NASAL NALOXONE
(PRODUCT UNDER DEVELOPMENT)

SEAMUS MULLIGAN
CHAIRMAN & CEO
ABOUT ADAPT

Our Commitment
Sole focus development of an accessible option to treat opioid overdose
To serve as a responsible and innovative business focused on patients

What That Means
Development of an FDA approved easy to administer naloxone nasal spray
Price responsibly to support broad access
Collaborate with public/private stakeholders who are focused on Common Goal

Common Goal
Help reduce mortality and morbidity from opioid overdose
HHS INITIATIVE IN RESPONSE TO EPIDEMIC

Opioid overdose related death and hospital visits have reached alarming levels

Naloxone to play a role in HHS opioid overdose initiative\(^1\)

- **Opioid Prescribing Practices** to reduce opioid use disorders and overdose
- Expanded use and distribution of **Naloxone**
- Expansion of **Medication-assisted Treatment (MAT)** to reduce opioid use disorders and overdose

\(^{(1)}\) HHS ASPE Issue Brief March 26 2015
NALOXONE: OPIOID OVERDOSE TREATMENT

Naloxone has been FDA approved for over 44 years \(^1\)

Naloxone is the standard treatment for opioid overdoses\(^2\)

*Naloxone is only FDA approved in injectable formulations*\(^1\)

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\(^1\) Accessdata.fda.gov: Narcan NDA 016636 approved April 1971

\(^2\) FDA News Release April 3 2014 FDA approves new hand-held auto-injector to reverse opioid overdose; Electronic Orange Book search “naloxone”
“FDA has encouraged innovations in more user friendly naloxone delivery systems [...] for lay use outside of health care settings.”

“AMA encourages physicians to co-prescribe naloxone to their patients at-risk who are taking opioid analgesics.”

“It is essential that naloxone be available across all community sectors reaching all those potentially at risk.”

(1) HHS Richard Frank Testimony to Congress May 1 2015  (2) AMA Patrice Harris Testimony to Congress, April 23 2015;  (3) Fred Wells Branson CEO Project Lazarus Testimony to Congress, March 25 2015
OVERDOSE SITE REQUIRES MORE OPTIONS

77% of Opioid Overdose Related Deaths Happen Outside Medical Setting¹

56% of Opioid Overdose Related Deaths Happen at Home¹

(1) CDC Wonder Database Multiple Cause of Death MCD - ICD-10 Codes: T40.1 (Heroin), T40.2 (Other opioids), T40.3 (Methadone), T40.4 (Other synthetic narcotics) 2013
Adapt and NIDA Collaboration Goals

Development of Naloxone Nasal Spray to Effectively Treat Opioid Overdose

Accessible and easy to administer outside a healthcare setting

The following describes the Naloxone Nasal Spray product currently under development, including clinical trials, regulatory milestones and timeline to projected approval. Accordingly, at this time, all test data and product information are presented for informational purposes only, and must be considered experimental.
**Accessibility: Device Option**
- Single Spray Device
- Supine Position Dosing
- Low Volume Spray (0.1ml)
- No Assembly, Priming Requirement
- Portable Device

**Effectiveness: Treatment**
- Appropriate Dose Selection
- Time to Onset Compared to IM
- Drug Exposure Compared to IM
- Any New Adverse Events

*All test data/product information presented must be considered experimental*
The Proposed Name and the Device

Licensed Narcan
High Brand Familiarity
Accelerate Awareness
Use Subject to FDA Approval

All test data/product information presented must be considered experimental
### Working with FDA – Regulatory Status

<table>
<thead>
<tr>
<th>Timeline</th>
<th>1Q15</th>
<th>2Q15</th>
<th>2H15</th>
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</thead>
<tbody>
<tr>
<td>Regulatory Status</td>
<td>FDA Grants Fast Track Designation</td>
<td>Initiated Rolling NDA submission</td>
<td>Target Final NDA Seek Priority Review Possible FDA Approval</td>
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</tbody>
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SUMMARY OF KEY STUDIES CONDUCTED

- Two Pharmacokinetic (PK) Studies Comparing doses from 2mg to 8mg Naloxone in 0.1ml Nasal Spray to FDA approved 0.4 mg IM Naloxone
  - Healthy Patients in Both PK Studies Received Nasal Spray in Supine Position

- Three Studies to Measure Comprehension and Ease of Administration
  - Included cohorts of adults, juveniles and low literacy
  - No device training was provided

- Other Supportive Studies Required to Characterize Product Included:
  - Extractable, Stability, Spray geometry etc.

All test data/product information presented must be considered experimental
HUMAN USE STUDIES

Design Objective to Assess Ease of Administration

- 3 studies (1 qualitative 2 validation) with total of 175 subjects
- No device training was provided
- Included cohorts representing everyday Americans: Adults, Juveniles, low literacy
- Included Stress Simulations
- Primary (administration of placebo dose) and secondary endpoints (e.g. call 911, place in Recovery position) measured

Results

- Over 90% of participants successfully simulated administering Narcan Nasal Spray without training

All test data/product information presented must be considered experimental
PIVOTAL PK NASAL v 0.4MG IM

- Time to Maximum Plasma Concentration for Nasal Spray compared to IM
- Nasal Plasma Levels Exceeded 0.4mg IM Plasma Level at all time points
- Nasal Plasma Levels Exceeded 0.4mg IM Peak Plasma Level For Over 2 hours
- Data suggested Nasal comparable bioavailability was 50% relative to IM
- No Change to Adverse Event Profile
- Expect selected dose to be within recommended comparable initial dose range of i.m.

All test data/product information presented must be considered experimental

Note: Inpatient open-label, randomized, 5-period, 5-treatment, 5-sequence, crossover study involving 30 healthy volunteers for 18 days.
ADAPT is committed to:

- Launching Narcan Nasal Spray Rapidly Post FDA Approval with a focus on current naloxone distributors and users; high-risk opioid users, their friends and family; and others that may witness an overdose
- Collaborating with public/private stakeholders who address distribution, reimbursement and other challenges
- Pricing Responsibly to Support Broad Access

Help Reach Common Goal of Treating Opioid Overdoses with Effective, Accessible and Easy to Administer Naloxone Nasal Spray

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Thank you

Questions

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