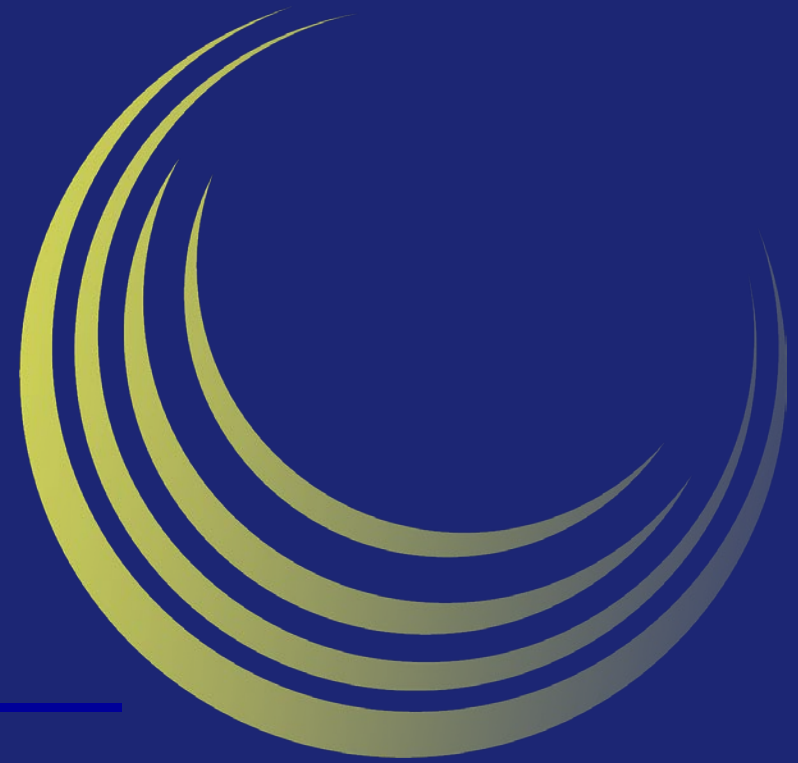


# Supernus Pharmaceuticals

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## Insurance Underwriter Presentation

April 2018

# 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.

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# Proven Execution

## Ten Marketed Products Using Our Technologies

	Launch Year		
	2013	2014	2017
	Trokendi XR® Epilepsy  Oxtellar XR®		Trokendi XR® Migraine
 Carbatrol® Adderall XR® Equetro® Intuniv®			Mydayis™
 Oracea®			
 Sanctura XR®			
			Orenitram®

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# Robust Portfolio of CNS Products

Product	Indication	Development	NDA	Launch
Oxtellar XR®	Epilepsy*			2013
Trokendi XR®	Epilepsy			2013
Trokendi XR®	Migraine**			2017
SPN-810	Impulsive Aggression	Phase III		
SPN-812	ADHD	Phase III		
Oxtellar XR®	Bipolar	Phase I/II		
SPN-809	Depression	IND/Phase II Ready		

