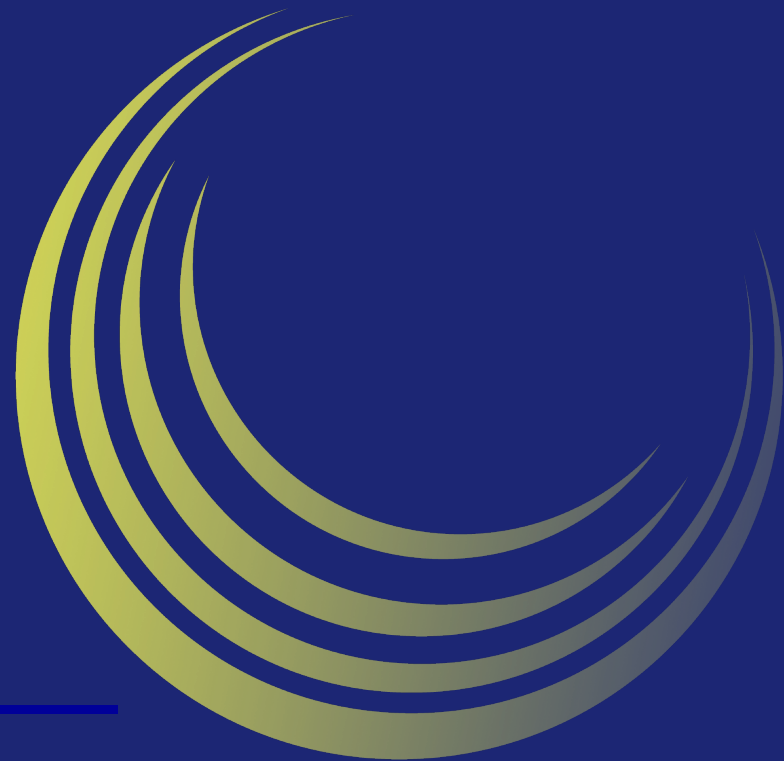


# Supernus Pharmaceuticals

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## Investor Presentation

October 2019

# Safe Harbor Statement

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This presentation and other matters discussed today or answers that may be given to questions asked include forward-looking statements within the meaning of the federal securities laws. These statements, among other things, relate to Supernus' business strategy, goals and expectations concerning its product candidates, future operations, prospects, plans and objectives of management. The words "anticipate", "believe", "could", "estimate", "expect", "intend", "may", "plan", "predict", "project", "will", and similar terms and phrases are used to identify forward-looking statements in this presentation. Supernus' operations involve risks and uncertainties, many of which are outside its control, and any one of which, or a combination of which, could materially affect its results of operations and whether the forward-looking statements ultimately prove to be correct. Supernus assumes no obligation to update any forward-looking statements except as required by applicable law.

Supernus has filed with the U.S. Securities and Exchange Commission (SEC) reports and other documents required by Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended. Before you purchase any Supernus securities, you should read such reports and other documents to obtain more complete information about the company's operations and business and the risks and uncertainties that it faces in implementing its business plan. You may get these documents for free by visiting EDGAR on the SEC website at <http://www.sec.gov>.



# Proven Execution in CNS & ADHD

20+ Years of CNS experience including Four Programs in ADHD

2005 to Present	   
1997 to 2005	    

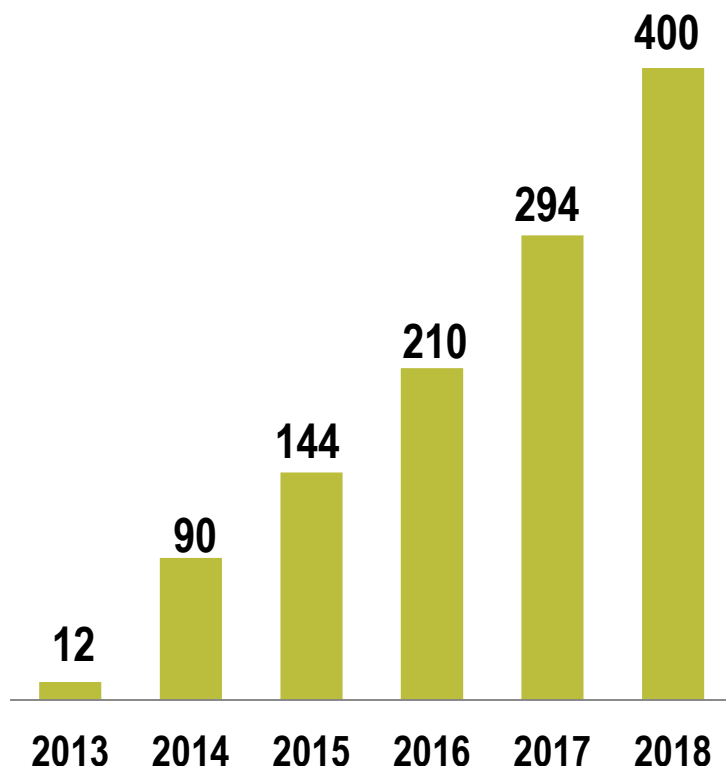
For several years, and prior to becoming independent in 2005, Supernus operated as Shire Laboratories, Inc., a division of Shire.  
SPN-812, SPN-810, SPN-809, SPN-604, and SPN-817 are product candidates in various stages of development.  
All trademarks are the property of their respective owners



