BDSI INVESTOR OVERVIEW

A Rapidly Growing Commercial Stage Specialty Pharmaceutical Company Dedicated to Patients Living with Chronic Pain
Forward Looking Statements

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The Company assumes no obligation to update forward-looking statements as circumstances change. Investors are advised to consult further disclosures that the Company makes or has made on related subjects in the Company’s Form 10-K, 10-Q and 8-K reports.

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BioDelivery Sciences (NASDAQ: BDSI)
Significant Near Term Growth Potential

A rapidly growing commercial stage specialty pharmaceutical company dedicated to patients living with chronic pain:

• Portfolio of approved commercialized products

• Capitalizing on the growth potential of BELBUCA®

• Solid financial position
Company Fundamentals

Accelerating BELBUCA Growth
- The first and only approved CIII long-acting opioid for the treatment of chronic pain utilizing buccal film technology
- Addresses a significant unmet need in the management of chronic pain

Organizational Development
- Highly experienced senior management team in place
- Reconstituted Board of exceptionally qualified independent directors

Financial Position
- Cash & Equivalents: $55.7 M (as of June 30, 2018)
- Shares Outstanding: 59 M shares (as of June 30, 2018)
Prevalence in the US population is 30.7%\(^2,a\)

Exceeds that of diabetes, heart disease, and cancer combined\(^1\)

### Prevalence of chronic pain in the U.S.


### Chronic pain affects people of various ages, races and ethnicities, and sociodemographic strata\(^6\)

Significant Limitations With Current Leading Treatments Particularly the Potential For Addiction and Debilitating Side Effects

Impact of Current Leading Opioid Brands

- Over 2.5 million people in the U.S. with opioid dependence\(^1\)
- Drug overdose is now the leading cause of accidental death in the U.S.\(^2\)
- Nearly 20,000 deaths are from prescription opioids\(^2\)

1 SAMHSA 2016 Opioid Addiction Facts & Figures
2 CDC
BELBUCA is indicated for the management of pain severe enough to require daily, around-the-clock, long-term opioid treatment for which alternative treatment options are inadequate.

- Proven efficacy in chronic pain
- Reduced risk of dependency – CIII
- Placebo like tolerability
- Lower risk of respiratory depression
- Individualized titration with range of 7 film strengths

Visit www.BELBUCA.com for important safety information.
BELBUCA® Growth Opportunity
Well Positioned to Meet the Needs of Chronic Pain Patients

- Highly effective with proven sustained pain relief
- Unique delivery system that bypasses the first-pass metabolism in the gastrointestinal tract
- Exclusivity through 2027 and high barriers to entry
- Prevalence of chronic pain is growing
- Significant long term market opportunity > $200M

1 https://www.ncbi.nlm.nih.gov/books/NBK92516/K92516/
Opioid Experienced Patient Study (<160 mg MSE):

Twice as many patients taking BELBUCA® experienced at least a 50% reduction in pain score at week 12 versus patients taking placebo.
The most common adverse reactions (>5%) reported by patients treated with BELBUCA in the clinical trials were nausea, constipation, headache, vomiting, fatigue, dizziness, somnolence, diarrhea, dry mouth, and upper respiratory tract infections. See www.BELBUCA.com for more information including full prescribing information.

### Side Effect Comparison

<table>
<thead>
<tr>
<th>Side Effect</th>
<th>BELBUCA (N=254)</th>
<th>Placebo (n=256)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nausea</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>Constipation</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>Vomiting</td>
<td>5%</td>
<td>2%</td>
</tr>
<tr>
<td>Headache</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>Dizziness</td>
<td>2%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Somnolence</td>
<td>1%</td>
<td>&lt;1%</td>
</tr>
<tr>
<td>Drug Withdrawal Syndrome</td>
<td>4%</td>
<td>10%</td>
</tr>
</tbody>
</table>

The LAO Market Remains Very Large
Provides Significant Long Term Commercial Opportunity for BELBUCA

