Transforming Women’s Health
Nasdaq: JNP

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Why Juniper?

- High value product pipeline addressing acute and chronic women’s health conditions
  - Phase 2b data expected Q3 ’16 for lead candidate
- Three U.S. product launches possible within next 5 years
- Well positioned for product collaborations leveraging vaginal delivery technologies
- Growing core business funds operations
Vaginal Delivery: A Privileged Route of Drug Administration

- Avoids first-pass liver metabolism
  - Metabolites can drive drug side-effects
- Avoids potential GI side effects
- Delivery and absorption of drug into local tissue
- Lower plasma levels improving drug safety profiles
- Improved compliance and convenience for patients
Bioadhesive Delivery System (BDS) Proprietary Polycarbophil gel

- Adheres to vaginal epithelium
- Allows controlled & sustained release of drug over time
- Discharged upon normal cell turnover ~3 days
COL-1077 10% Lidocaine BDS Vaginal Gel
Local anesthetic for pain from minimally invasive GYN procedures

- Self-administered at home prior to procedure
- Sustained release of Lidocaine into local tissue
  
  \[ \text{Epithelium} \rightarrow \text{Endometrium} \rightarrow \text{Myometrium} \]
- Patient arrives at physician office “procedure ready”
- Expected prescription product vs. procedure code item
- Potential to become standard of care where none exists
- No product like it on the market
Attractive Market Opportunity: Pain from Minimally Invasive Gynecological Procedures

- Pain and post-procedural cramping is a real issue
  - Mean pain scores at time of endometrial biopsy 5.11-9.9 on 10-cm VAS² scale in 5 published trials³

- No approved standard of care

Over 7 Million Procedures Annually in U.S. Alone¹

1.5
1.4
1.4
1.4
1.1
0.2
0.2

- Colposcopy
- Endometrial Biopsy
- Cervical Biopsy
- IUD Placement/Removal
- Diagnostic Hysteroscopy
- LEEP Procedure
- Endometrial Ablation

(1) U.S., 2015
(2) VAS = Visual Analog Scale
COL-1077
Clinical Study History

Four Prior Clinical Studies Demonstrated:

- Serum exposure levels 1/100th the IV lidocaine dose
- Lidocaine effectively absorbed through vaginal mucosa
- Lidocaine penetrates tissues and reaches myometrium
- Well tolerated, no significant safety concerns in over 150 patients
  - Over 100 received 10% concentration
COL-1077
Efficacy Demonstrated in Pain & Cramping Study

PROOF OF CONCEPT FOR CURRENT PHASE 2B STUDY

- Administration of 5% lidocaine bioadhesive vaginal gel was associated with a **statistically significant decrease** in:
  - Uterine contraction frequency (p<0.001)
  - Reported pain (p=0.008)
  - Number of uterine contractions (p=0.008)
  - Uterine pressure (p=0.012)

COL-1077: Phase 2b Clinical Study Underway

- Pipelle-directed endometrial biopsy with tenaculum placement – 185 women at 25 U.S. sites
- Randomized, double-blind, placebo-controlled
- Single self-administered dose ~6 hours prior to procedure
- Primary endpoint: pain reduction at time of biopsy
- Secondary endpoints:
  - Reduction in pain intensity at additional time points
  - Patient related outcomes (PROs)
- Results expected Q3 2016
Intravaginal Ring Technology
Juniper Intravaginal Ring (IVR): First-in-Class

**Reservoir-type Ring**
- Drug-loaded core encapsulated by a rate-controlling polymer membrane

**Sandwich Ring**
- Drug-loaded layer sandwiched between a polymeric central core and a rate-controlling polymer membrane

**Juniper IVR**
- Drug homogenized in a solid EVA polymer matrix; no rate-controlling membrane

Enables delivery of:
- Poorly bioavailable drugs
- Wide molecular weight range

Multi-segment capability = multiple drug & dosage options

Source: *International Journal of Women’s Health*
Juniper IVR: Proof of Concept

Human POC study in press at *Journal of Controlled Release* demonstrated successful delivery of peptides in humans

- 6 women received 18 or 36mg of leuprolide, a 9-amino acid peptide, via Juniper IVR
- Serum leuprolide levels rose within 8h. following IVR insertion and was dose dependent
- GnRHa biological activity validated by secretion of gonadotropins and sex steroids

JNP-0101 Oxybutynin IVR for Overactive Bladder (OAB)
OAB: A Widespread, Chronic Condition

- Involuntary contraction of detrusor (bladder) muscles results in compelling need to pass urine (urgency)
- Affects ~20 million women in U.S.\textsuperscript{1,2,3}
  - ~9 million receive pharmacotherapy
- $1.3B market (U.S., 2014)\textsuperscript{4}
  - Branded and generics
  - Most common Rx: generic oxybutynin\textsuperscript{4}

(1) Milsom I, et al., How widespread are the symptoms of an overactive bladder and how are they managed? A population-based prevalence study. \textit{BJU Int.} 2001; 87(9): 760-6.
Over 70% of OAB patients discontinue oxybutynin within first year\textsuperscript{1,2,3,4}

- Discontinue within 6 mo. due to dry mouth, constipation, or blurred vision
- Discontinue within 6 mo. due to other Adverse Events
- Discontinue within 6 mo. due to inadequate efficacy
- Continue therapy beyond 6 mo.

