Pimavanserin as an Adjunctive Treatment for Schizophrenia
Phase 3 ENHANCE Study Top-line Results

ACADIA® Pharmaceuticals

JULY 22, 2019

Agenda

INTRODUCTION	Mark Johnson | Vice President, Investor Relations
CEO OPENING REMARKS	Steve Davis | Chief Executive Officer
PHASE 3 ENHANCE RESULTS	Serge Stankovic, M.D., M.S.P.H. | President
CEO CLOSING REMARKS	Steve Davis | Chief Executive Officer
Q&A	Michael Yang | Chief Commercial Officer, available for Q&A Elena Ridloff | Chief Financial Officer, available for 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 related to: the potential benefits of pimavanserin as an adjunctive treatment for schizophrenia or other central nervous system disorders as well as the potential results of clinical trials of pimavanserin in other indications.

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.

Pimavanserin (NUPLAZID®) is only approved in the U.S by the FDA for the treatment of hallucinations and delusions associated with Parkinson’s disease psychosis.
Provided July 22, 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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CEO Opening Remarks

Steve Davis
CEO

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Summary of Top-line Phase 3 ENHANCE Results

The study did not achieve statistical significance on the primary endpoint

Pimavanserin showed a consistent trend in improvement of psychotic symptoms

- Primary endpoint of PANSS total score compared to placebo (p=0.0940)
- Key secondary endpoint of CGI-S score (p=0.0543)
- Majority of patients (>80%) enrolled in Europe. In this pre-specified subgroup analysis by region:
  - Positive results achieved on the primary endpoint, PANSS total score (unadjusted p-value of 0.0234)
  - Positive results achieved on the key secondary endpoint, CGI-S score (unadjusted p-value of 0.0214)

Positive effects observed on two pre-specified measures of negative symptoms:

- PANSS negative symptom scale sub-score, a secondary endpoint (unadjusted p-value of 0.0474)
- PANSS Marder negative factor score, an exploratory endpoint (unadjusted p-value of 0.0362)

Observed positive effects on Karolinska Sleepiness Scale, pre-specified secondary endpoint (unadjusted p-value of 0.0265)

Pimavanserin was well-tolerated with low rates of adverse events, serious adverse events, and discontinuations due to adverse events

- No effect on vital signs, weight, metabolic syndrome and extrapyramidal symptoms

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Phase 3 ENHANCE Results

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

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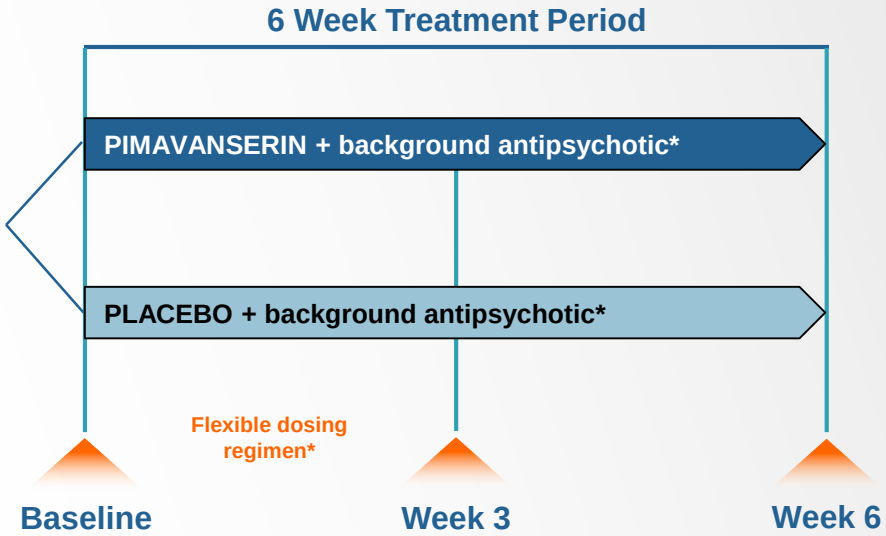
Phase 3 ENHANCE Study Design

ENHANCE: 6 Week, Randomized, Double-blind, Placebo-controlled, Multi-center Outpatient Study

