ACADIA® Pharmaceuticals

First Quarter 2020 Earnings Call

MAY 7, 2020

1Q 2020 Earnings Call Agenda

INTRODUCTION	Mark Johnson | Vice President, Investor Relations
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
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; (v) our estimates regarding our future financial performance, cash position or capital requirements; and (vi) currently anticipated impacts of COVID-19 on ACADIA's business, including its commercial sales operations, current and planned clinical trials, supply chain, and guidance for full-year 2020 NUPLAZID net sales and certain expense line items.

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, 2019 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.

Opening Remarks

Steve Davis
CEO

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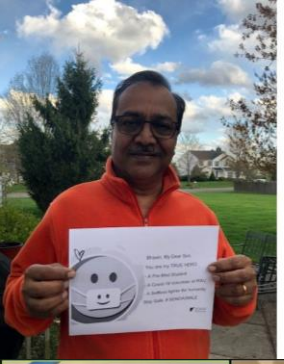
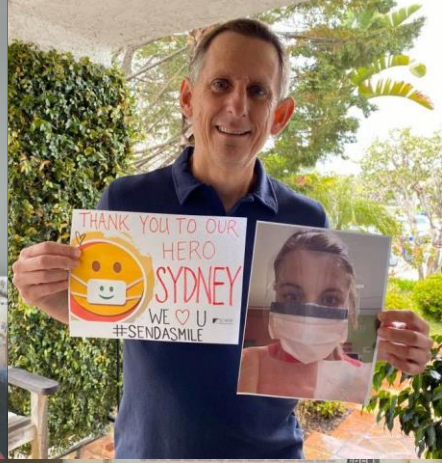
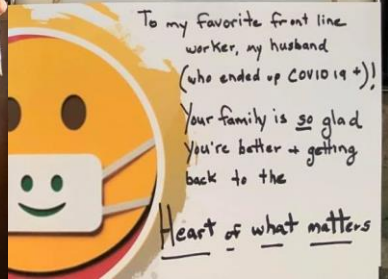


I would like to recognize Bhavin, my son, a Pre-Med Student at Rutgers had been supporting RWJ University hospital, Somerset as CCT for clinical exposure.
He is now Covid-19 volunteer staff at RWJ. I am proud of his passion for Humanity, and wish him be safe.
Sendasmile



ACADIA cares



Robust Response to COVID-19

Long-term business fundamentals strong

Sales & Marketing

Virtual HCP engagements & online prescribing capabilities for NUPLAZID®

Providing educational resources to HCPs and patients to navigate telemedicine

Supply Chain

Delivering uninterrupted supply of NUPLAZID to patients

Specialty pharmacy channel provides RXs via mail

Specialty distribution channel provides RXs directly to facilities

Research & Development

Committed to advancing late-stage clinical programs

Qualifying sites in all ongoing trials to continue enrollment of new patients

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Provided May 7, 2020 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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2020 Strategic Pillars

Drive
NUPLAZID® Growth in PDP

Deliver
DRP Opportunity to the Market

Develop
Innovative Treatments For Unmet Needs

2020: A Transformational Year

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Drive NUPLAZID® Growth in PDP

1Q 2020	➢ **1Q 2020 Net Sales = $90.1M; 43% YoY growth** ➢ Strong commercial execution drove NUPLAZID performance
FY 2020	➢ **FY 2020 Net Sales Guidance: $420 - $450M; +28% YoY[1]** ➢ Providing best-in-class virtual education and engagement
Long-term	➢ Significant market opportunity ➢ New patient share continues to exceed overall market share

[1]YoY growth number based on mid-point of the guidance range.
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Deliver Dementia-Related Psychosis (DRP) Opportunity to the Market

✓ Pre-sNDA Meeting with FDA in Q1

➢ On-track for sNDA submission this summer

➢ Expecting priority review as pimavanserin has Breakthrough Therapy designation for DRP

Potential Approval for DRP Around Year-End 2020

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Develop Innovative Treatments For Unmet Needs

Late-Stage Pipeline

Adjunctive Treatment of Major Depressive Disorder:
Pursuing a strategy to not enroll additional patients and instead combine identical Phase 3 studies, CLARITY-2 and CLARITY-3, into one study with data in 3Q20

Negative Symptoms of Schizophrenia:
Plan to initiate Phase 3 ADVANCE-2 study in 2H20

Trofinetide: RPD Designation

FDA granted *Rare Pediatric Disease (RPD)* designation to trofinetide for the treatment of Rett syndrome

Phase 3 LAVENDER study data expected in 2021

Vanderbilt Partnership

Exclusive license agreement and research collaboration

Novel CNS therapeutic program targeting muscarinic M1 receptors (M1 PAM program)

Lead compound in Phase 1

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Commercial Update

Michael Yang
Chief Commercial Officer

ACADIA® Pharmaceuticals

1Q Commercial Performance

Continuing Patients

Sustained consistently high monthly bottle fulfillment rates for established patients

New Patients

Delivered new-to-brand patients consistent with previous quarters from both specialty pharmacy and specialty distribution channels

COVID-19 Impact

- Short-term pressure from a decline in physician visits
- NUPLAZID® new patient starts have outpaced the overall market[1]

[1]Based on ACADIA's internal numbers compared to various recent industry reports.

