

RAPID Analysis of Routes of Administration: Oral to Non-Oral Transitions

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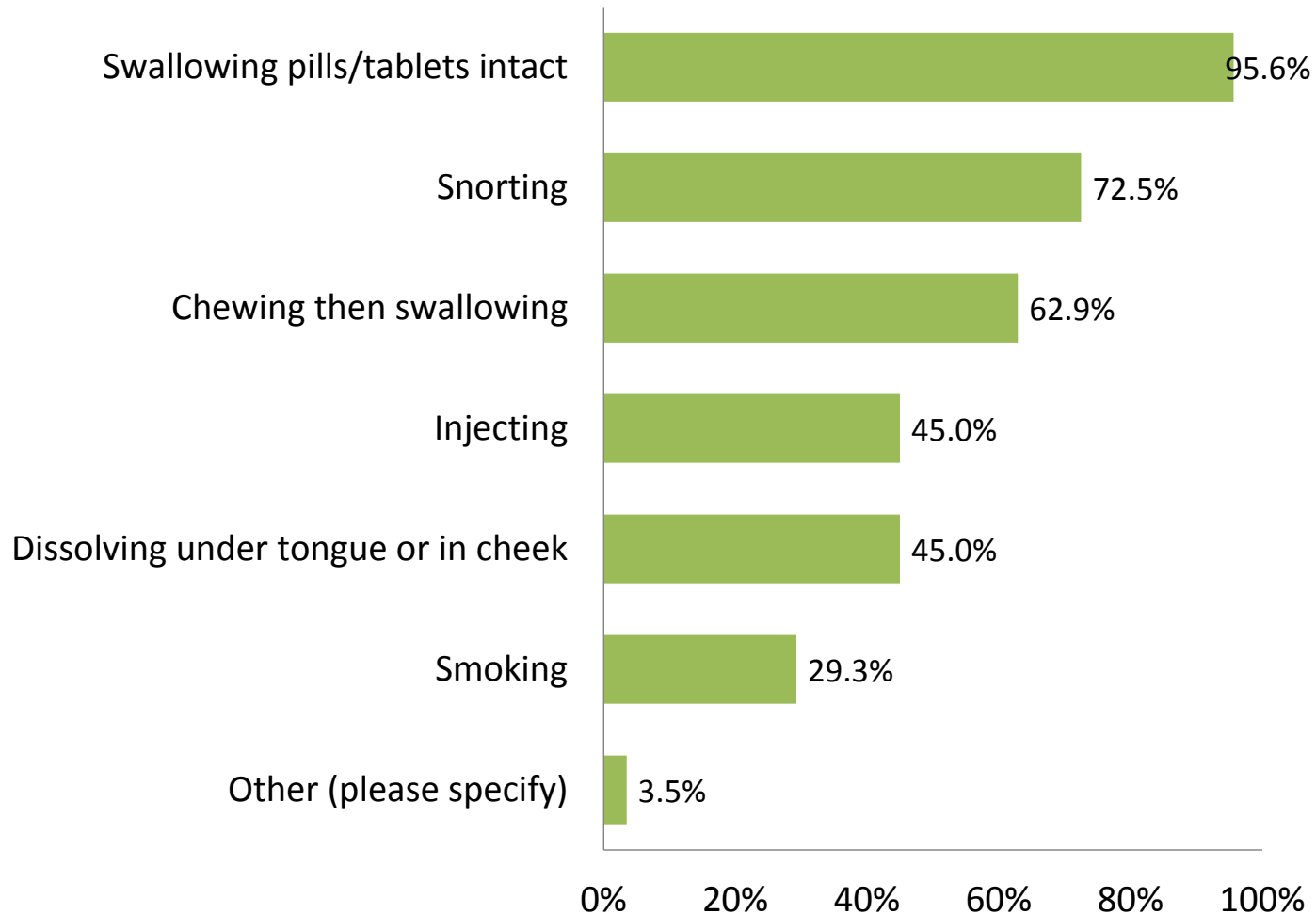
Washington University in St. Louis, MO

RAPID Program Overview

- Researchers and Participants Interacting Directly (RAPID)
 - Subset of RADARS® System Survey of Key Informants Patients Program.
 - Over 700 currently registered.
 - Quarterly web-surveys (~350 responses in 1 month)
 - Adds context to RADARS® System research.
 - Quantitative AND Qualitative data.
 - Establishes two-way communication.