396 patients with inadequate response to current antipsychotic treatment for schizophrenia



Primary Endpoint: Change from baseline on Positive and Negative Syndrome Scale (PANSS) total score

*Starting daily dose of 20 mg pimavanserin at Baseline may be adjusted to 34 mg or 10 mg between weeks 1 and 3

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Demographics and Baseline Characteristics*

	Placebo (n=196)	Pimavanserin (n=193)	Total (n=389)
Age (years)	37.5	36.9	37.2
Sex, Male (%)	61.2	63.2	62.2
Region, Europe [n, (%)]	160 (81.6)	157 (81.3)	317 (81.5)
Age at Schizophrenia Diagnosis (years)	26.5	26.4	26.4
Duration of Schizophrenia (years)	12.0	11.5	11.8
Duration of Background Antipsychotic Medication (months)	14.8	15.3	15.0
Most Prevalent Background Antipsychotics in the Study:			
Risperidone, including LAI (%)**	39.3	38.9	39.1
Olanzapine (%)	35.7	35.8	35.7
Aripiprazole, including LAI (%)**	23.0	19.7	21.3
PANSS Total Score	88.1	88.3	88.2
CGI-S Score	4.6	4.6	4.6

*Demographics and baseline characteristics for full analysis set (Randomized and treated with at least one dose of study drug, and have both a Baseline and at least one post-Baseline PANSS total score).
**LAI = long-acting injectable formulations
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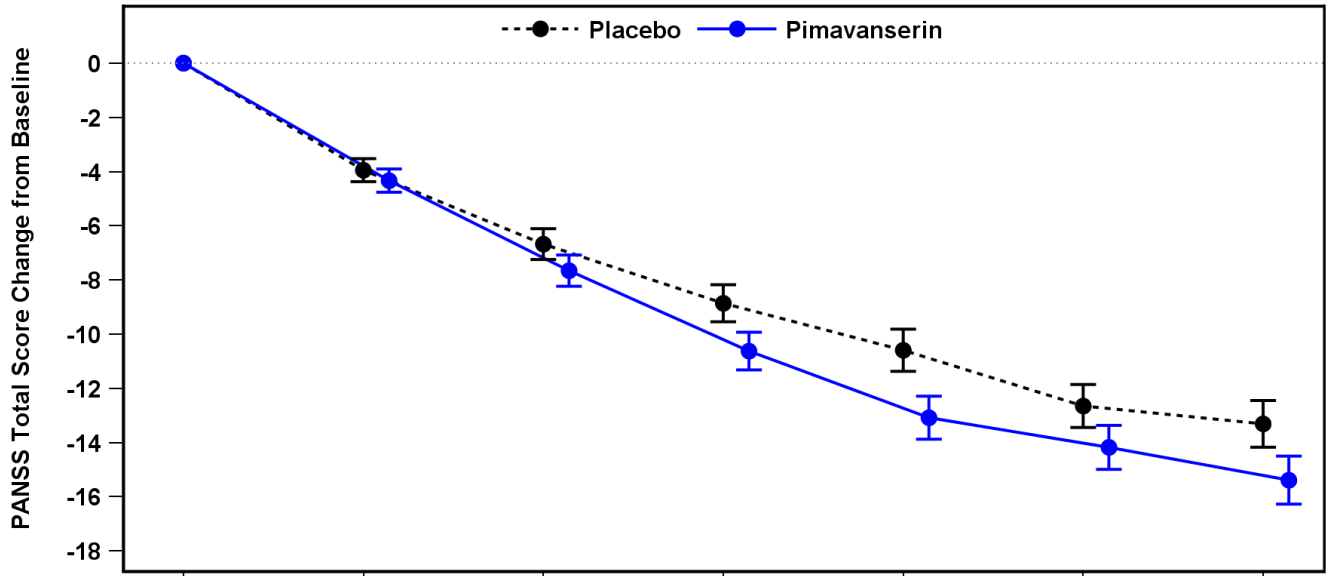
Primary Endpoint: PANSS Total Score



p=0.0940

Number of Subjects							
Placebo	196	196	193	193	190	190	189
Pimavanserin	193	191	185	182	179	179	173