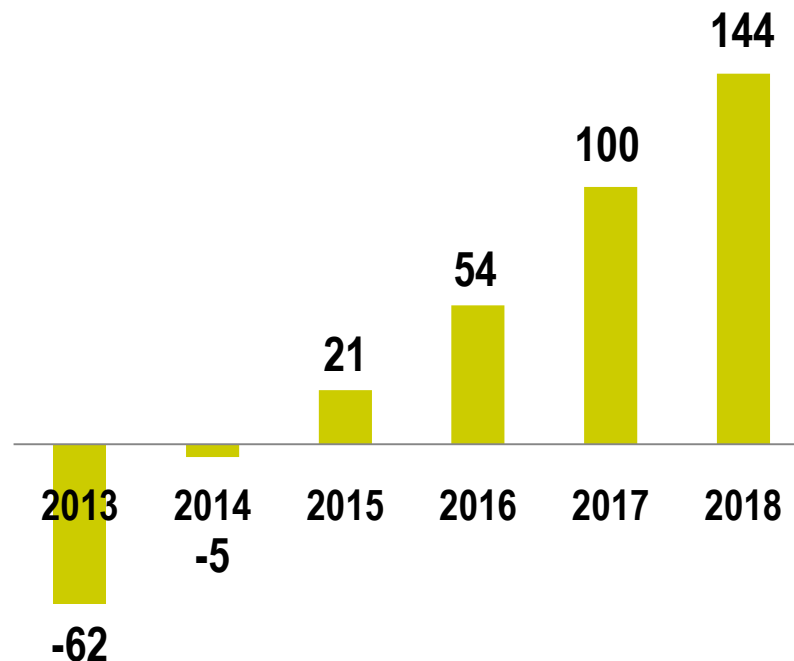
# Profitable CNS Company

## Strong Sales and Operating Earnings Growth

Total Net Product Sales (\$ Millions)

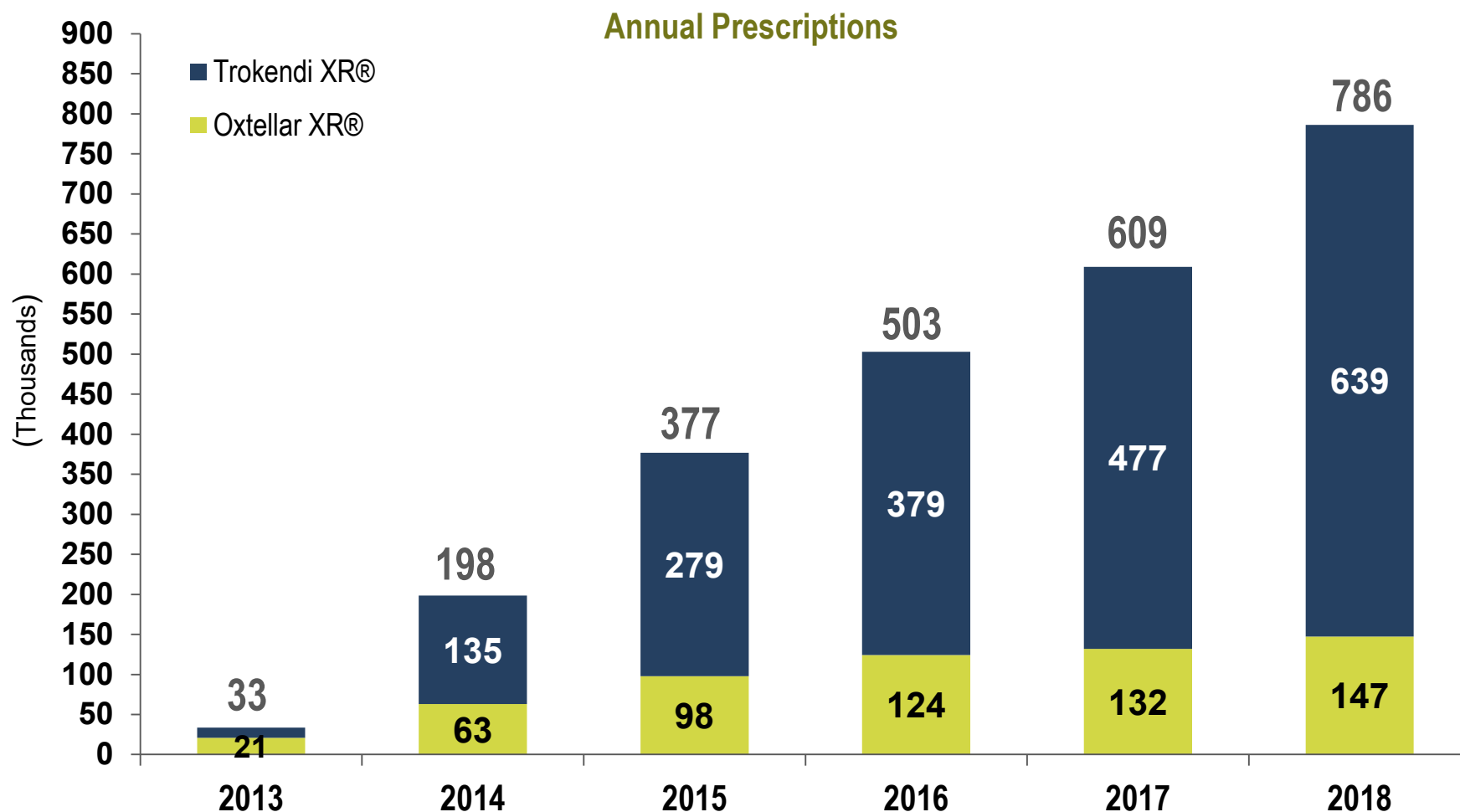


Total Operating Earnings (\$ Millions)



# Trokendi XR and Oxtellar XR Prescription Growth

Combined January through July 2019 Prescription Growth of 9%



Source: IQVIA Monthly Prescriptions - Include recent restatement for 2017 and 2018 by IQVIA