Routes of Administration of Prescription Opioids

Lifetime Routes of Administration (ROA)



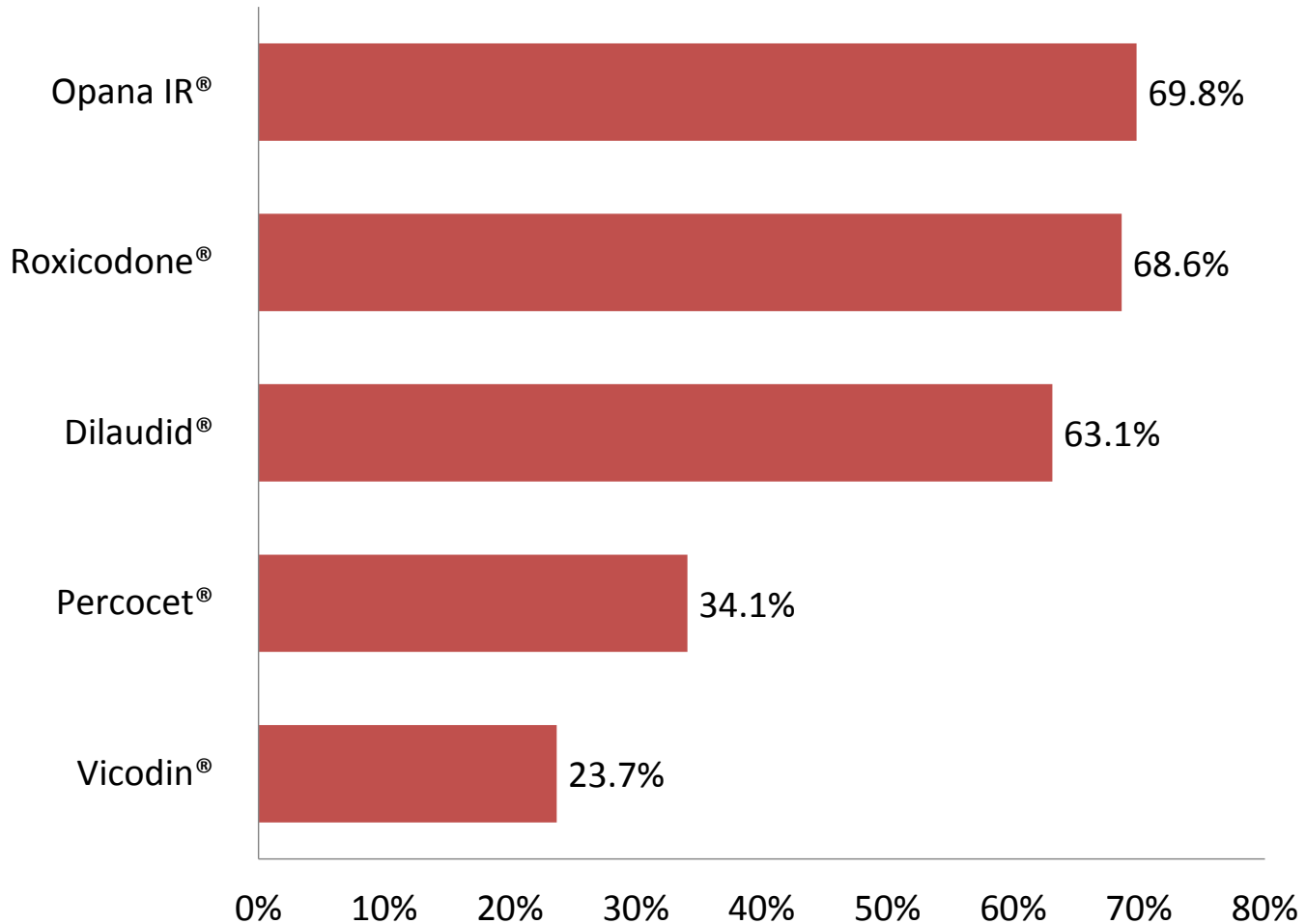
Routes of Administration

- Motivations for choosing one ROA over another?
- Patterns of moving between oral and non-oral ROA?
- Are changes exclusively unidirectional (oral → non-oral)?

