ACADIA® Pharmaceuticals

Third Quarter 2019 Earnings Call

OCTOBER 30, 2019

3Q19 Earnings Call Agenda

INTRODUCTION	Mark Johnson | Vice President, Investor Relations
CEO OPENING REMARKS	Steve Davis | Chief Executive Officer
COMMERCIAL UPDATE	Michael Yang | Chief Commercial Officer
R&D UPDATE	Serge Stankovic, M.D., M.S.P.H. | President
FINANCE UPDATE	Elena Ridloff | Chief Financial Officer
CEO CLOSING REMARKS	Steve Davis | Chief Executive Officer
Q&A	

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Forward-Looking Statement

This presentation contains forward-looking statements. These statements relate to future events and involve known and unknown risks, uncertainties and other factors which may cause our actual results, performance or achievements to be materially different from any future results, performances or achievements expressed in or implied by such forward-looking statements. Each of these statements is based only on current information, assumptions and expectations that are inherently subject to change and involve a number of risks and uncertainties. Forward-looking statements include, but are not limited to, statements about (i) plans for, including timing and progress of commercialization of, NUPLAZID® or for the clinical development of our product candidates, including pimavanserin and trofinetide; (ii) benefits to be derived from and efficacy of our product candidates, including the use of pimavanserin in dementia-related psychosis, schizophrenia, depression or other neurological or psychiatric indications, potential advantages of NUPLAZID versus existing antipsychotics or antidepressants, and expansion opportunities for NUPLAZID; (iii) estimates regarding the prevalence of PD, PD Psychosis, dementia-related psychosis, schizophrenia or depression and the potential use of trofinetide in Rett syndrome; (iv) potential markets for any of our products, including NUPLAZID and trofinetide; and (v) our estimates regarding our future financial performance, cash position or capital requirements.

In some cases, you can identify forward-looking statements by terms such as “may,” “will,” “should,” “could,” “would,” “expects,” “plans,” “anticipates,” “believes,” “estimates,” “projects,” “predicts,” “potential” and similar expressions (including the negative thereof) intended to identify forward-looking statements. Given the risks and uncertainties, you should not place undue reliance on these forward-looking statements. For a discussion of the risks and other factors that may cause our actual results, performance or achievements to differ, please refer to our annual report on Form 10-K for the year ended December 31, 2018 as well as our subsequent filings with the SEC. The forward-looking statements contained herein are made as of the date hereof, and we undertake no obligation to update them for future events.

CEO Opening Remarks

Steve Davis
CEO

Recent Highlights of Executing on our Strategy

Grow

3Q19 net sales $94.6M; 62% YoY growth[1]

FY 2019 net sales guidance $330 to $340 million

- Represents a 50% YoY net sales increase at mid-point of the range

Leverage

Pimavanserin for Dementia-Related Psychosis:

- Phase 3 HARMONY study positive; top-line results to be presented at CTAD

Pimavanserin for Major Depressive Disorder:

- Phase 3 CLARITY-2 and Phase 3 CLARITY-3 enrolling well

Pimavanserin for Schizophrenia:

- Phase 2 ADVANCE results expected in 4Q19

Trofinetide for Rett Syndrome:

- Phase 3 LAVENDER study initiated in 4Q19

[1]3Q19 includes a $2.2M benefit resulting from a change in estimate for our Medicare accrual.
NUPLAZID is approved in the U.S. for hallucinations and delusions associated with Parkinson's disease psychosis.
Provided October 30, 2019 as part of an oral presentation and is qualified by such; contains forward-looking statements; actual results may vary materially; ACADIA disclaims any duty to update.