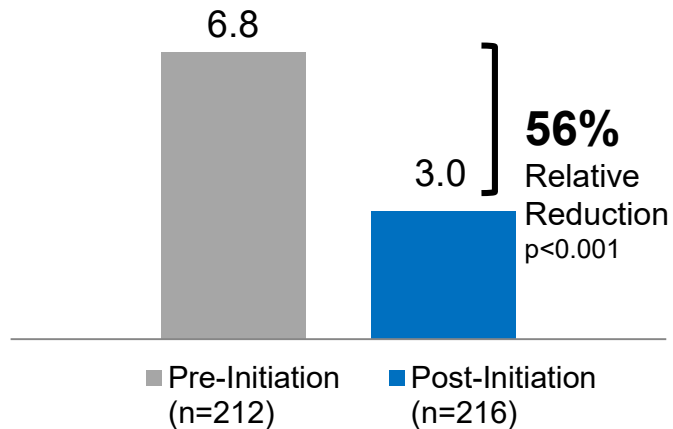
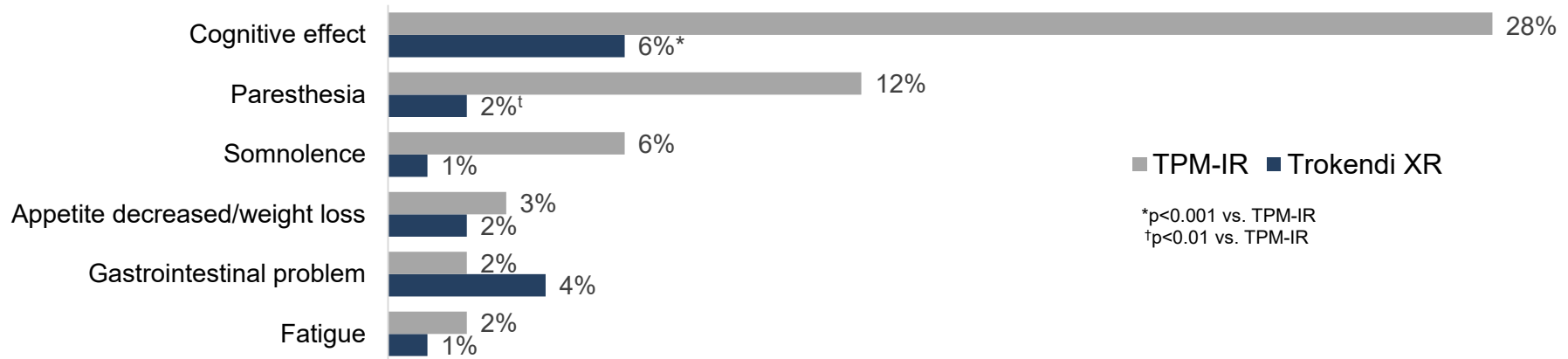
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# Trokendi XR

## More Favorable Clinical Outcomes Compared to TPM-IR<sup>1</sup>

Side Effects with Trokendi XR vs. TPM-IR in Migraine Cohort (n=124)



Median Monthly Migraine Frequency  
Pre- vs. Post-Initiation of Trokendi XR

<sup>1</sup> O'Neal W et al. Cognitive tolerability and health outcomes with Trokendi XR (extended-release topiramate) in migraineurs. J Pain 2017; 18(4): S67. Retrospective Medical Chart Review

TPM-IR = Topiramate immediate release

# Trokendi XR

## Use in Clinical Practice – A Pragmatic Assessment<sup>1</sup>

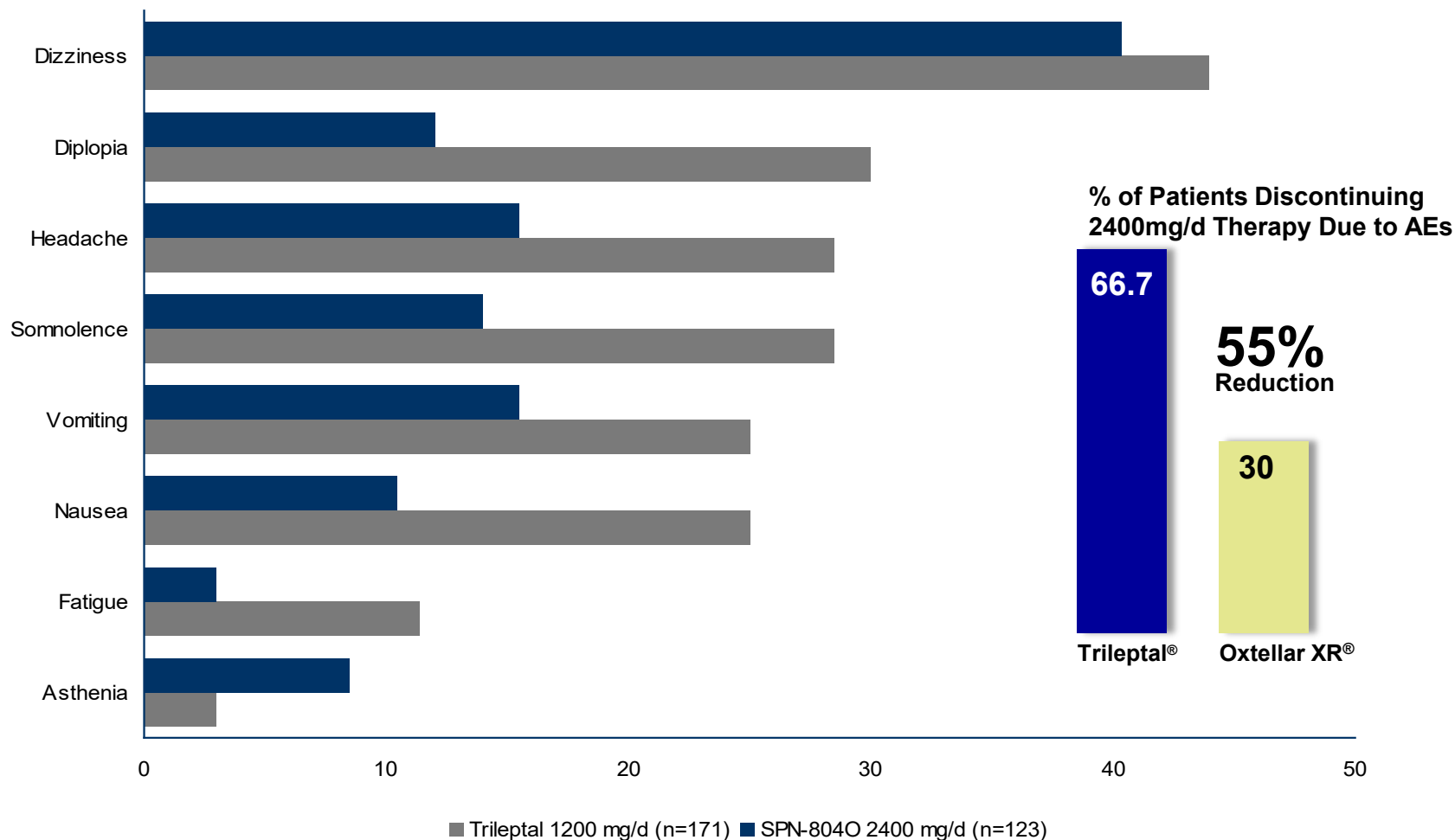
Responder Rate	% of Patients
≥ 50% Reduction	55
≥ 75% Reduction	41
100% Reduction	24