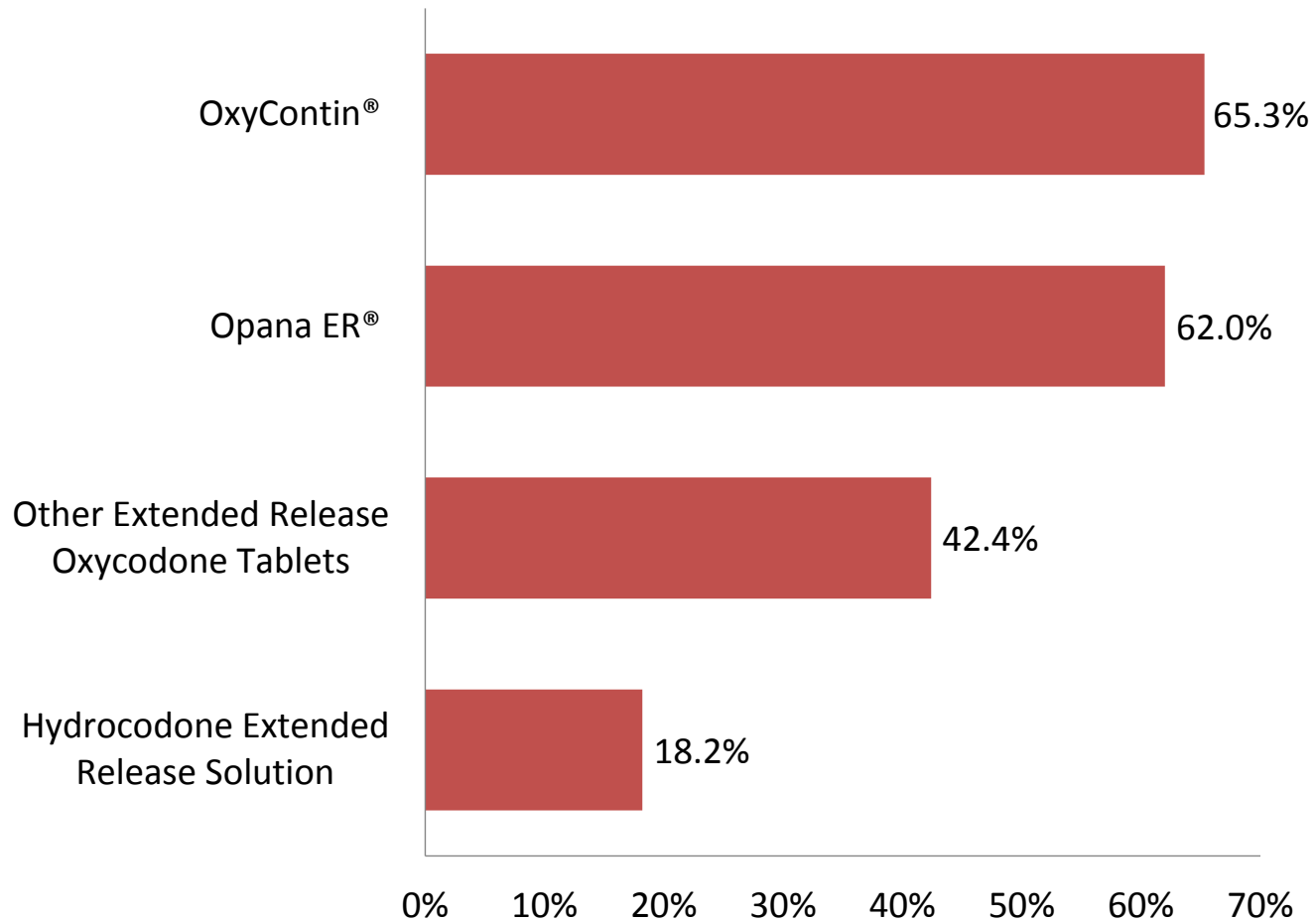
Routes of Administration

- Oral routes include swallowing, chewing and sublingual
- Non-oral routes include snorting, smoking and injecting
- Oral and non-oral use of prescription opioids common for both immediate and extended release formulations.
- Certain drugs used more frequently with one or the other.