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Commercial Update

Michael Yang
Chief Commercial Officer

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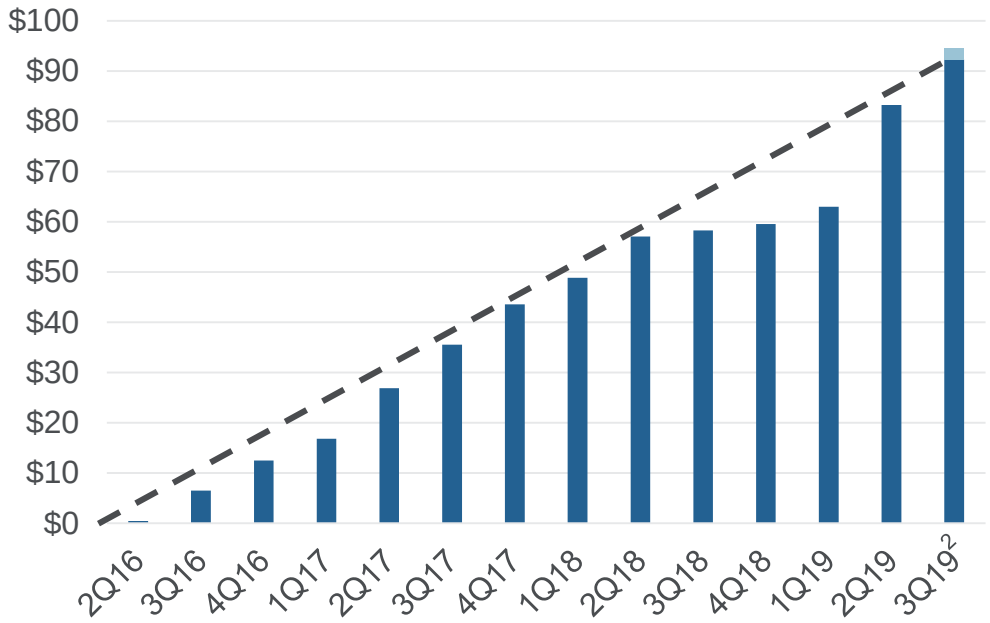
Strong Commercial Execution in PDP

Net Sales[1] (in millions)



$94.6M in Net Sales for 3Q19[2]

- ✓ Continued growth in new patients and from new and existing prescribers
- ✓ Continued volume growth in both specialty pharmacy and specialty distribution channels
- ✓ Sustained high-level of compliance and fulfillment for established patients

[1]Net Sales shown above on a sell-in basis since launch; ACADIA changed revenue recognition methodology from sell-through to sell-in in Q2 2017.
[2]3Q19 includes a $2.2M benefit resulting from a change in estimate for our Medicare accrual; highlighted in light blue in the graph above.
NUPLAZID is approved in the U.S. for hallucinations and delusions associated with Parkinson's disease psychosis.
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Continued Focus on PDP Disease Education and Awareness

- ✓ Increase awareness of NUPLAZID's inclusion in the updated MDS Commissioned Review[1]
- ✓ Executing on an integrated consumer awareness strategy including digital, print, and in-office assets as well as recently deployed television commercials
- ✓ Michael J. Fox Foundation held its first event of the "Parkinson's IQ + You" series, designed to educate and empower patients with PD and their caregivers

[1] *"Update on Treatments for Non-motor Symptoms of Parkinson's Disease".* Seppi et al. *Movement Disorders* 2019 Volume 34, Issue 2;180-198.
NUPLAZID is approved in the U.S. for the hallucinations and delusions associated with Parkinson's disease psychosis.
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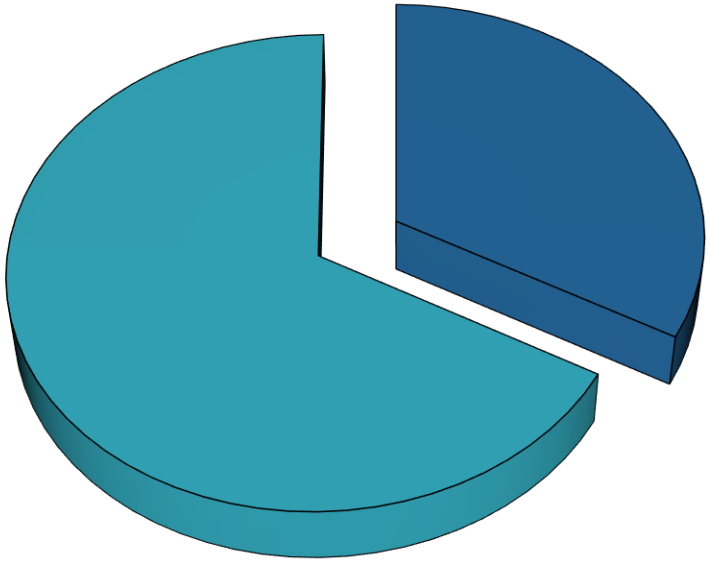
Potential DRP Opportunity for Pimavanserin

