



First Quarter 2021 Earnings Call

May 5, 2021

1Q 21 Earnings Call Agenda



Introduction

Mark Johnson | Vice President, Investor Relations

CEO Opening Remarks

Steve Davis | Chief Executive Officer

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Amanda Morgan | Chief Revenue and Customer Officer

Charmaine Lykins | Global Product Planning and Chief Marketing Officer

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

Financial Update

Elena Ridloff | Chief Financial Officer

CEO Closing Remarks

Steve Davis | Chief Executive Officer

Q&A

Forward-Looking Statements



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 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 Parkinson's disease psychosis, dementia-related psychosis, schizophrenia 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 2021 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, 2020 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

Three Strategic Pillars



Drive
Growth of
NUPLAZID®



Deliver
On the DRP
Opportunity



Develop
Next Wave of
Breakthroughs



Building a Leading CNS Company

DRP = Hallucinations and delusions associated with Dementia-Related Psychosis

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.

Provided May 5, 2021 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.

Drive Growth of NUPLAZID® in PDP



1Q21



- Delivered net sales of \$106.6M, increase of 18% YoY
- Growth driven by strong YoY performance in the office-based channel
- 1Q impacted by pandemic with lower patient visits and decline in LTC census

FY21



- Reiterating FY21 net sales guidance: \$510 - \$550M
- Expect continued growth in FY21 as pandemic conditions improve

Long-term



- Significant market and growth opportunity
- New patient share continues to exceed overall market share

PDP = Hallucinations and delusions associated with Parkinson's Disease Psychosis

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Regulatory Updates

- FDA issued a Complete Response Letter in April for our sNDA for DRP
- Plan to conduct Type A meeting with the FDA to discuss the CRL and a potential approval path



Significant Unmet Need

- Current treatment involves off-label, antipsychotics that carry risk for this elderly patient population, including worsening of cognition and motor symptoms¹

¹U.S. Food and Drug Administration. FDA Public Health Advisory. April 11, 2005; Schneider LS, et al. N Engl J Med. 2006;355:1525-1538. 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. Provided May 5, 2021 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.

Develop Next Wave of Breakthroughs



Program	Indication	Phase 1	Phase 2	Phase 3	Marketed
NUPLAZID® (pimavanserin)¹	Parkinson's Disease Psychosis				
Pimavanserin²	Dementia-Related Psychosis				
Pimavanserin	Negative Symptoms of Schizophrenia				
Trofinetide³	Rett Syndrome				
ACP-044	Postoperative Pain				
ACP-044	Osteoarthritis Pain				
ACP-319⁴	Cognition & Schizophrenia				

¹NUPLAZID (pimavanserin) is only approved in the U.S. by the FDA for the treatment of hallucinations and delusions associated with Parkinson's disease psychosis.

²Acadia received a CRL for its sNDA for pimavanserin for the treatment of DRP. Acadia plans to have a Type A meeting to discuss next steps.

³Acadia has an exclusive license to develop and commercialize trofinetide in North America from Neuren Pharmaceuticals.

⁴Acadia has an exclusive worldwide license to develop and commercialize ACP-319 and other M1 PAM program compounds from Vanderbilt University.

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Commercial Update

Amanda Morgan

Chief Revenue and Customer Officer

Charmaine Lykins

Global Product Planning and
Chief Marketing Officer

Delivered net sales of \$106.6M, increase of 18% YoY

Continued to grow base of NUPLAZID® prescribers and new patients

Office Based Channel:

- Patient visits down in quarter; starting to increase towards normal levels exiting 1Q
- 1Q bottles per patient impacted by reversal of some 90-day pandemic related refills to 30-day

Long Term Care Channel:

- Census levels declined in 1Q
- Increased rate of new admissions driving return to growth in census levels exiting 1Q

Expect return to sequential growth as pandemic conditions improve

Reiterating our FY21 net sales guidance of \$510 to \$550M

LTC Channel Growth Trends Supported by:

1. More facilities now allowing family visits

- Visitor restrictions were a major impediment to new admissions

2. High vaccination rates for LTC residents and staff

- COVID-19 transmissions down significantly in March and April¹

3. New admissions are highly correlated with new patient starts in LTC facilities



Expect NUPLAZID[®] to return to growth in the LTC channel with increased new admissions

¹According to data from CDC: https://www.cdc.gov/nhsn/covid19/ltc-report-overview.html#anchor_1594393305

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Driving Long-term Growth in PDP



Medical Congresses



Integrated DTC Campaign

- Leverage DTC campaigns to grow breadth and depth; adding new prescribers and growing patients per prescriber
- Market share of new patients > overall market share