\* Responder Rate: percent change from pre-index migraine frequency associated with Trokendi XR treatment (n=159)

<sup>1</sup> O'Neal W et al. Pragmatic assessment of Trokendi XR (extended-release topiramate) in migraine prevention. Poster presented at 59<sup>th</sup> Annual Scientific Meeting of the American Headache Society, June 2017

# Oxtellar XR

## Improved Adverse Event Profile at Double the Dose of Trileptal®



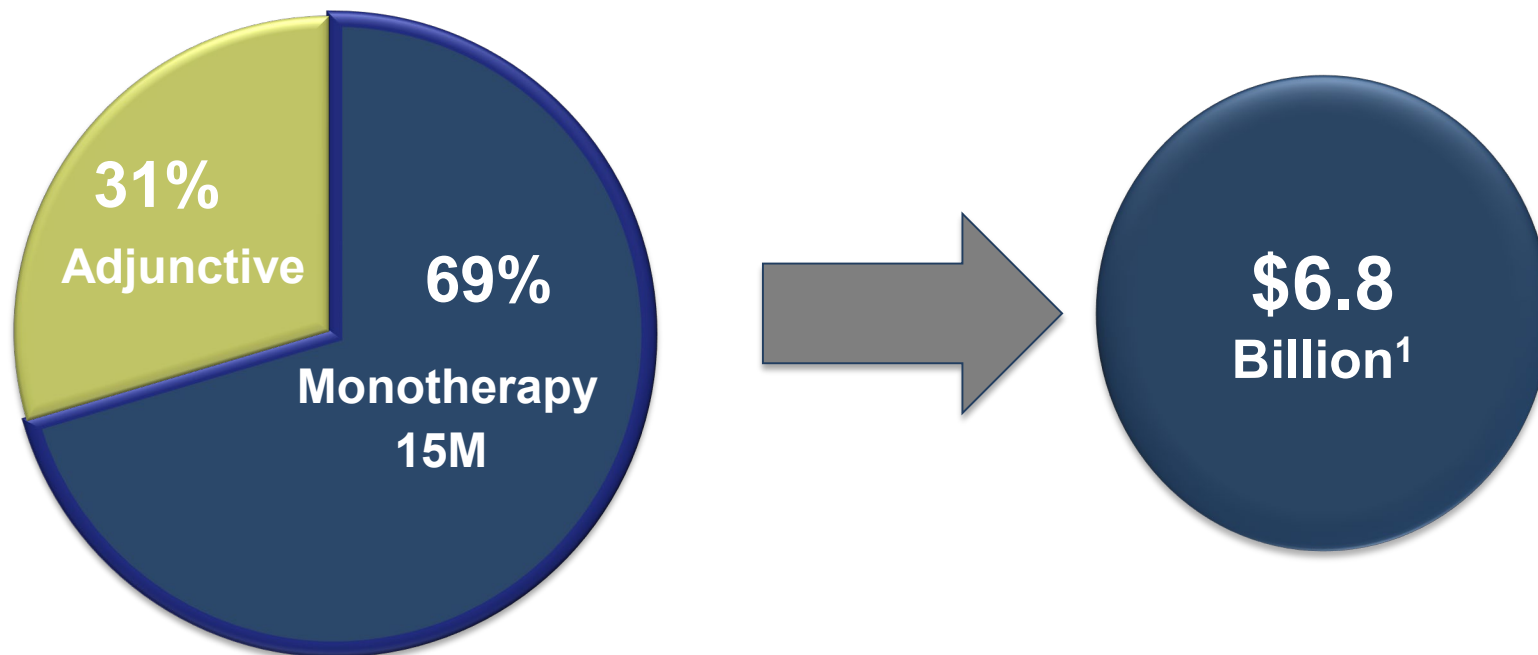
Based on comparison of Oxtellar XR (SPN-804O) Phase III vs. Trileptal PI (adjunctive therapy study in adults); differences in trial design exist between the two studies. Dizziness includes vertigo in Trileptal group because of change in the MedDRA system