~2.4 million patients in the U.S. with DRP of which ~1.2 million patients are treated[1]

~2/3 treated with antipsychotics



~1/3 treated with other therapies

[1]2017 Alzheimer's Disease Facts and Figures and ACADIA market research.

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Launching DRP Disease Education and Awareness Initiatives

- ✓ Launched MoreThanCognition.com – DRP disease awareness and education microsite for HCPs
- ✓ Sponsoring disease awareness initiatives at major medical congresses, including a recent KOL symposium and booth in conjunction with the Alzheimer's Association International Conference (AAIC)

Actor portrayal

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R&D Update

Serge Stankovic, M.D., M.S.P.H.
President

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Significant Late-Stage Pipeline Opportunities

COMPOUND/ PROGRAM	INDICATION	IND-TRACK	PHASE 1	PHASE 2	PHASE 3	MARKETED
NUPLAZID® (pimavanserin)[1]	Hallucinations and Delusions associated with PD Psychosis					
Pimavanserin	Dementia-Related Psychosis					
Pimavanserin	Major Depressive Disorder *Adjunctive Therapy*					
Trofinetide[2]	Rett Syndrome					
Pimavanserin	Schizophrenia Negative Symptoms *Adjunctive Therapy*					

[1]NUPLAZID (pimavanserin) is only approved in the U.S by the FDA for the treatment of hallucinations and delusions associated with Parkinson's disease psychosis.
[2]ACADIA has an exclusive license to develop and commercialize trofinetide in North America from Neuren Pharmaceuticals.
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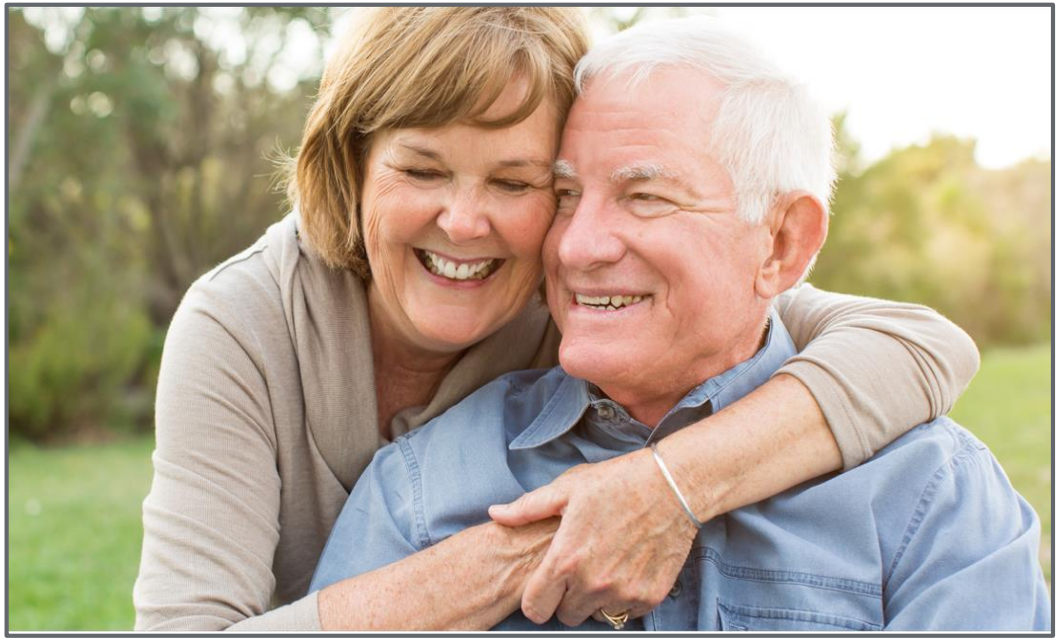
Dementia-Related Psychosis (DRP)