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NUPLAZID® 2020 Growth Initiatives in PDP

New Patient Identification: Pivot to Virtual Engagements

Virtual peer-to-peer educational programs

Treatment forms for NUPLAZID now available to HCPs online

Utilizing digital patient and caregiver consumer campaigns

Establishing NUPLAZID as Standard of Care for PDP

The inclusion of NUPLAZID in the Movement Disorders Society guidelines

Long-term (open-label) NUPLAZID safety data

Data highlighting caregiver burden of disease[1]

34 mg capsule benefits

PDP represents a serious medical condition and requires treatment

Continued significant growth opportunity

[1]As measured by a reduction in the Zarit 22-item caregiver burden scale over six weeks compared to placebo.
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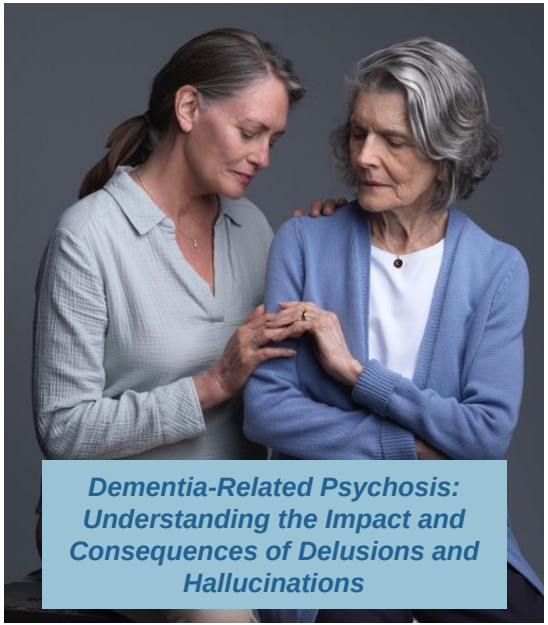
DRP Launch Preparations On-track

- Potential to be the first and only FDA-approved treatment for DRP
- Focus on market research and disease awareness, including:
  - Advisory boards
  - Payer engagements
- Disease education website: www.morethancognition.com



DRP: 1.2M treated population[1] that is currently 10X larger than PDP

[1]2017 Alzheimer's Disease Facts and Figures and ACADIA market research. Note: ACADIA market research estimates 2/3 of the 1.2M are treated with antipsychotics.
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R&D Update

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

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Regulatory Update on Dementia-Related Psychosis

- ✓ **Pre-sNDA meeting completed in Q1**
- **On-track to submit sNDA in summer 2020**

sNDA will include the following:

Pivotal Efficacy	Supportive Efficacy	Large Safety Database
Positive Phase 3 HARMONY Study	Positive Phase 2 (019) Alzheimer's Disease Psychosis Study[1] & Positive data in PDP (020) patients with dementia[2]	Safety and Tolerability Data from Completed & Ongoing Studies

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.
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Adjunctive Treatment for Major Depressive Disorder

High Unmet Need

- **~17M patients in the U.S. have MDD**[1]
- **~2.5M treated with adjunctive therapy**[2]
- **Adjunctive use of existing antipsychotics can lead to significant side effects:**
  - Sexual dysfunction
  - Sedation
  - Weight gain
  - Cognitive impairment
  - Extrapyramidal symptoms
  - Rare but serious tardive dyskinesia

CLARITY-2 and CLARITY-3:

- Two identically designed ~280 patient, 6 week, randomized, double-blind, placebo-controlled, multi-center studies
- Primary endpoint: Change from baseline on Hamilton Depression Rating Scale (HAMD-17)

[1]National Institute of Mental Health. (2017). Major Depression. Retrieved from http://www.nimh.nih.gov/health/statistics/major-depression.shtml.[2]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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Adjunctive Treatment for Major Depressive Disorder

Both Phase 3 studies, CLARITY-2 and CLARITY-3, slightly over 50% enrolled; enrollment currently paused due to COVID-19