# Monotherapy Epilepsy Market Opportunity

## 69% of Partial Seizure Prescriptions Are For Monotherapy

Partial Seizure Prescriptions 22M Annually





**Oxcarbazepine – Studied in Monotherapy with 8 Positive Clinical Trials<sup>2</sup>**

IMS NDTI MAT12 months

<sup>1</sup> Using a branded TRx at \$450 Net

<sup>2</sup> Glauser TA. *Pharmacother.* 2001;21:904-919

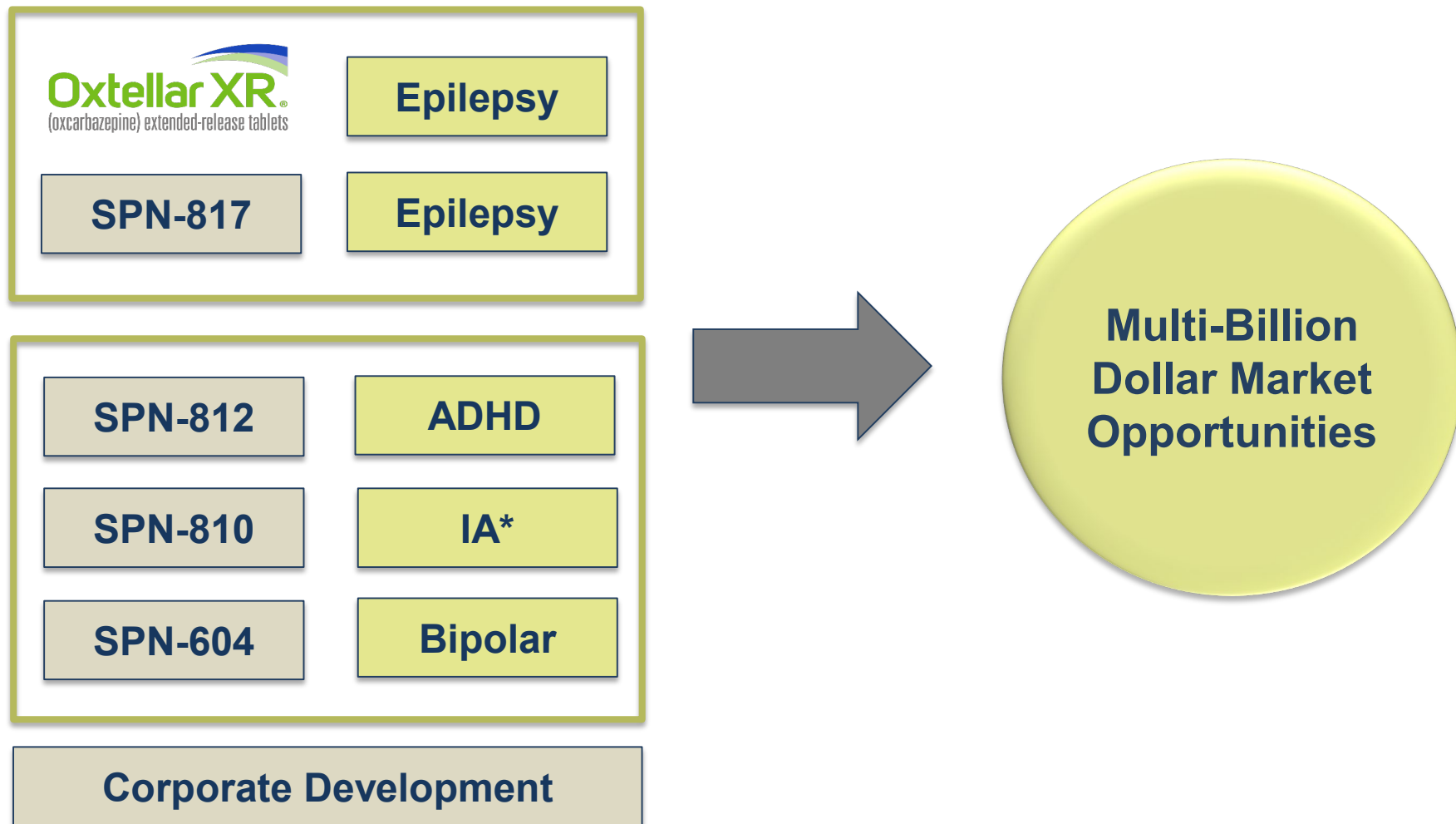
# Robust Portfolio of CNS Products

Marketed	 Trokendi XR <sup>®</sup> (topiramate) extended-release capsules	Epilepsy / Migraine*		
	 Oxtellar XR <sup>®</sup> (oxcarbazepine) extended-release tablets	Epilepsy		
	Product	Indication	Development	NDA
Pipeline	SPN-812	ADHD	Phase III	2H 2019
	SPN-810	Impulsive Aggression	Phase III	2H 2020
	SPN-604	Bipolar	Phase III (2H 2019)	1H 2023
	SPN-809	Depression	IND/Phase II Ready	
	SPN-817	Severe Epilepsy	Phase I	

\*Prophylaxis of migraine in adolescents and adults

# Future Growth Drivers

## Several Significant Market Opportunities



\*IA = Impulsive Aggression

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# SPN-812

## Novel Non-Stimulant ADHD Product Candidate

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- Viloxazine hydrochloride
  - Serotonin norepinephrine modulating agent (SNMA)
  - New Chemical Entity (NCE)
  - Previously marketed outside the US as an antidepressant
- Building strong IP with expirations from 2029-2033
- NDA Filing targeted for 2H 2019
- Phase III clinical data point to a well-differentiated ADHD product
  - 100mg, 200mg and 400mg in pediatric patients
  - Unique mechanism of action
  - Consistent & reliable efficacy with robust statistical significance
  - Efficacy on both Hyperactivity/Impulsivity and Inattention
  - Fast onset of action
  - Well tolerated