A Novel Oxybutynin IVR Could Address the Most Pressing Unmet Needs in OAB$^{1,2,3}$

JNP-0101

Localized absorption
- Target relevant tissues
- Higher local concentration

Reduced side effects
- Avoiding first pass metabolism should reduce active metabolite creation

Sustainable delivery
- Once monthly IVR likely to increase convenience and compliance
- Likely to improve disease management and overall outcomes

JNP-0101 is Advancing Toward Clinic

- CMC activities and pilot manufacturing*
- Pre-IND meeting
  - 505(b)(2) regulatory pathway is clear
  - cGMP production underway*
- Animal PK study underway
- IND filing planned late 2016 followed by Phase 2 bioavailability and dose-finding study

* Performed at our Juniper Pharma Services UK facility
JNP-0201 Progesterone + Estradiol IVR for HRT
JNP-0201 Estradiol + Progesterone IVR for HRT in Menopause

- 45M women in U.S. approaching or in menopause¹
- 2012 NAMS consensus statement supports HRT in peri- and post-menopausal women²

$2.2 Billion U.S. Market³

$660M FDA-approved

~$1.5 B Compounded

1) U.S. Census Bureau, Population Division. Table 2. 2015 to 2060 (NP2012-T2). Released Dec. 2012.
3) U.S. 2014. Source: Symphony Health Solutions Report
JNP-0201 Estradiol + Progesterone IVR

<table>
<thead>
<tr>
<th>KEY ATTRIBUTES</th>
<th>STATUS</th>
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<tbody>
<tr>
<td>▪ Local delivery to relevant tissues</td>
<td>▪ Prototypes developed</td>
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<tr>
<td>▪ Avoids first pass metabolism</td>
<td>▪ Drug loading and release profile studies underway</td>
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<tr>
<td>▪ Potentially lower doses</td>
<td>▪ IND/clinical studies planned for 2017</td>
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<tr>
<td>▪ Natural hormones: progesterone &amp; estradiol</td>
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<td>▪ Extended delivery, vs daily delivery with other forms</td>
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JNP-0301 Progesterone IVR for Prevention of Preterm Birth
# JNP-0301 Progesterone IVR for Prevention of Preterm Birth (PTB)

## KEY ASPECTS

- **U.S. PTB rate rose to 9.6% in 2015**
- **Clear consensus:** Vaginal progesterone should be used for prevention of PTB in women with SCL
- **Still no FDA-approved products for PTB/SCL**

## STATUS

- **Benefits from work on JNP-0201 progesterone segment**
- **Study underway to determine current U.S. practice**
  - Diagnosis of SCL
  - Subsequent use of vaginal progesterone
- **Plan to discuss with FDA clinical & regulatory path for vaginal progesterone in PTB/SCL**

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1) National Center for Health Statistics 2015 preliminary preterm birth rate for U.S. SCL: Short Cervical Length
Product Development Summary

- Potential for three new product launches within five years
- Targeting significant unmet medical needs
- Utilize proprietary intravaginal delivery technologies
- Leveraging cost-effective 505(b)(2) FDA path
- All are technically and commercially synergistic
Juniper IVR: Potential Partnering Opportunities

TO NAME JUST A FEW...

- Multiple Sclerosis
- Osteoporosis
- Ovarian Cancer
- Rheumatoid Arthritis
- Breast Cancer
- PAH
- Hypothyroidism
First Quarter Operating Results

*In Millions (unaudited)*

- **Total Revenues**
  - Q1 '15: $8.3 million
  - Q1 '16: $12.1 million

- **Total Operating Expenses**
  - Q1 '15: $4.3 million
    - R & D: $1.4 million
    - S&M, G&A: $2.9 million
  - Q1 '16: $5.5 million
    - R & D: $1.8 million
    - S&M, G&A: $3.7 million

$13.5 million cash and cash equivalents as at March 31, 2016
Why Juniper?

- High value pipeline addressing acute and chronic conditions in women
- COL-1077 Phase 2b data expected Q3 ‘16
- IND filing planned late ‘16 for JNP-0101, followed by Phase 2 bioavailability and dose-finding study
- Three U.S. product launches possible within next 5 years
- Core business funding 2016 operations and R&D programs
- ~$78 million market capitalization as of June 3, 2016
Thank you