No new FDA-approved treatments for people with dementia since 2003

HIGH UNMET NEED

No FDA-approved treatments for DRP

~2.4 million dementia patients with psychosis

~1.2 million DRP patients are treated[1]

Serious Consequences:

- Repeated hospital stays
- Earlier progression to nursing home
- More rapid progression of dementia
- Increased risk of morbidity and mortality

Antipsychotics used off-label can accelerate cognitive decline and carry significant side effects[2]

[1]2017 Alzheimer's Disease Facts and Figures and ACADIA market research.
[2]Schneider LS, Tariot PN, Dagerman KS, et al, CATIE-AD Study Group. Effectiveness of atypical antipsychotic drugs in patients with Alzheimer's disease. *N Engl J Med* 2006; 355: 1525–38.
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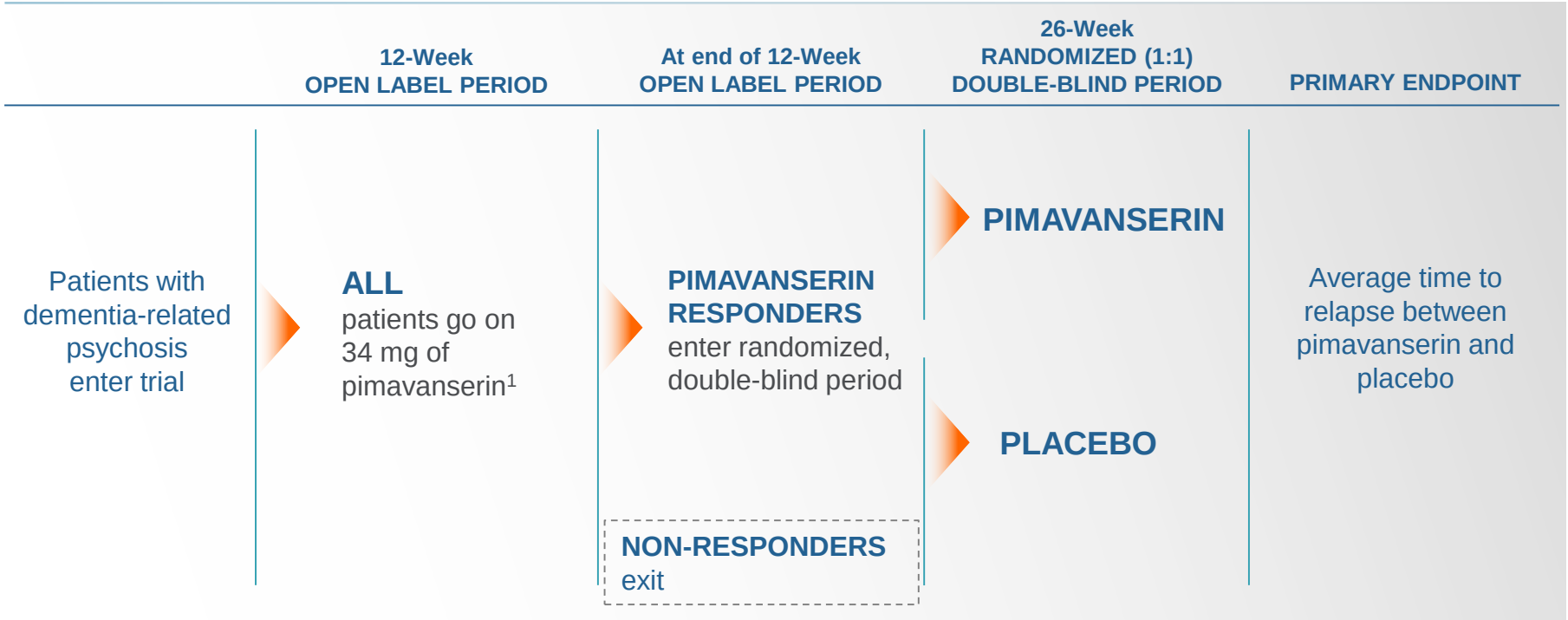
Phase 3 HARMONY Relapse Prevention Study



HARMONY met the pre-specified stopping criteria at the planned interim efficacy analysis requiring one-sided p-value less than 0.0033 on the study's primary endpoint

[1]Patients are able to reduce dose from 34 mg to 20 mg of pimavanserin in the first 4 weeks of open label period.