# SPN-812

## Phase III Studies

	<b>P301 N = 477</b>	<b>P303 N = 313</b>	<b>P302 N = 310</b>	<b>P304 N = 297</b>
<b>ADHD Patients</b>	6-11 years	6-11 years	12-17 years	12-17 years
<b>Daily Doses</b>	100mg 200mg	200mg 400mg	200mg 400mg	400mg 600mg
<b>Status</b>	<b>Completed</b>	<b>Completed</b>	<b>Completed</b>	<b>Completed</b>

Randomized, double-blind, placebo-controlled, multicenter, parallel group, monotherapy for ADHD  
 Primary Endpoint - Change from baseline on ADHD-RS-5 scale compared to placebo

# SPN-812 Phase III Data: Primary Endpoint

<b>P301 (Children)</b>	<b>Statistics</b>	<b>Placebo (N=155)</b>	<b>100 mg (N=147)</b>	<b>200 mg (N=158)</b>
Week 6 (EOS)	LS Mean	-10.9	-16.6	-17.7
	<b>p-value</b>		<b>0.0004</b>	<b>&lt;.0001</b>
<b>P302 (Adolescent)</b>	<b>Statistics</b>	<b>Placebo (N=104)</b>	<b>200 mg (N=94)</b>	<b>400 mg (N=103)</b>
Week 6 (EOS)	LS Mean	-11.4	-16.0	-16.5
	<b>p-value</b>		<b>0.0232</b>	<b>0.0091</b>
<b>P303 (Children)</b>	<b>Statistics</b>	<b>Placebo (N=97)</b>	<b>200 mg (N=107)</b>	<b>400 mg (N=97)</b>
Week 8 (EOS)	LS Mean	-11.7	-17.6	-17.5
	<b>p-value</b>		<b>0.0038</b>	<b>0.0063</b>
<b>P304 (Adolescent)</b>	<b>Statistics</b>	<b>Placebo (N=97)</b>	<b>400 mg (N=99)</b>	<b>600 mg (N=97)</b>
Week 7 (EOS)	LS Mean	-13.2	-18.3	-16.7
	<b>p-value</b>		<b>0.0082</b>	<b>0.0712</b>

Primary Analysis of ADHD-RS-5 based on Mixed Model for Repeated Measure (MMRM) Intent to Treat (ITT Population)

EOS = End of Study



# SPN-812 Phase III Data

## Significant Reduction in Hyperactivity and Inattention

### Analysis in ADHD-RS-5 Inattention and Hyperactivity/Impulsivity Subscales

P301 Week 6 (EOS)	Statistics	100 mg (N=147)	200 mg (N=158)
Hyperactivity/Impulsivity	p-value	0.0026	<.0001
Inattention	p-value	0.0006	<.0001

P302 Week 6 (EOS)	Statistics	200 mg (N=94)	400 mg (N=103)
Hyperactivity/Impulsivity	p-value	0.0069	0.0005
Inattention	p-value	0.0424	0.0390

P303 Week 8 (EOS)	Statistics	200 mg (N=107)	400 mg (N=97)
Hyperactivity/Impulsivity	p-value	0.0020	0.0039
Inattention	p-value	0.0087	0.0248

P304 Week 7 (EOS)	Statistics	400 mg (N=99)	600 mg (N=97)
Hyperactivity/Impulsivity	p-value	0.0484	0.2084
Inattention	p-value	0.0042	0.1392

EOS = End of Study



# SPN-812 Phase III Data: Fast Onset of Action

## Efficacy Starting in Week 1 - ADHD-RS-5 Total Score

Pooled Data – P301, P302, P303, P304				
Visit	Statistics	Placebo (N=452)	200 mg (N=359)	400 mg (N=299)
Baseline	Mean	41.8	42.9	41.8
Week 1	p-value		0.0003	0.0016
Week 2	p-value		<.0001	<.0001
Week 3	p-value		<.0001	<.0001
Week 4	p-value		<.0001	<.0001
Week 5	p-value		<.0001	<.0001
Week 6	LS Mean	-11.7	-17.1	-17.7
	p-value		<.0001	<.0001

P301	
Placebo (N=155)	100 mg (N=147)
43.6	45.0
	0.0004
	<.0001
	<.0001
	<.0001
	0.0006
-10.9	-16.6
	0.0004

- Common endpoint visit for all four studies is Week 6
- Pooled Data exclude 100 mg and 600 mg that were tested in one study only
- Primary Analysis of ADHD-RS-5 in Intent to Treat Population



# SPN-812 Phase III Data: Fast Onset of Action

## Efficacy Starting in Week 1 - Inattention Subscale

Pooled Data – P301, P302, P303, P304				
Visit	Statistics	Placebo (N=452)	200 mg (N=359)	400 mg (N=299)
Baseline	Mean	22.4	22.6	22.3
Week 1	p-value		0.0086	0.0162
Week 2	p-value		0.0001	<.0001
Week 3	p-value		<.0001	<.0001
Week 4	p-value		<.0001	<.0001
Week 5	p-value		<.0001	<.0001
Week 6	LS Mean	-6.4	-8.9	-9.2
	p-value		<.0001	<.0001

P301	
Placebo (N=155)	100 mg (N=147)
22.5	22.8
	0.0016
	0.0016
	0.0002
	<0.0001
	0.0018
-5.6	-8.6
	0.0006

- Common endpoint visit for all four studies is Week 6
- Pooled Data exclude 100 mg and 600 mg that were tested in one study only
- Primary Analysis of ADHD-RS-5 in Intent to Treat Population

# SPN-812 Phase III Data: Fast Onset of Action

## Efficacy Starting in Week 1 - Hyperactivity/Impulsivity Subscale

Pooled Data – P301, P302, P303, P304				
Visit	Statistics	Placebo (N=452)	200 mg (N=359)	400 mg (N=299)
Baseline	Mean	19.4	20.3	19.5
Week 1	p-value		<.0001	0.0010
Week 2	p-value		<.0001	<.0001
Week 3	p-value		<.0001	<.0001
Week 4	p-value		<.0001	<.0001
Week 5	p-value		<.0001	<.0001
Week 6	LS Mean	-5.4	-8.2	-8.5
	p-value		<.0001	<.0001