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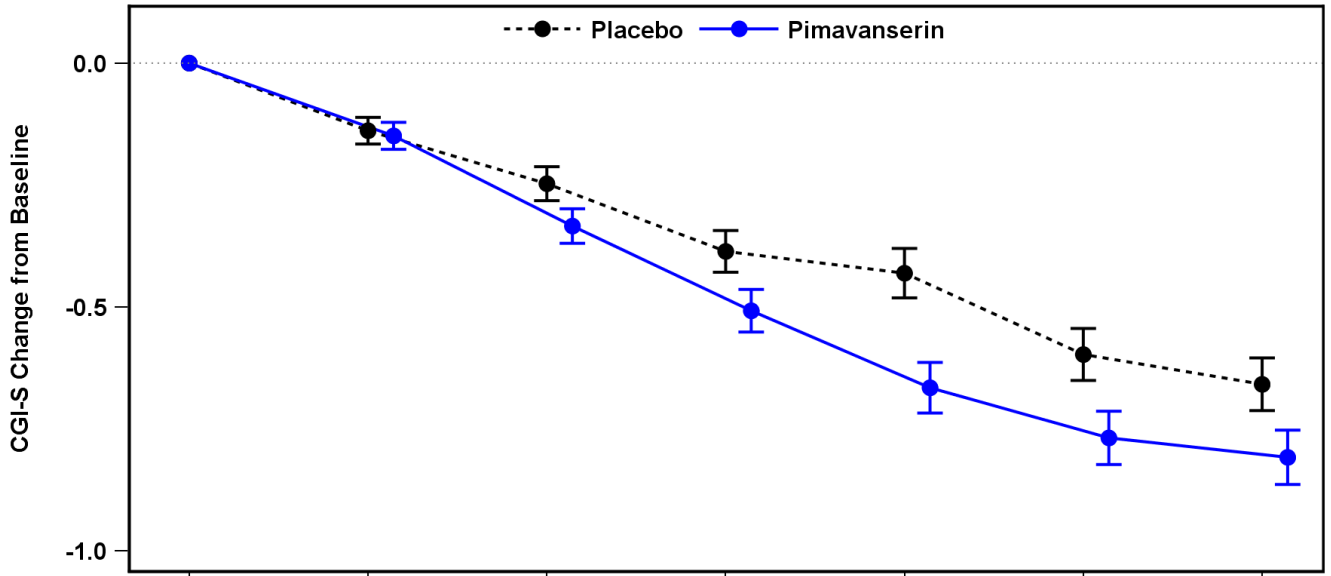
Key Secondary Endpoint: CGI-S Score



Number of Subjects							
Placebo	196	196	193	193	190	190	189
Pimavanserin	193	191	185	182	179	179	173