Improving Market Conditions

- Significant increase in face-to-face detailing exiting the quarter
- Increased numbers of in-office patient visits exiting the quarter
- Higher levels of new resident admissions in LTC exiting the quarter

Well-positioned to maximize the long-term growth opportunity for NUPLAZID® in patients with PDP

R&D Update

Serge Stankovic

President

Hallucinations and Delusions Associated with Dementia-Related Psychosis (DRP)

Current Status:

- Finalizing briefing documents for the Type A meeting with FDA to discuss sNDA for DRP
- Delivered highly statistically significant and clinically meaningful results from the FDA agreed upon pivotal Phase 3 HARMONY study



Trofinetide for the Treatment of Rett Syndrome



Trofinetide MOA:

Novel synthetic analog of amino-terminal tripeptide of IGF-1 with potential to reduce neuroinflammation and support synaptic function

High Unmet Need:

- No FDA-approved treatment for Rett syndrome
- 6,000 to 9,000 patients in the U.S.¹

Debilitating Symptoms²:

- Severe cognitive, emotional, sensory, and motor impairment
- Loss of spoken communication, purposeful hand use
- Loss of independence



Phase 2 Study Results³

- 6-week, placebo-controlled dose ranging study in 82 young females (ages 5 – 15)
- Statistically significant and clinically meaningful improvements in 3 core efficacy endpoints including RSBQ and CGI-I*
- Positive Phase 2 study results published in *Neurology*^{®3}

Phase 3 LAVENDER Study

- 12-week, placebo-controlled study in ~180 females (ages 5 – 20) with trofinetide
- **Co-primary endpoints:** RSBQ and CGI-I
- **Top-line results expected:** 4Q21

*RSBQ = Rett Syndrome Behaviour Questionnaire (caregiver assessment) and CGI-I = Clinical Global Impression Scale-Improvement (physician assessment).

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

²Acadia market research and <https://www.rettysyndrome.org/about-rett-syndrome/what-is-rett-syndrome/>.

³Glaze D, et al. *Neurology*. Apr 2019, 92 (16) e1912-e1925.

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Pimavanserin for the Treatment of the Negative Symptoms of Schizophrenia



High Unmet Need¹:

- No FDA-approved treatment for the negative symptoms of schizophrenia
- **>700K** patients receiving treatment have persistent negative symptoms in the U.S.

Negative Symptoms Include¹:

- Social withdrawal
- Lack of emotion
- Restricted speech
- Blunted affect

This Can Lead to¹:

- Long-term disability
- Significant caregiver burden



ADVANCE-1 Results²

- 26-week pivotal study in 403 patients with predominant negative symptoms³
- **Primary endpoint:** Improvement in NSA-16 compared to placebo at 26 weeks (**$p=0.043$**)
- **Patients on 34 mg** (n=107) had greatest improvement in NSA-16 (***unadjusted* $p=0.0065$**)
- Pimavanserin was well-tolerated

Phase 3 ADVANCE-2 Study

- 26-week pivotal study in ~386 patients with predominant negative symptoms³
- Evaluating **34 mg dose** of pimavanserin
- **Primary endpoint:** Improvement in NSA-16 compared to placebo at 26 weeks
- Study initiated in 3Q20

¹Studies 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. According to National Institute of Mental Health; Martin Lepage et al. The Prevalence of Negative Symptoms Across the Stages of the Psychosis Continuum, Schizophrenia Bulletin. Mar 2017, Vol 43 and Acadia market research.

²Bugarski-Kirolo D. et al. ADVANCE: Phase 2, Randomised, Double-Blind, Placebo-Controlled Study of Adjunctive Pimavanserin in Patients With Negative Symptoms of Schizophrenia. Presented at SIRS 2020 Congress.

³Patients in the ADVANCE studies are on a stable background antipsychotic to control their positive symptoms.

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ACP-044 for the Treatment of Acute and Chronic Pain



ACP-044 MOA:

- A novel, first-in-class, orally administered, **non-opioid** analgesic
- Interrupts multiple pain pathways and sensitization of neurons to pain, by accelerating the decomposition of peroxynitrite, a nitroxidative agent elevated following tissue injury

High Unmet Need for more effective, safe, non-opioid and non-addictive treatments for pain management

Opioid epidemic in the U.S. leading to average of 128 overdose deaths each day¹

Acute Postoperative Pain:

- >13 million ambulatory surgeries in hospital-owned facilities annually in the U.S.²
- ~75% patients report postoperative pain as moderate to extreme³
- Opioids mainstay treatment for pain with significant risks of abuse and addiction

Chronic Pain:

- >30 million patients suffer from osteoarthritis in the U.S.⁴ (~25% prescribed opioids⁵)
- Other treatments (NSAIDs) associated with GI bleeding and other complications⁶



Phase 2 Program

- Initiated a Phase 2 study in postoperative pain following bunionectomy surgery in 1Q21
- Initiating a Phase 2 study in pain associated with osteoarthritis in 2Q21

Additional Molecules

- Portfolio of preclinical molecules, including brain penetrant molecules, with potential for symptomatic and disease modifying treatments

¹Wilson N, Kariisa M, Seth P, Smith H IV, Davis NL. *Drug and Opioid-Involved Overdose Deaths — United States, 2017–2018*. MMWRWkly Rep 2020;69:290–297. ²Karaca Z, McDermott KW. *High-volume invasive, therapeutic ambulatory surgeries performed in hospital-owned facilities*. 2016. Statistical brief #252. September 2019; ³Chou R, Gordon et al *Management of Postoperative Pain: A Clinical Practice Guideline* J Pain. 2016 Feb;17(2):131-57. doi: 10.1016/j.jpain.2015.12.008.

⁴<https://www.cdc.gov/arthritis/basics/osteoarthritis.htm>. ⁵Alamanda VK et al. *Arthritis Care Res (Hoboken)*. 2019. doi: 10.1002/acr.23933.

⁶Laufer S. *Osteoarthritis therapy--are there still unmet needs?* Rheumatology (Oxford). 2004 Feb;43 Suppl 1:i9-15. doi: 10.1093/rheumatology/keh103.

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ACP-319 for the Treatment of Cognition and Schizophrenia



ACP-319 MOA:

- Positive Allosteric Modulator of the M1 receptor (M1 PAM)
 - Targets muscarinic (M1) receptors
 - Challenge with targeting the muscarinic system has been tolerability; associated with cholinergic side effects
- Allosteric modulation of the M1 receptor may achieve the potential therapeutic benefits without these side effects

Preclinical Evidence:

- Animal studies demonstrate improvement in models of cognition and schizophrenia without cholinergic side effects

ACP-319 Development Status

- Phase 1 program ongoing

Research Collaboration

- Research collaboration with **Warren Center for Neuroscience Drug Discovery** at Vanderbilt University
- Collaboration focused on additional M1 PAM in preclinical development and discovery



WARREN CENTER
FOR NEUROSCIENCE DRUG DISCOVERY
at Vanderbilt University

Development Timelines



Compound	Indication	Milestone	Expected Timing
ACP-044	Acute Pain (<i>Bunionectomy</i>)	✓ Initiated Phase 2 Study	1Q21
ACP-044	Chronic Pain (<i>Osteoarthritis</i>)	Initiate Phase 2 Study	2Q21
Trofinetide	Rett Syndrome	Top-line Results: Phase 3 LAVENDER Study	4Q21
Pimavanserin	Negative Symptoms of Schizophrenia	Phase 3 ADVANCE-2 Study	Ongoing
ACP-319	Cognition and Schizophrenia	Phase 1 Program	Ongoing

Finance Update

Elena Ridloff

Chief Financial Officer

1Q21 Financial Highlights



Millions, Except EPS	1Q21 (GAAP)	1Q20 (GAAP)	YoY Change
Total Revenue	\$106.6	\$90.1	+18%
Cost of Product Sales, License Fees and Royalties	\$4.7	\$5.0	-6%
R&D	\$57.0	\$72.6	-21%
SG&A	\$111.7	\$102.0	+10%
Net Loss	\$66.4	\$88.0	-25%
EPS	(\$0.42)	(\$0.57)	+26%
Cash Balance¹	\$577.8		

¹Cash balance includes cash, cash equivalents and investments as of 3/31/2021.

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FY2021 Financial Guidance



FY 2021	Previous Guidance <i>(2/24/2021)</i>	Updated Guidance <i>(5/5/2021)</i>	Commentary
NUPLAZID® Net Sales	\$510 to \$550M	\$510 to \$550M	Timing and pace of recovery from the pandemic will affect FY21 net sales performance within range
GAAP R&D Expense	\$300 to \$320M	\$280 to \$300M	Includes ~\$25M of SBC expense
GAAP SG&A Expense	\$560 to \$590M	\$385 to \$415M	Includes ~\$50M of SBC expense

SBC = Stock-based compensation.

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CEO Closing Remarks

Steve Davis

CEO

- 1** Significant long-term opportunity to grow NUPLAZID® in PDP
- 2** Committed to obtain approval of pimavanserin for DRP patients
- 3** Focused on investing in clinical development pipeline and compelling business development opportunities



ACADIA™

Q&A Session