\*Adjunctive treatment of partial epilepsy

\*\*Prophylaxis of migraine in adolescents and adults

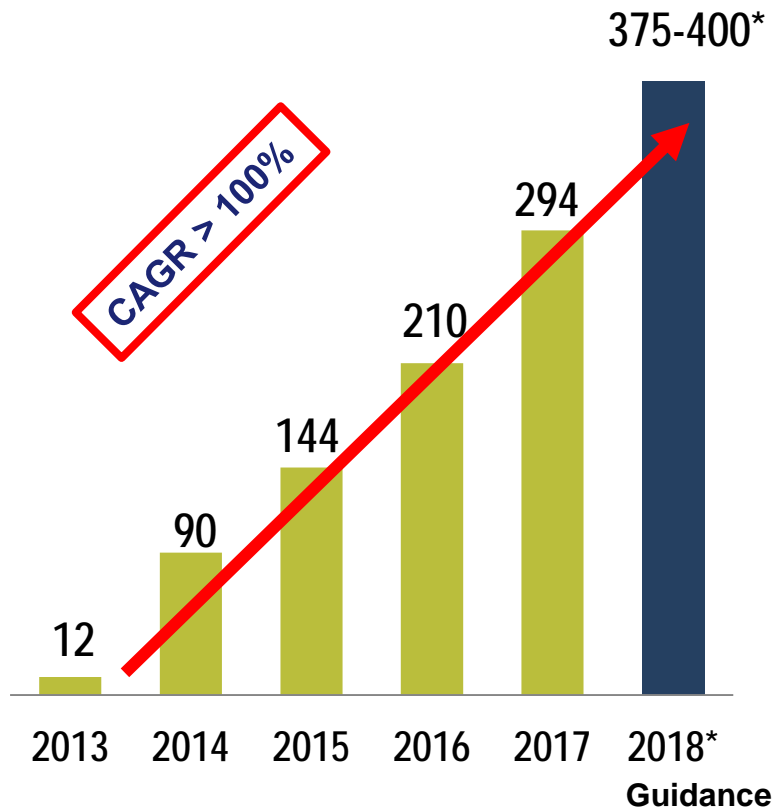
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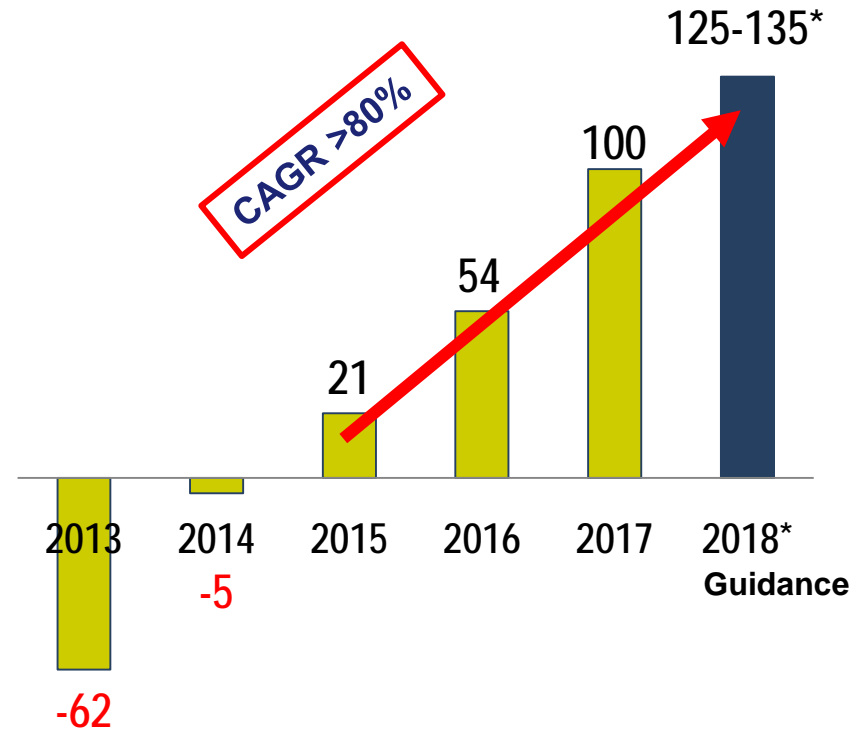
# Profitable CNS Pharma Company

## Strong Sales and Operating Income Growth

Total Net Product Sales (\$ Millions)



Total Operating Income (\$ Millions)



\*Guidance as provided on February 27, 2018 which has not been updated.