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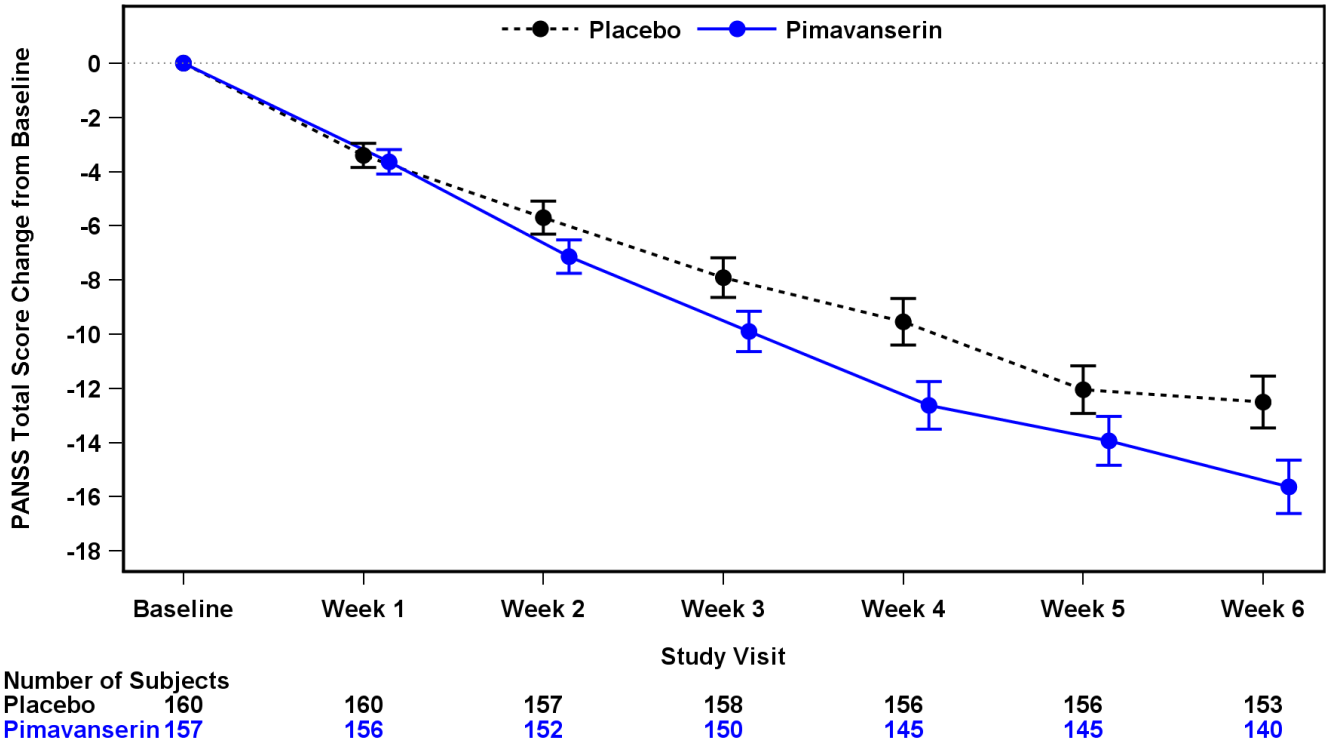
PANSS Total Score – Europe (Pre-Specified Subgroup Analysis)



p=0.0234
(unadjusted)

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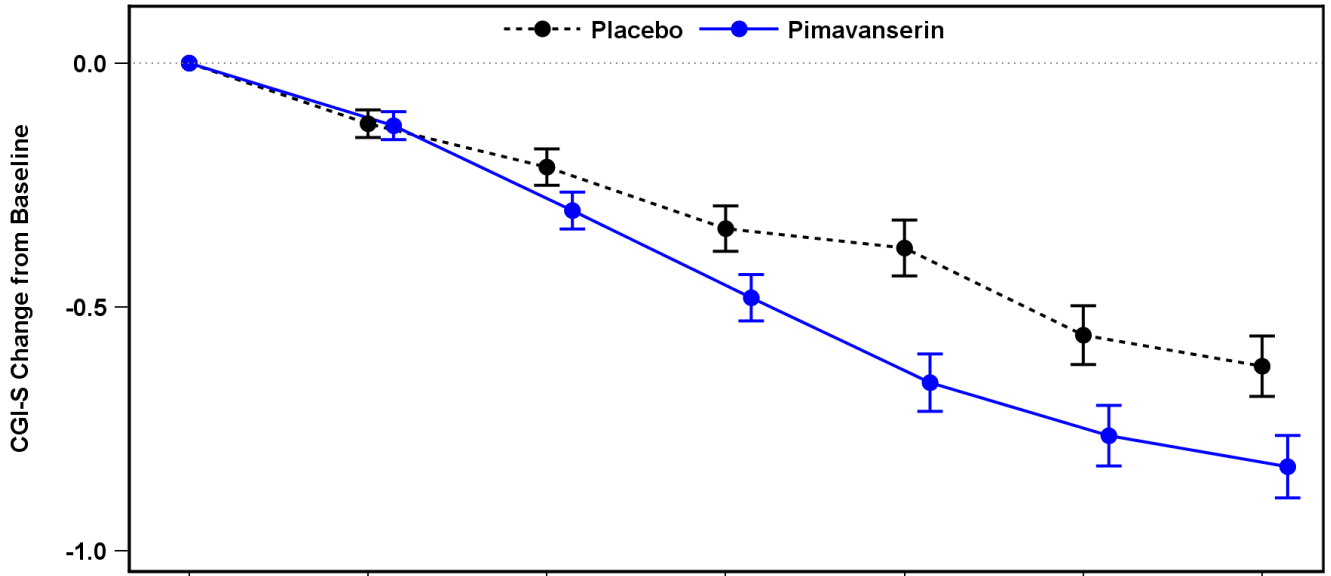
CGI-S Score – Europe (Pre-Specified Subgroup Analysis)