P301	
Placebo (N=155)	100 mg (N=147)
21.1	22.2
	0.0023
	<0.0001
	<0.0001
	0.0004
	0.0010
-5.3	-8.0
	0.0014

- Common endpoint visit for all four studies is Week 6
- Pooled Data exclude 100 mg and 600 mg that were tested in one study only
- Primary Analysis of ADHD-RS-5 in Intent to Treat Population

# SPN-812 Phase III Data: Secondary Endpoint

## Analysis of Observed Global Improvement Score (CGI-I) at EOS

P301	Statistics	Placebo (N=155)	100 mg (N=147)	200 mg (N=158)
Week 6 (EOS)	LS Mean	3.1	2.7	2.6
	<b>p-value</b>		<b>0.0020</b>	<b>&lt;.0001</b>
P302	Statistics	Placebo (N=104)	200 mg (N=94)	400 mg (N=103)
Week 6 (EOS)	LS Mean	3.0	2.5	2.4
	<b>p-value</b>		<b>0.0042</b>	<b>0.0003</b>
P303	Statistics	Placebo (N=97)	200 mg (N=107)	400 mg (N=97)
Week 8 (EOS)	LS Mean	3.1	2.6	2.6
	<b>p-value</b>		<b>0.0028</b>	<b>0.0099</b>
P304	Statistics	Placebo (N=96)	400 mg (N=99)	600 mg (N=97)
Week 7 (EOS)	LS Mean	2.9	2.4	2.6
	<b>p-value</b>		<b>0.0051</b>	<b>0.0995</b>

EOS = End of Study

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# SPN-812

## Summary of Treatment Related Adverse Events

**Number (%) of Patients - Treatment Related AEs with  $\geq 5\%$  Incidence**  
*All Four Phase III Trials*

	<b>Placebo (N=463)</b>	<b>SPN-812 (N=925)</b>
Somnolence	14 (3.0)	115 (12.4)
Decreased appetite	2 (0.4)	61 (6.6)
Headache	14 (3.0)	57 (6.2)
Fatigue	10 (2.2)	56 (6.1)
<b>Discontinuation due to AEs</b>	<b>6 (1.3)</b>	<b>32 (3.5)</b>

AEs = Adverse Events

# SPN-812

## Significant Market Opportunity

	Percent	Estimated Prescriptions in Peak Year
<b>ADHD Market Prescriptions</b>		<b>89 - 100 Million</b>
	Peak Market Share	SPN-812 Potential Prescriptions
<b>SPN-812 Peak Demand</b>	<b>5 - 10%</b>	<b>4.5 - 10.0 Million</b>

Source: IMS NPA, Company Research and Estimates – Assumes peak at 3-7 years post launch  
Figures in the table above represent management's estimates that are subject to several factors that are beyond our control and actual results may be significantly different from our estimates

# SPN-810

## Novel Product Candidate for Impulsive Aggression (IA)

IA occurs across multiple disorders including ADHD, autism, bipolar disorder, PTSD



**Granted Fast Track Designation**

**1<sup>st</sup>**

**Expected to be First Product Approved to Treat IA**



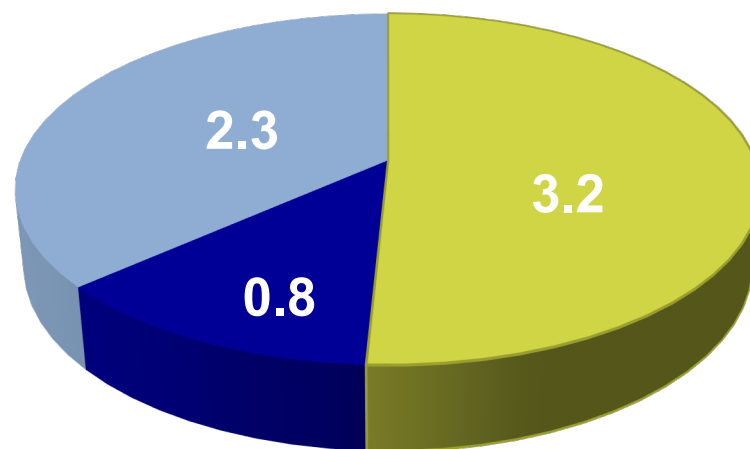
**Building Strong IP with Expirations 2029-2033**

**2019**

**One Completed and Two Ongoing Phase III Trials**



**Market Opportunity<sup>1</sup>  
+\$6.3B**



■ ADHD ■ Autism ■ PTSD/Bipolar

<sup>1</sup> Initial indication in ADHD population with potential to expand into other areas such as PTSD.

CDC/US Census; IMS; Qualitative Opportunity Assessment Research 2014; \* Assumes quantitative research in ADHD is applicable to Autism, PTSD and Bipolar Disorder. Does not account for IA in other CNS areas. Company Research and Estimates

Above figures represent management's estimates that are subject to several factors that are beyond our control and actual results may be significantly different from our estimates

# SPN-810

## Phase III Studies

Study	Population	Primary Objective*	Study Duration	Treatment Duration	Dose	No. of Subjects	Data Expected
<b>P301</b>	Pediatric (6-12 years)	Efficacy	10 weeks	6 weeks	Placebo 36mg	333	<b>4Q 2019</b>
<b>P302</b>	Pediatric (6-12 years)	Efficacy	10 weeks	6 weeks	Placebo 36mg	300+	<b>1Q 2020</b>
<b>P503</b>	Adolescents (12-17 years)	Efficacy	10 weeks	6 weeks	Placebo 36mg 54mg	200	<b>Enrollment thru 2020</b>