- Ready to re-initiate new patient enrollment, *however…*
- Pursuing strategy to not enroll any new patients and combine existing data from identical Phase 3 studies into one study with pre-specified analyses
  - Scheduled FDA discussion in 2Q20
  - Potential top-line results in 3Q20
    - If positive, submit sNDA with combined results and positive CLARITY-1 study
    - If negative, initiate additional Phase 3 study in 2H20

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Negative Symptoms of Schizophrenia

High Unmet Need

- **No FDA-approved treatment for the negative symptoms of schizophrenia**
- **~40 - 50% of schizophrenia patients experience predominant negative symptoms**[1]
- **Negative symptoms include** social withdrawal, lack of emotion, restricted speech, and blunted affect and can lead to:
  - Low social functioning
  - Long-term disability
  - Significant caregiver burden

Current Status:
Phase 3 ADVANCE-2 study expected to commence in 2H20

[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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Trofinetide for the Treatment of Rett Syndrome

High Unmet Need

- **No FDA-approved treatment for Rett syndrome**
- **Debilitating rare neurologic disease**
- **6,000 to 9,000 patients in the U.S.**[1]
- **Symptoms manifest primarily in young females:**
  - Cognitive, sensory, emotional, and motor impairment
  - Loss of independence
  - Loss of purposeful hand use
  - Loss of spoken communication

Current Status:
Results from Phase 3 LAVENDER study anticipated in 2021

[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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Innovative Development Pipeline

COMPOUND/ PROGRAM	INDICATION	PHASE 1	PHASE 2	PHASE 3	MARKETED
NUPLAZID® (pimavanserin)[1]	Parkinson's Disease Psychosis				
Pimavanserin	Dementia-Related Psychosis				
Pimavanserin	Major Depressive Disorder *Adjunctive Therapy*				
Trofinetide[2]	Rett Syndrome				
Pimavanserin	Negative Symptoms of Schizophrenia				
M1 PAM[3]	CNS Disorders				

[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.
[3]ACADIA has an exclusive worldwide license to develop and commercialize compounds in the M1 PAM program from Vanderbilt University.
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Finance Update

Elena Ridloff
Chief Financial Officer

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1Q 2020 Financial Highlights

Millions, Except EPS	1Q20 (GAAP)	1Q19 (GAAP)	YoY Change
Total Revenue	$90.1	$63.0	+43%
Cost of Product Sales, License Fees and Royalties	$5.0	$4.6	+9%
R&D[1]	$72.6	$52.9	+37%
SG&A	$102.0	$93.1	+10%
Net Loss	($88.0)	($85.3)	+3%
Weighted Average Basic Shares Outstanding	155.4	144.0	+8%
EPS	($0.57)	($0.59)	+3%
Cash Balance[2]	$651.4		

[1]1Q20 R&D expense includes $10 million upfront payment for license agreement with Vanderbilt University.
[2]Cash balance includes cash, cash equivalents and investments as of 3/31/2020.
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FY2020 Financial Guidance

FY 2020	Previous Guidance	Revised Guidance	Commentary
NUPLAZID® Net Sales	**$440 to $470M**	**$420 to $450M**	+28% YoY Growth[1]
Gross-to-Net	**17-18%**	**17-18%**	-
GAAP R&D Expense	**$270 to $285M**	**$270 to $285M**	*Expect to be towards the low-end of the range*
GAAP SG&A Expense	**$440 to $460M**	**$425 to $445M**	*Reflects naturally lower costs due to current virtual environment*
Non-Cash Stock-Based Compensation Expense	**$90 to $100M**	**$90 to $100M**	
Projected Year-End Cash Balance[2]	**$470 to $500M**	**$470 to $500M**	

[1]YoY growth number based on mid-point of the guidance range.
[2]Projected cash balance includes cash, cash equivalents and investments.
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Closing Remarks

Steve Davis
CEO

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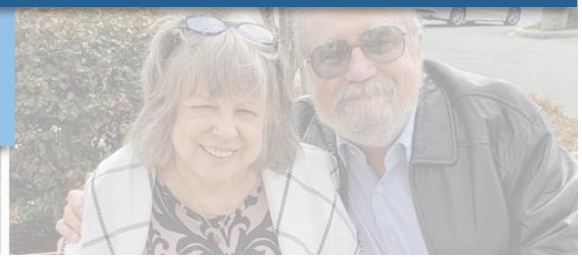
ACADIA in 2020 – Building a Leading CNS Platform



DRIVE NUPLAZID® GROWTH IN PDP

$420 - $450M

FY2020 Net Sales Guidance

DELIVER DRP OPPORTUNITY TO THE MARKET

POTENTIAL APPROVAL: ~YE 2020

DEVELOP INNOVATIVE TREATMENTS FOR UNMET NEEDS

MULTI-YEAR CADENCE OF POTENTIAL APPROVALS

2020: A Transformational Year

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