escape from life”.

No difference between those who started using from a doctor’s prescription and those who experimented.
Conclusions
Implications for Treatment/Prevention

- Old adage: 25% get better, 50% remain unchanged, 25% get worse.

- Relapse likely unless you solve the base problem.
  - Understanding the ‘why’ of persistent drug use.

- Must address the motivations for abusing opioids for either treatment and prevention efforts to be successful.
Conclusions

- Post-marketing surveillance is effective in identifying risk
  - **STRENGTH:** Better than passive studies
  - **WEAKNESS:** Not useful for dealing with the problem.

- Supply side efforts cannot exist alone.

- Understanding the demand for these drugs is essential to developing effective treatment and prevention strategies.

- Physician education should include understanding motivations for misuse/abuse and recognizing these individualized risk factors.