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DRP Next Steps

- We remain on track to meet with the FDA in 1H20 to discuss our sNDA submission

- Based on our End-of-Phase 2 meeting with the FDA, we confirmed that the basis of an sNDA submission for DRP can rely on the HARMONY study provided that results are both statistically and clinically persuasive. In addition to HARMONY, we plan to include:

Positive Phase 2 Alzheimer's Disease Psychosis Study[1]

Statistically significant reduction in psychosis in Alzheimer's disease patients vs. placebo

Positive Phase 3 Pivotal study in PDP[2]

Positive results from pre-specified subgroup of patients with MMSE<25[3]

Safety and Tolerability Data

Completed placebo-controlled studies and ongoing placebo-controlled PMC (post-marketing commitment) safety study

Pimavanserin has Breakthrough Therapy Designation for the treatment of DRP

[1]Ballard C, et al. Lancet. 2018;17:213-222.
[2]NUPLAZID Prescribing Information; Cummings J, et al. Lancet. 2014;383:533-540.
[3]MMSE = Mini-Mental Status Examination, a test of cognitive function.
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Major Depressive Disorder (MDD) – Adjunctive Therapy

HIGH UNMET NEED

Majority of patients with MDD do not respond to initial antidepressant therapy

Potential U.S. Addressable Population:
~2.5M treated with adjunctive therapy[1]

Current adjunctive use of antipsychotics in MDD can lead to significant side effects:

- Sedation
- Weight gain
- Sexual dysfunction
- Cognitive impairment
- Extrapyramidal symptoms
- Rare but serious tardive dyskinesia

[1]IMS NSP, NPA, NDTI MAT-24 month data through Aug-2017; *PLOS One*, Characterization of Treatment Resistant Depression Episodes in a Cohort of Patients from a US Commercial Claims Database, Oct 2013, Vol 8, Issue 10.

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Recent Publications/Presentations Supporting MDD Program

Phase 2 CLARITY Study (n=207)

Results recently published in *The Journal of Clinical Psychiatry*

- Primary endpoint achieved: depression (HAMD-17[1]) *p=0.039*
- Key secondary endpoint achieved: disability (SDS[1]) *p=0.004*
- Meaningful improvement in daytime wakefulness observed
- No meaningful weight gain and no motor function impairment

Meaningful improvement in symptoms of sexual dysfunction recently presented at 2019 Psych Congress

- Secondary endpoint achieved: Massachusetts General Hospital Sexual Functioning Index (MGH-SFI) *nominal p=0.0003*[2]
- In Stage 1, adjunctive pimavanserin showed significant improvement on mean MGH-SFI scores from baseline vs. placebo *nominal p=0.0002; effect size=0.614*

Open-label Exploratory Phase 2 Study in Parkinson's Disease Patients with Comorbid Depression (n=47)

Study results recently presented at 2019 MDS Congress

- 8-week, open-label, single-arm Phase 2 study evaluating pimavanserin as monotherapy or adjunct to SSRI/SNRI therapy for PD patients with depressive symptoms
- Primary endpoint achieved: depression (HAMD-17) *p<0.0001*
- 60.0% of patients responded (Improvement of ≥50% on HAMD-17)
- 44.4% of patients reached remission (HAMD-17 ≤7)