Non-oral Use of Immediate Release Opioids

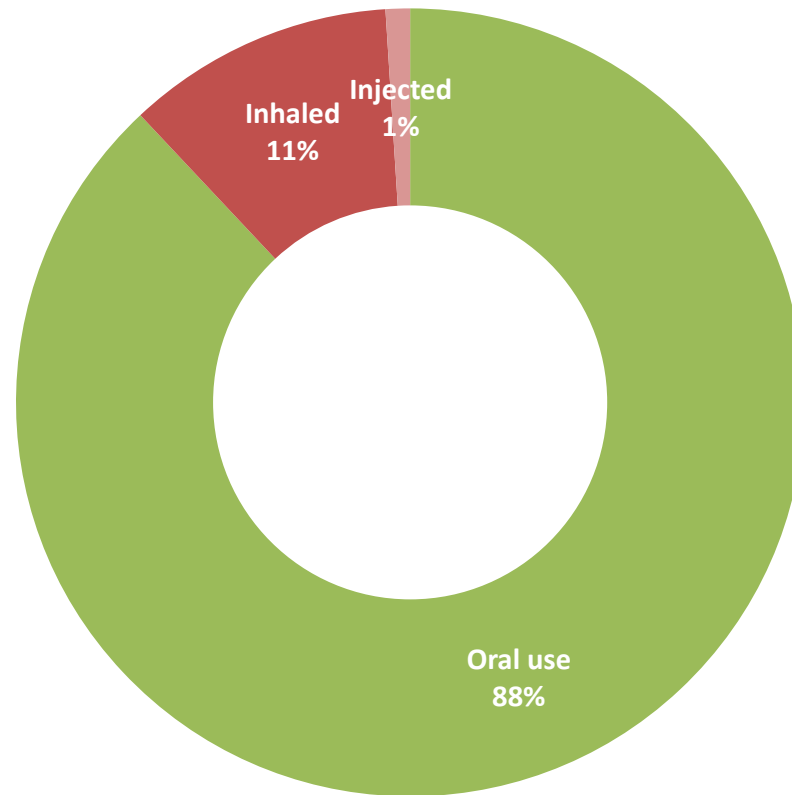


Non-oral Use of Extended Release Opioids



Progression of Use

First use of prescription opioids



How do oral users
adjust for **tolerance**?

Three Possibilities

- Take more pills
- Take pills with higher doses
- Switch routes of administration

Multiple Pill Abuse

- **67.7%** of prescription opioid abusers swallow four or more of the same pill at one time.
 - 51.8% of these did so at least **once a day** in the past month.
- On average, the maximum number of pills taken at one time was **10 pills**.

Why not use higher
dose strengths?

Primary Reason: Accessibility

“I couldn’t find pills with a higher dose.”

