Regulatory Update on DRP sNDA

April 5, 2021

Agenda

Introduction	**Mark Johnson** | Vice President, Investor Relations
CEO Opening Remarks	**Steve Davis** | Chief Executive Officer
Discussion	**Serge Stankovic, M.D., M.S.P.H** | President
CEO Closing Remarks	**Steve Davis** | Chief Executive Officer
Q&A	**Steve Davis** | Chief Executive Officer **Serge Stankovic, M.D., M.S.P.H** | President **Elena Ridloff** | Chief Financial Officer

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.

Opening Remarks

Steve Davis

Chief Executive Officer

Opening Remarks

Prior Agreements between Acadia and the Division of Psychiatry:

- Agreement on pivotal HARMONY Phase 3 study design
- Agreement on primary endpoint of HARMONY as risk of relapse of psychosis of pimavanserin compared to placebo in the broad DRP patient population to be analyzed as a single group
- Agreement to a representative sample of various dementia subtypes and that the study would not be powered for statistical significance by subgroup

Despite these agreements, in the CRL, the Division of Psychiatry cited as lack of substantial evidence of effectiveness to support approval:

- Lack of statistical significance in some of the subgroups of dementia, and
- Insufficient numbers of patients with certain less common dementia subtypes

Statistical separation by dementia subgroups and certain minimum numbers of patients with specific subtypes were not among the prespecified requirements with the Division

Pivotal HARMONY Study for DRP

1 Highly statistically significant results in pivotal Phase 3 HARMONY study

2 Clinically meaningful results in pivotal Phase 3 HARMONY study

3 Delivered persuasive results from the agreed upon pivotal study design targeting a broad DRP patient population analyzed as a single group

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 April 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.

Discussion

Serge Stankovic

President

Pivotal HARMONY Study Results

"If you wish to rely on a single well-controlled study for your sNDA filing, the findings must be very persuasive. This means statistically significant with a very small probability of Type I error and a finding that is clinically meaningful." ***– FDA, End-of-Phase 2 Meeting***

Pivotal HARMONY (-045) Results

1

26-Week Double-Blind Efficacy Results:

- *Pimavanserin significantly reduced the risk of relapse of psychosis by 2.8 fold (Hazard Ratio=0.353, one-sided p=0.0023)*
- *Pimavanserin met the key secondary endpoint by significantly reducing risk of discontinuation for any reason by 2.2 fold (Hazard Ratio=0.452, one-sided p=0.0024)*

2

12-Week Open-Label Efficacy Results:

- *Pimavanserin treatment showed a meaningful reduction of the symptoms and stabilization of psychosis across all dementia subtypes evaluated*
- *~62% of patients met the pre-specified response criteria and were randomized*

3

Safety and Tolerability Results:

- *Pimavanserin was well-tolerated in elderly patients with dementia-related psychosis over 9-month study*
- *Patients receiving pimavanserin treatment had no worsening in cognition or motor function, as measured by MMSE[1] and ESRS-A[2] scores*

[1]MMSE = Mini-Mental State Examination; [2]ESRS-A = Extrapyramidal Symptom Rating Scale-A

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Agreement on Pivotal Study Design

Agreed with the Division	Pivotal Study Results	CRL Response
"…the Division agreed that the randomized withdrawal trial as described in the meeting briefing package would be acceptable as a well-controlled trial for submission of a sNDA for the indication of hallucinations and delusions associated with dementia-related psychosis." ***– FDA, End-of-Phase 2 Meeting***	Highly ***statistically significant*** and ***clinically meaningful*** study results according to the pre-specified primary and secondary outcome measures. Consistent and sustained response across subtypes in open-label period. Well-tolerated with no negative impact on cognitive functioning or motor symptoms.	*"The sNDA submission does not provide substantial evidence of effectiveness to support the approval of pimavanserin for the hallucinations and delusions associated with DRP."* *"…the results from the Alzheimer's disease subgroup were not nominally significant."* ***– FDA, Complete Response Letter***

Agreement on Target Patient Population

Agreed with the Division	Pivotal Study Results	CRL Response
"We agree that treatment of hallucinations and delusions in dementia-related psychosis is a potentially approvable indication. We agree that dementias need not be etiologically related for the common symptoms of psychosis to respond to pimavanserin." ***– FDA, End-of-Phase 2 Meeting***	Highly ***statistically significant*** and ***clinically meaningful*** study results according to the pre-specified primary and secondary outcome measures. Consistent and sustained response across subtypes in open-label period. Well-tolerated with no negative impact on cognitive functioning or motor symptoms.	*"Findings from Study -045 suggest a differential response to pimavanserin across dementia subtypes, questioning whether 'dementia-related psychosis' is a useful construct for a potential indication for pimavanserin."* ***– FDA, Complete Response Letter***

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Closing Remarks

Steve Davis

Chief Executive Officer

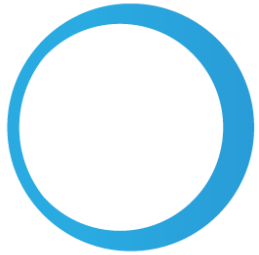
Conclusion and Next Steps

1. Agreed with the Division of Psychiatry that a single, positive, randomized withdrawal study with very persuasive efficacy would be sufficient for approval in DRP

2. Delivered the highly statistically significant and clinically meaningful results from the agreed upon pivotal Phase 3 HARMONY study

3. CRL based on analyses by dementia subgroup that the agreed upon pivotal program was not intended, designed, or powered to demonstrate

We strongly disagree with the Division of Psychiatry's decision and will immediately request a Type A meeting



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Q&A Session