[1]HAMD-17: 17-item Hamilton Depression Rating Scale; SDS = Sheehan Disability Scale.
[2]Fava M, Dirks B, Freeman MP, et al. A phase 2, randomized, double-blind, placebo-controlled study of adjunctive pimavanserin in patients with major depressive disorder and an inadequate response to therapy (CLARITY). J Clin Psychiatry. 2019;80(6):19m12928.
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Phase 3 CLARITY-2 and CLARITY-3 Studies

Two 6 Week, Randomized, Double-blind, Placebo-controlled Multi-center Studies:

CLARITY-2 (U.S.)
~280 MDD patients with inadequate response to SSRI or SNRI

6 Week Treatment Period

- PIMAVANSERIN + background SSRI/SNRI
- PLACEBO + background SSRI/SNRI

Primary Endpoint:
Change from baseline on Hamilton Depression (HAMD-17) Rating Scale

CLARITY-3 (International)
~280 MDD patients with inadequate response to SSRI or SNRI

6 Week Treatment Period

- PIMAVANSERIN + background SSRI/SNRI
- PLACEBO + background SSRI/SNRI

Primary Endpoint:
Change from baseline on Hamilton Depression (HAMD-17) Rating Scale

sNDA Strategy:
Phase 2 CLARITY study plus at least one of the two Phase 3 studies

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Schizophrenia Negative Symptoms

HIGH UNMET NEED

No FDA-approved treatment for negative symptoms of schizophrenia

~40 - 50% of schizophrenia patients experience prominent negative symptoms[1]

Potential U.S. Addressable Population: >1M patients diagnosed[1]

Prominent Negative Symptoms:

- Flat affect
- Loss of interest
- Emotional withdrawal
- Cognitive impairment

[1]Studies suggest that ~40-50% of schizophrenia patients experience predominant negative symptoms; Patel et al. 2015, Haro et al., 2015, Bobes et al. 2010, and Chue and Lalonde, 2014.

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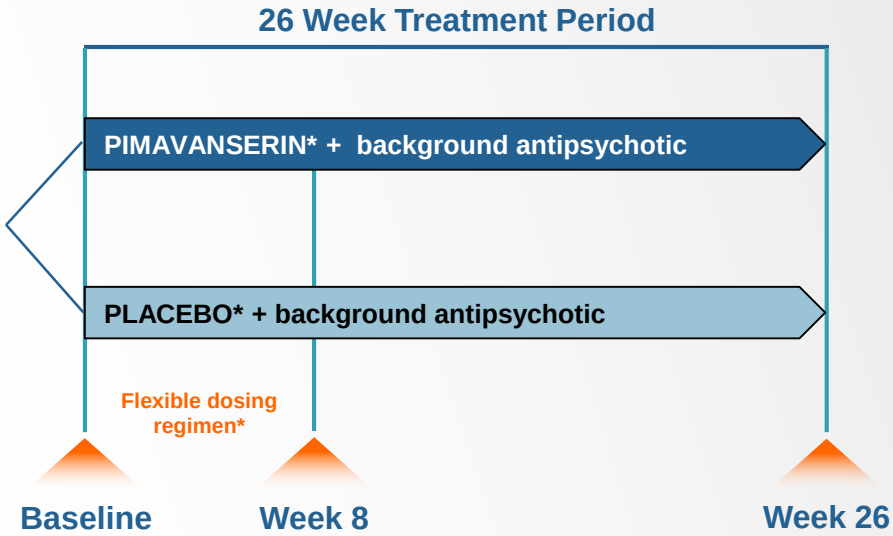
Phase 2 ADVANCE Study

ADVANCE: 26 Week, Randomized, Double-blind, Placebo-controlled, Multi-center Outpatient Study

~380 patients with predominant negative symptoms of schizophrenia



Primary Endpoint: Change from baseline on the Negative Symptom Assessment-16 (NSA-16) total score

*Starting daily dose of 20 mg at Baseline may be adjusted to 34 mg or 10 mg between weeks 2 and 8

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Rett Syndrome

HIGH UNMET NEED

No FDA-approved treatment

Debilitating neurologic rare disease caused by mutations on the X chromosome on the *MECP2* gene

6,000 to 9,000 patients in the U.S.[1]

Primarily occurs in females causing problems in brain function with rapid decline between 6 and 18 months of age.