<table>
<thead>
<tr>
<th>Month</th>
<th>Total Monthly Prescriptions</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017-Jul</td>
<td>1,500,000</td>
</tr>
<tr>
<td>2017-Aug</td>
<td>1,400,000</td>
</tr>
<tr>
<td>2017-Sep</td>
<td>1,300,000</td>
</tr>
<tr>
<td>2017-Oct</td>
<td>1,200,000</td>
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<tr>
<td>2017-Nov</td>
<td>1,100,000</td>
</tr>
<tr>
<td>2017-Dec</td>
<td>1,000,000</td>
</tr>
<tr>
<td>2018-Jan</td>
<td>900,000</td>
</tr>
<tr>
<td>2018-Feb</td>
<td>800,000</td>
</tr>
</tbody>
</table>

Source: Symphony Health, Monthly total prescriptions (retail)
BELBUCA Growth Accelerating
Continuing to Reach All Time High Monthly Performance

TOTAL MONTHLY PRESCRIPTIONS - BELBUCA

Source: Symphony Health, Weekly total prescriptions (retail)
BELBUCA Rapidly Becoming Buprenorphine Brand of Choice
Considerable Opportunity for Further Growth
Majority of BELBUCA Growth Sourced from CII Opioids
Significant Market Potential
Very Rapidly Expanding Base of HCPs Prescribing BELBUCA
Opportunity for Further Penetration into Call Targets

**Unique Prescribers**

**New Prescribers**
Expanding Patient Access to BELBUCA is a Key Priority to Further Growth – Remove HCP Obstacles

Maximize Current Coverage
- Pull-through formulary wins
- Push-through prior authorization obstacles
- Preferred; no step-through

Improve National Coverage
- Commercial
- Medicare Part D

Expand Regional Coverage
- Regional Payers
- State Medicare
- Blues
Significant Progress in 2018 Expanding BELBUCA Access
More than 75 Million with Preferred Coverage

**1H18**
- **ProCareRx** *Added*: Preferred, no step-through
- **United Healthcare** *Improved*: Removal of step-through
- **CVS/Caremark** *Improved*: Preferred, no step-through, Butrans step-through BELBUCA®
- **Humana** *Added*: Preferred/No PA required, no step-through
- **Ohio Workers Comp** *Added*: Preferred, no step-through

**2H18**
- **Express Scripts** *Added*: Preferred; no step-through
BELBUCA Rapidly Improving Market Access
Significant Further Upside Remains

% Commercial Covered Lives with Access to BELBUCA as Preferred Medication

- December 2017: 3%
- September 2018: 36%

% Medicare Covered Lives with Access to BELBUCA as Preferred Medication

- December 2017: 3%
- September 2018: 22%

Source: Managed Markets Insights & Technology, LLC.
Achieving Preferred Status Offers Significant Growth Opportunity
Humana Example in 1Q18
Strategic Plan to Drive Long-Term Sustained BELBUCA Growth Implementation Starting 2H 2018

Key Growth Levers:

- Sales Team Expansion
- Amplify Market Access Status
- Medical Information Development
- Consumer Engagement
Additional Commercialized Products - Contributing Revenue to Reinvest

**BUNAVAIL®**
Indicated for the treatment of opioid dependency
Leveraged our capabilities to capitalize on commercial synergies with BUNAVAIL® for a focused commercial approach targeting identified healthcare providers

**ON SOLIS®**
Indicated for the treatment of breakthrough pain in opioid tolerant patients with cancer
Marketed under the brand name BREAKYL™ in the E.U. and PAINKYL in Taiwan
Assessing options for U.S. commercialization of ONSOLIS
Highly Experienced Executive Leadership Team

Herm Cukier
CEO

Scott Plesha
President

Ernest DePaolantonio
CFO

Joseph Lockhart
SVP, Operations

Thomas Smith, MD
CMO

Allergan
Schering-Plough
Bristol-Myers Squibb
Bayer HealthCare Pharmaceuticals
Pfizer
Salix Pharmaceuticals
GlaxoSmithKline
Solvay Pharmaceuticals
COREPHARMA
Aventis
MERZ
Baxter
Salix Pharmaceuticals
Ameritox
Mallinckrodt Pharmaceuticals
Abbott
Investment Summary – Rapidly Growing and Well Positioned for Sustained Momentum

• BELBUCA® - The first and only CIII approved drug for the management of chronic pain using buccal technology
• Addresses an important medical need in the treatment of chronic pain with a differentiated profile
• Market exclusivity through 2027 and high barriers of entry
• Strong cash position
• Experienced Management Team
• Longer term market opportunity > $200M

NASDAQ: BDSI