Number of Subjects							
Placebo	160	160	157	158	156	156	153
Pimavanserin	157	156	152	150	145	145	140

p=0.0214
(unadjusted)

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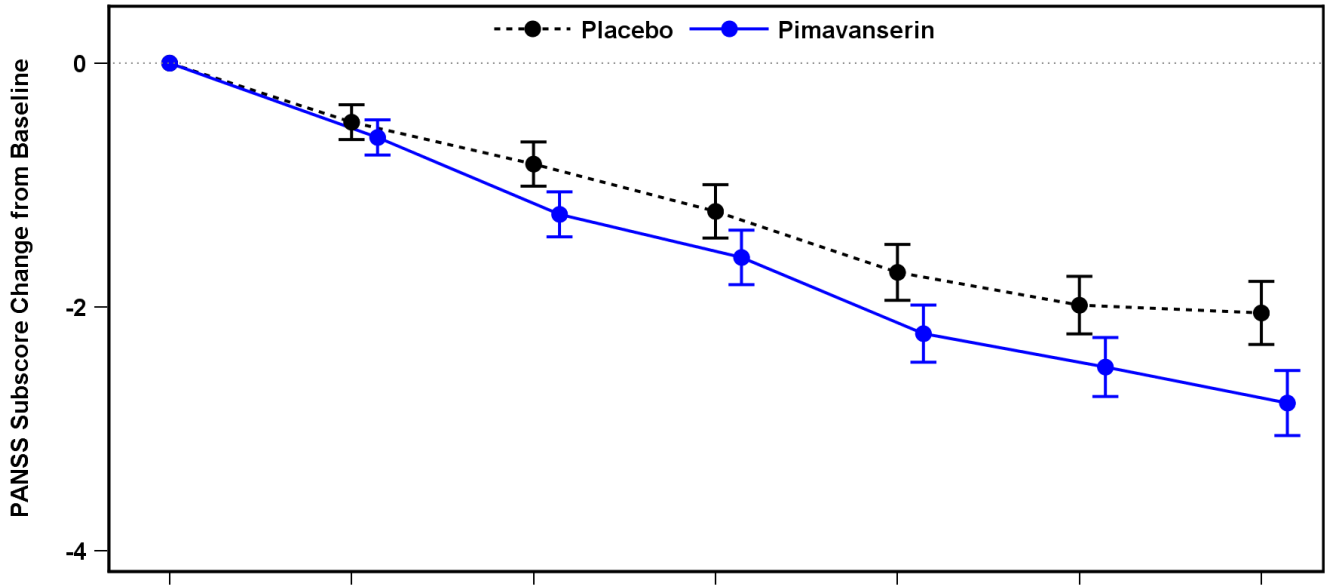
Secondary Endpoint: PANSS Negative Symptom Scale Subscore



p=0.0474
(unadjusted)

Number of Subjects							
Placebo	196	196	193	193	190	190	189
Pimavanserin	193	191	185	182	179	179	173