Symptoms include:

- Cognitive, sensory, emotional, motor impairment
- Loss of independence
- Loss of purposeful hand use
- Loss of spoken communication

[1]U.S. prevalence estimate based on incidence rates from the National Institutes of Health – National Institute of Neurological Disorders and Stroke.

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Trofinetide Clinical Program: Rett Syndrome

Trofinetide

Trofinetide is a novel synthetic analog of the amino-terminal tripeptide of IGF-1

Designed to treat the core symptoms of Rett syndrome by potentially reducing neuroinflammation and supporting synaptic function

Phase 2 study:

- Statistically significant improvements in **RSBQ**[1] **(*p-value = 0.042*)** and **CGI-I**[1] **(*p-value = 0.029*)** in girls 5 – 15 years of age

- Positive Phase 2 study results recently published in ***Neurology***®[2]

Clinical Program

LAVENDER Phase 3 study:

- ~180 females (ages 5 – 20) with Rett syndrome
- Double-blind, placebo-controlled
- Co-primary endpoints: RSBQ and CGI-I
- 12-week study duration

LILAC: 9-month extension study to evaluate long-term tolerability and safety of trofinetide

- U.S. Fast Track Status
- Orphan Drug Designation in the U.S. and Europe for Rett syndrome

[1]RSBQ = Rett Sydnrome Behaviour Questionnaire (caregiver assessment); CGI-I = Clinical Global Impression Scale-Improvement (physician assessment).
[2]Glaze D, et al. *Neurology*. Apr 2019, 92 (16) e1912-e1925.
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2019 Clinical Milestones

COMPOUND/ PROGRAM	INDICATION	MILESTONE	EXPECTED TIMING
Pimavanserin	Major Depressive Disorder Adjunctive Therapy	✓ Commenced Phase 3 program	2Q19
Pimavanserin	Dementia-Related Psychosis	✓ Positive interim analysis for efficacy	3Q19
Trofinetide	Rett Syndrome	✓ Phase 3 study initiation	4Q19
Pimavanserin	Schizophrenia Negative Symptoms	Top-line Phase 2 ADVANCE study results	4Q19

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Finance Update

Elena Ridloff
Chief Financial Officer

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3Q19 Financial Highlights

Millions, Except EPS	3Q19 (GAAP)	3Q18 (GAAP)	YoY Change
Total Revenue	$94.6[1]	$58.3	+62%
Cost of Product Sales, License Fees and Royalties	$4.7	$5.4	-13%
R&D	$62.6	$53.1	+18%
SG&A	$72.7	$61.1	+19%
Net Loss	($42.0)	($62.1)	-32%
Weighted Average Basic Shares Outstanding	145.9	125.0	+17%
EPS	($0.29)	($0.50)	+42%
Cash Balance 9/30/2019[2]	$683.8		

[1]3Q19 includes a $2.2M benefit resulting from a change in estimate for our Medicare accrual.
[2]Cash balance includes cash, cash equivalents and investments as of 9/30/2019.
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FY2019 Financial Guidance

FY 2019	Updated Guidance	Previous Guidance	YoY Growth[1]
NUPLAZID® Net Sales	$330 to $340M	$320 to $330M	+50%
Gross-to-Net	15-16%	17-18%	-
GAAP R&D Expense	$240 to $250M	$250 to $265M	+31%
GAAP SG&A Expense	$315 to $325M	$300 to $315M	+20%
Non-Cash Stock-Based Compensation Expense	$80 to $90M	$80 to $90M	+4%

[1]YoY Growth numbers based on mid-point of updated guidance ranges.
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CEO Closing Remarks

Steve Davis
CEO

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Improving Lives




3 Strategic Pillars to Achieving our Vision

Grow

NUPLAZID® as the only approved treatment for patients with Parkinson's disease psychosis

Leverage

Our capabilities by developing our pipeline in additional indications with significant unmet need

Expand

Our pipeline through focused business development in CNS disorders with high unmet need

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Q&A

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