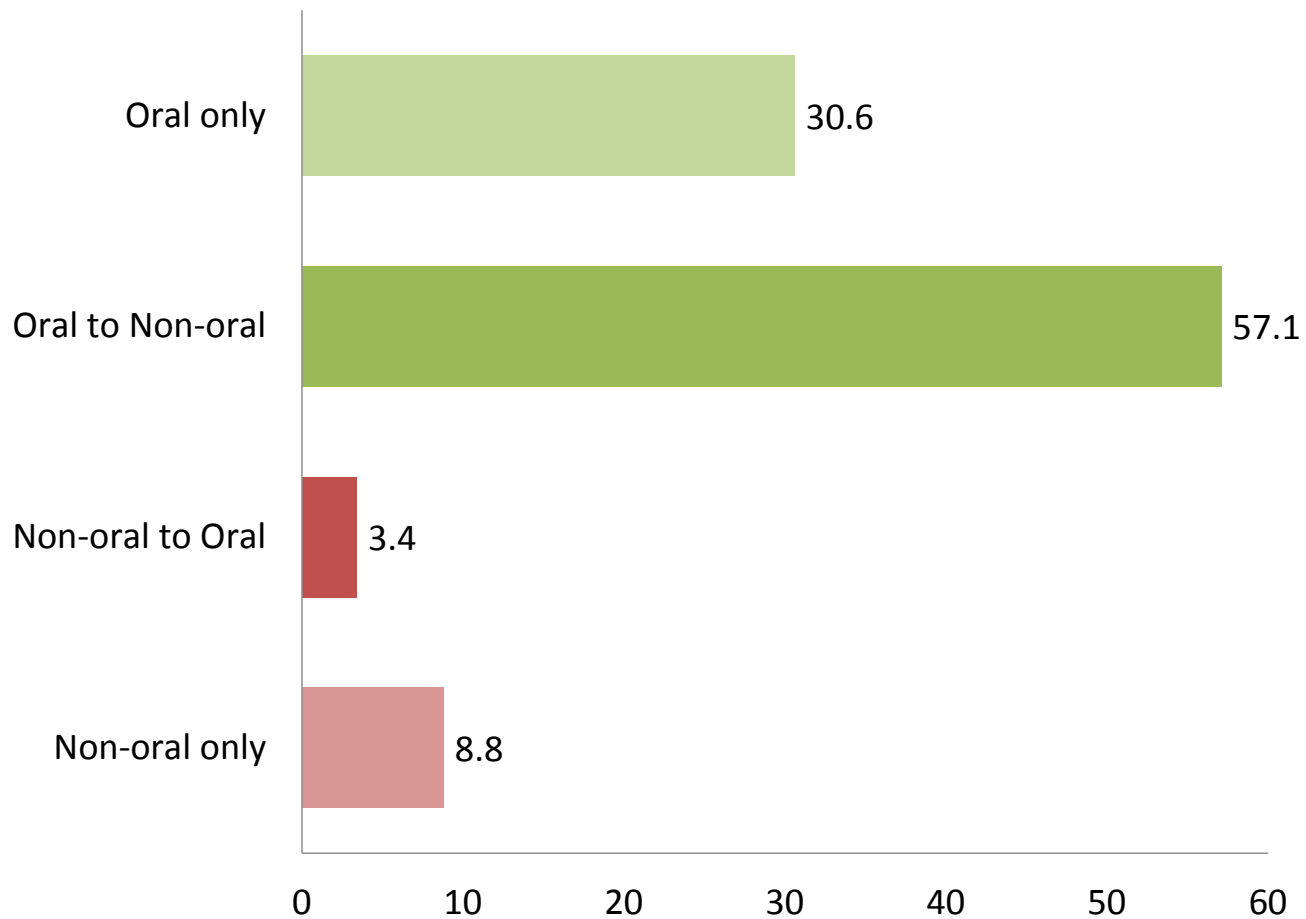
“Only able to obtain a certain mg without paying higher rates.”

“I couldn’t get a higher dose from the doctors so I improvised and took more pills to get the desired high I was after.”

“I didn’t want my addiction to be obvious by asking my doctor for a higher dose.”

Next logical step:
Transition from
oral to non-oral use

Oral and non-oral use of Rx Opioids



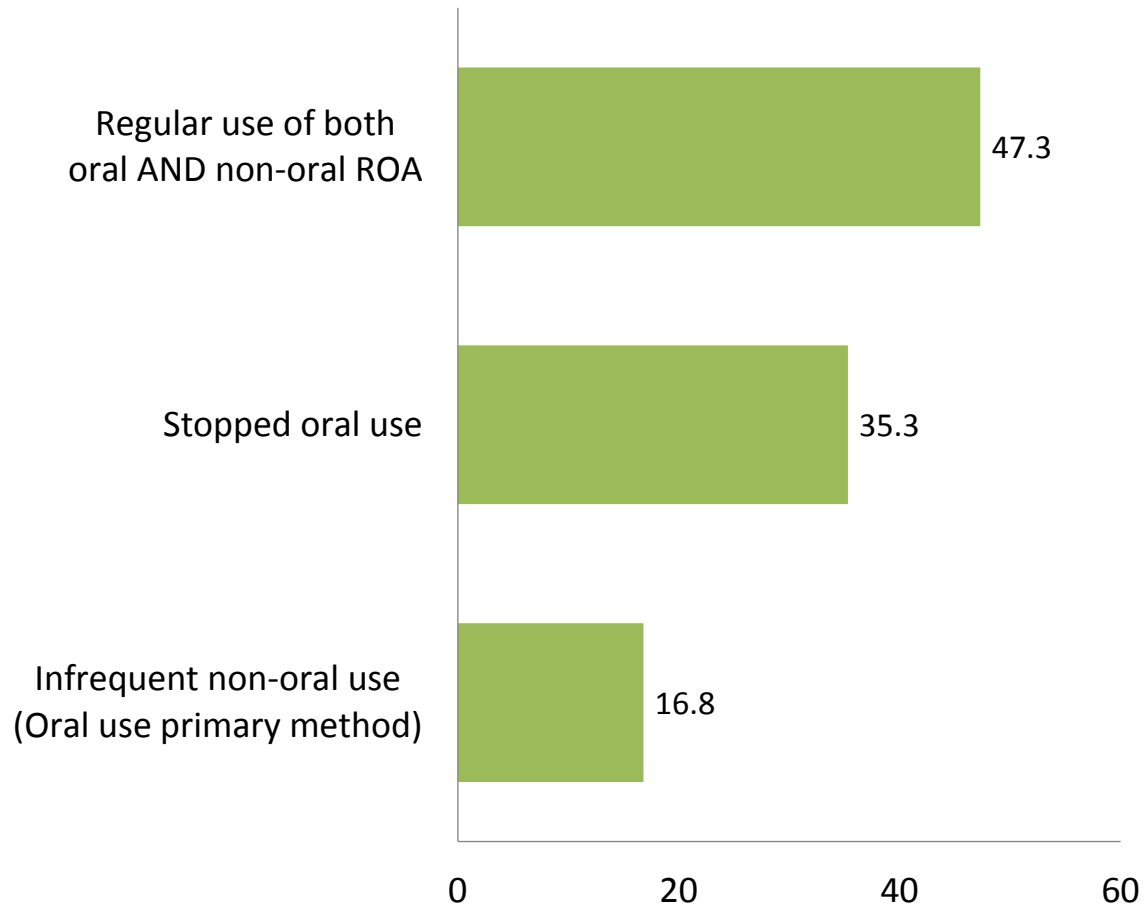
Some only use orally due to fears of snorting/injecting.