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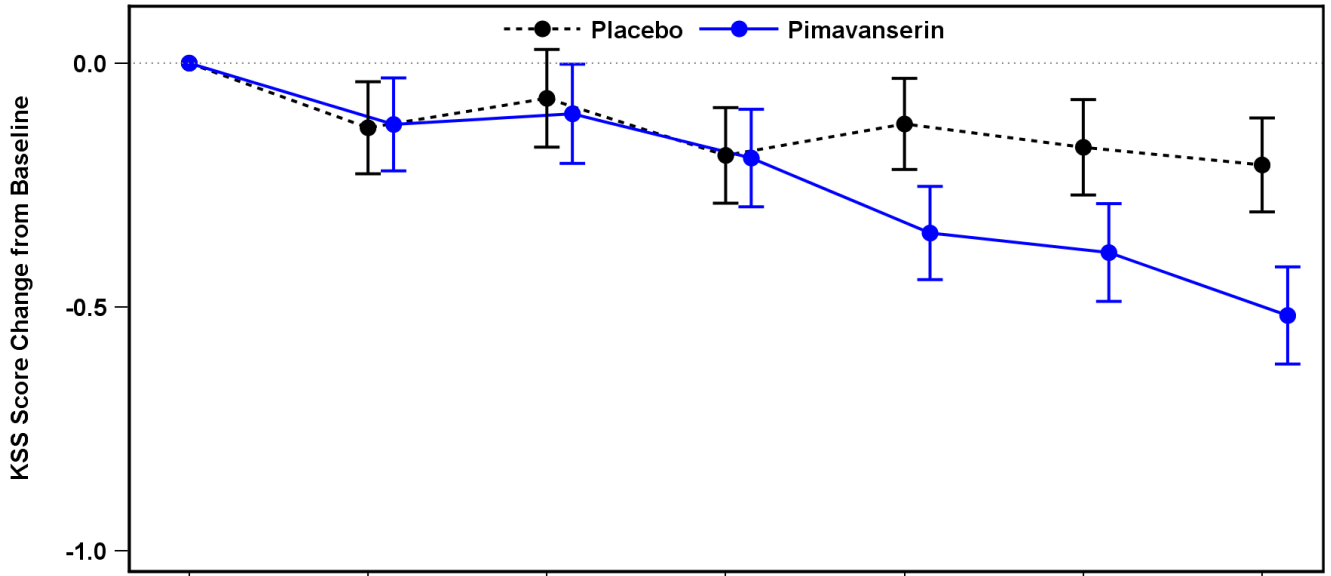
Secondary Endpoint: Karolinska Sleepiness Scale



p=0.0265
(unadjusted)

Number of Subjects							
Placebo	196	195	193	193	190	190	189
Pimavanserin	193	191	185	182	179	179	173

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Summary of Safety

- In the study, adjunctive pimavanserin was well-tolerated with similar side effect profile to adjunctive placebo
    - No clinically significant differences in vital signs, weight, metabolic syndrome, and extrapyramidal symptoms compared to adjunctive placebo
    - Treatment-emergent adverse events occurred in 40.4% of patients receiving pimavanserin and 36.9% of patients receiving placebo
    - Low rate of serious adverse events 1% in each treatment arm
    - Low discontinuation rate due to adverse events with 2.5% for pimavanserin and 0% for placebo
- High study completion rates with ~88% of pimavanserin and ~96% of placebo patients completing the study

Summary of Adverse Events

Safety Analysis Set	Placebo (N=198)	Pimavanserin (N=198)
	Subjects, n (%)	Subjects, n (%)
Any Patient w/ Treatment Emergent Adverse Event	73 (36.9)	80 (40.4)
Most Common AEs (>5% in any group)		
Headache	18 (9.1)	13 (6.6)
Somnolence	7 (3.5)	13 (6.6)
Insomnia	7 (3.5)	10 (5.1)

Key Takeaways from ENHANCE

- The study did not achieve statistical significance on the primary endpoint
- Pimavanserin showed a consistent trend of antipsychotic effect
- Positive improvements observed in the negative symptoms of schizophrenia
- Pimavanserin was well-tolerated in the study

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CEO Closing Remarks

Steve Davis
CEO

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Clinical Milestones

COMPOUND/ PROGRAM	INDICATION	MILESTONE	EXPECTED TIMING
Pimavanserin	Major Depressive Disorder Adjunctive Therapy	✓ Commenced Phase 3 program	2Q19
Pimavanserin	Dementia-Related Psychosis	Interim Phase 3 HARMONY read-out	2H19
		Final Phase 3 HARMONY results	2020
Pimavanserin	Schizophrenia Negative Symptoms	Top-line Phase 2 ADVANCE study results	~Year-end 2019
Trofinetide	Rett Syndrome	Phase 3 program initiation	4Q19

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Q&A

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