\*Primary Endpoint : Change in IA behavior frequency

# SPN-604

## Novel Product Candidate for Bipolar

**50%** Use of Oxcarbazepine  
in Psychiatry

**1<sup>st</sup>** Expected to be Only  
Oxcarbazepine Product  
Approved to Treat Bipolar

**2019** Phase 3 Program  
Planned 2H 2019



Market Opportunity  
**+53 Million Prescriptions**

Class of Drugs	% of Prescriptions
Antiepileptics	34
Antipsychotics	29
SSRI's	15
SNRI's	6
Antimania	6
Other Antidepressants	6
Benzodiazepines	4
Total	100

Source: IQVIA 2016

SSRI = Selective serotonin reuptake inhibitor

SNRI = Serotonin & norepinephrine reuptake inhibitor

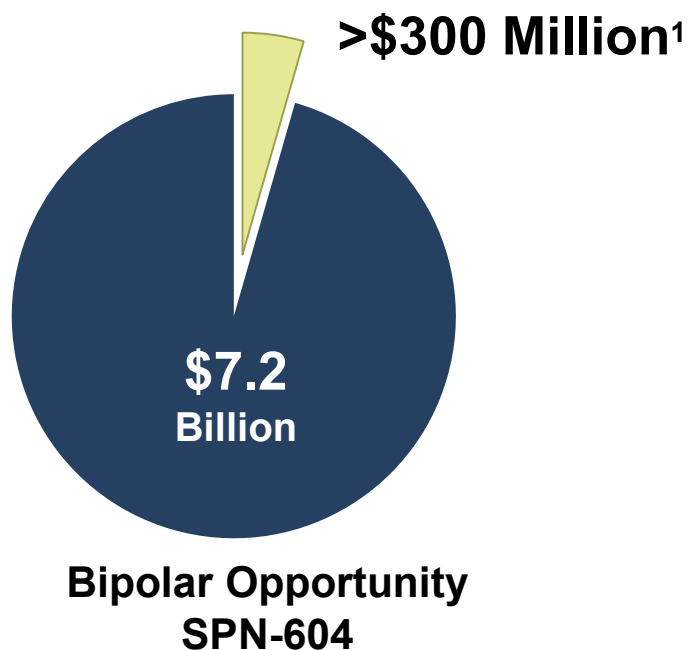
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# SPN-604

## Target Market Opportunity in Psychiatry of \$7.2 Billion

**Potential Peak Sales - SPN-604 >\$300 Million**



1- Anti-epileptic drugs represent 34% of 53 million prescriptions for bipolar (IQVIA). Average net price per prescription of \$400. Peak share of ~5%. Above figures represent management's estimates that are subject to several factors that are beyond our control and actual results may be significantly different from our estimates

# Financial Summary and Guidance

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## 2Q 2019 Financial Results

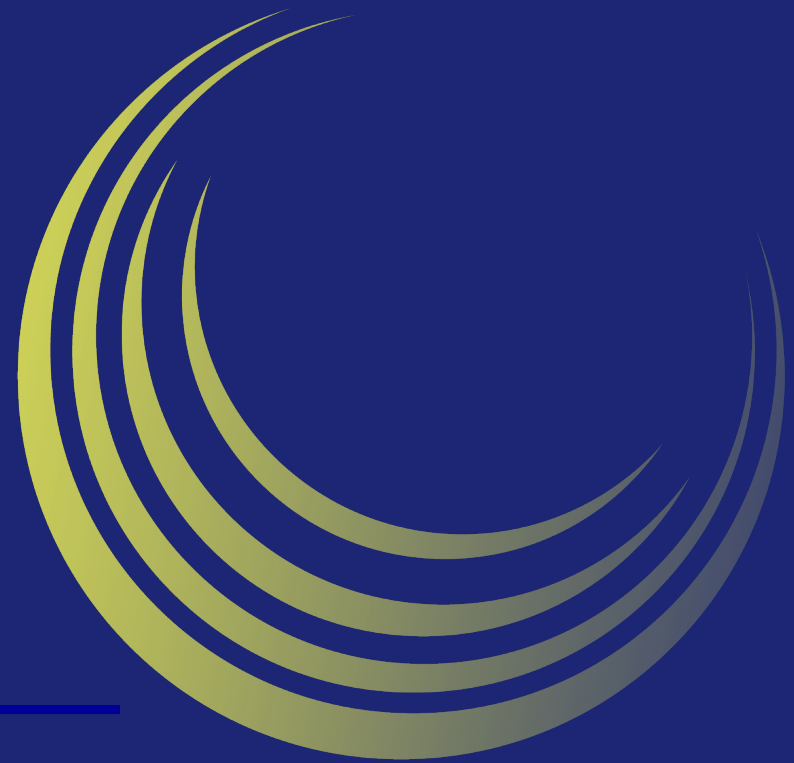
- Net sales of \$102.4 million compared to \$97.0 million in 2Q 2018
- Operating earnings of \$42.6 million compared to \$35.7 million in 2Q 2018
- Cash, cash equivalents, & investments at \$852 million as of June 30, 2019

## Full Year 2019 Financial Guidance<sup>1</sup>

- Net sales: \$400 million - \$410 million
- Operating earnings: \$150 million - \$160 million
  - R&D expenses: \$70 million - \$80 million

<sup>1</sup> Guidance as provided on August 6, 2019, and which has not been updated.

# Positioned For Continued Strong Growth



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## Continued Growth for Existing Products

Oxtellar XR® and Trokendi XR®

## Innovative Late Stage Portfolio in Psychiatry

SPN-810	First Product to be Developed for Impulsive Aggression
SPN-812	Well Differentiated Novel Non-Stimulant
SPN-604	Novel Product for Bipolar Disorder