“Swallowing had fewer unpleasant aspects (e.g., burning, irritated nose, scratchy throat, etc.).”

“I’m scared of injection and it burns
waaaay too bad to snort.”

Is the progression from
oral to non-oral use
unidirectional?

Impact of non-oral initiation on oral use



Why is the transition to non-oral use
not a **complete** one?

Practical factors
contribute to the choice of
route of administration

Drug Type/Formulation

“With hydrocodone I needed to take them orally as my tolerance was high and the amount I was taking was too much to snort. But with stronger opioids in smaller milligrams, like oxycodone, I would snort.”

“It depended on the bioavailability of the drug.

Opana is useless orally but gets you very high using other methods.

Oxycodone is one that I feel gives a better high if used orally.”

“If the pill was big or had tylenol in it I would take orally. If it was small and able to be injected, then I would take it non-orally.”

Convenience/Accessibility

“It would be determined on how much time I had, where I was or what materials I had around me.

“If I could not get a certain type of opioid, I would just take it orally. Like if I could only get Vicodin I would have no choice but to take them orally.”

“Convenience....if I didn’t have a syringe I’d take them orally or a place to use. If I was trying to hide my IV use around certain people (parents) then I’d just use orally.

I could switch back & forth.”

Addiction to the 'process'

“You start to enjoy the drip from snorting your pills, it becomes part of the enjoyment in your high.”

“Once I started injecting, it took my addiction to a whole different level....I didn't want anything I couldn't shoot. I was truly addicted to the needle itself.”

“I got addicted to the ritual of smoking it.”

Conclusions

- Most users start with oral use.
- Progression to snorting/injecting the most common pathway.
 - Tolerance to oral use
 - Seeking a better high
 - Dependent on drug type/formulation

Conclusions

- Not a unidirectional pathway
- Many persist in using opioids orally, even after starting non-oral use, for a variety of reasons.
 - Availability/Convenience
 - Fear of adverse events when using certain drugs non-orally.

RAPID Program

- Complementary quantitative data and qualitative data enriches results.
- Produces direct, immediate information relevant to a given topic.
- Overcomes limitations of standardized questionnaires and enriches data from other sources.

RAPID Publications

- Cicero TJ, Ellis MS, Surratt HL Kurtz SP. The changing face of heroin use in the United States: a retrospective analysis of the past 50 years. *JAMA Psychiatry*. 2014 July; 71(7):821-6.
- Cicero TJ, Ellis MS. Abuse deterrent formulations and the prescription opioid abuse epidemic in the United States: lessons learned from OxyContin. *JAMA Psychiatry*. 2015 Mar 11.
- Cicero TJ, Ellis MS, Surratt HL. Shifting patterns of prescription opioid and heroin abuse across the United States. *N Engl J Med*. 2015 Oct 29;373:1789-1790.