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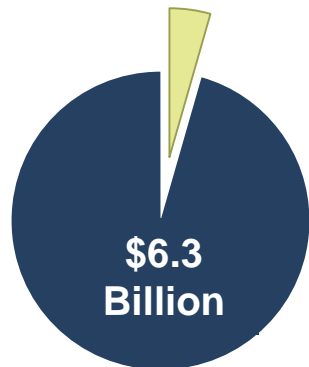


# Trokendi XR and Oxtellar XR

Combined Target Markets Opportunity of \$13.5 Billion

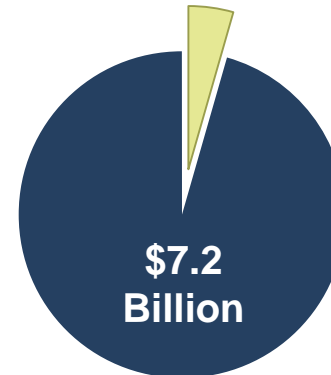
**Potential Peak Sales - Oxtellar XR and Trokendi XR >\$800 Million**

**>\$500 Million<sup>1</sup>**



**Epilepsy and Migraine Opportunity  
Oxtellar XR and Trokendi XR**

**>\$300 Million<sup>2</sup>**



**Bipolar Opportunity  
Oxtellar XR**

1- Combined annual prescriptions of topiramate and oxcarbazepine of 14 million excluding psychiatry. Average net price of \$450. Peak share of ~8%.

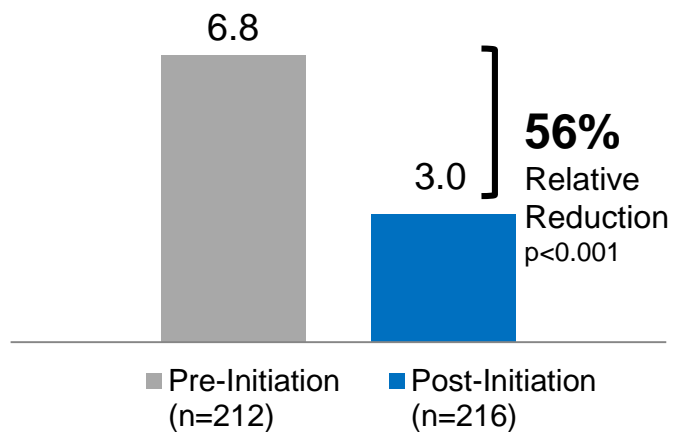
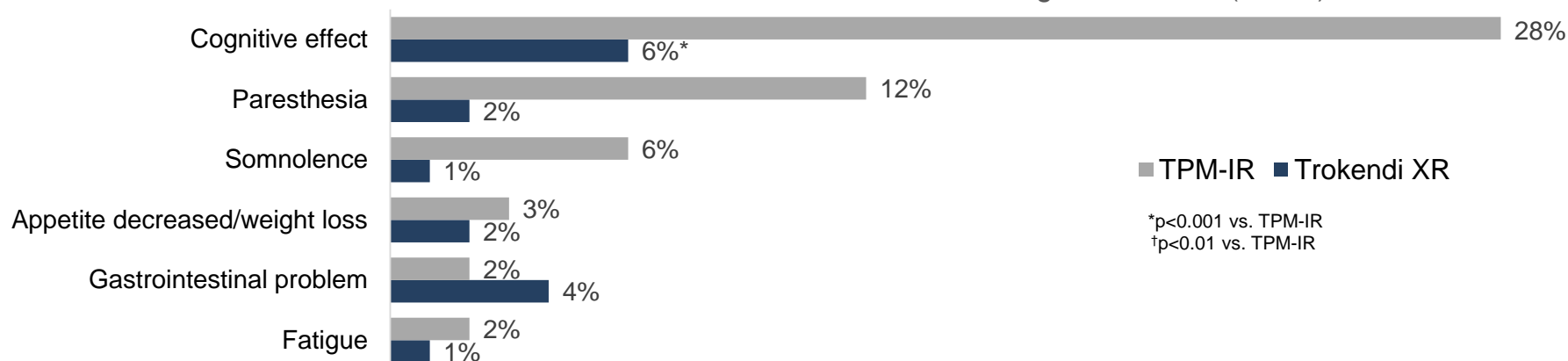
2- Anti-epileptic drugs represent 34% of 53 million prescriptions for bipolar (IQVIA). Average net price per prescription of \$400. Peak share of ~5%.

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

# 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)



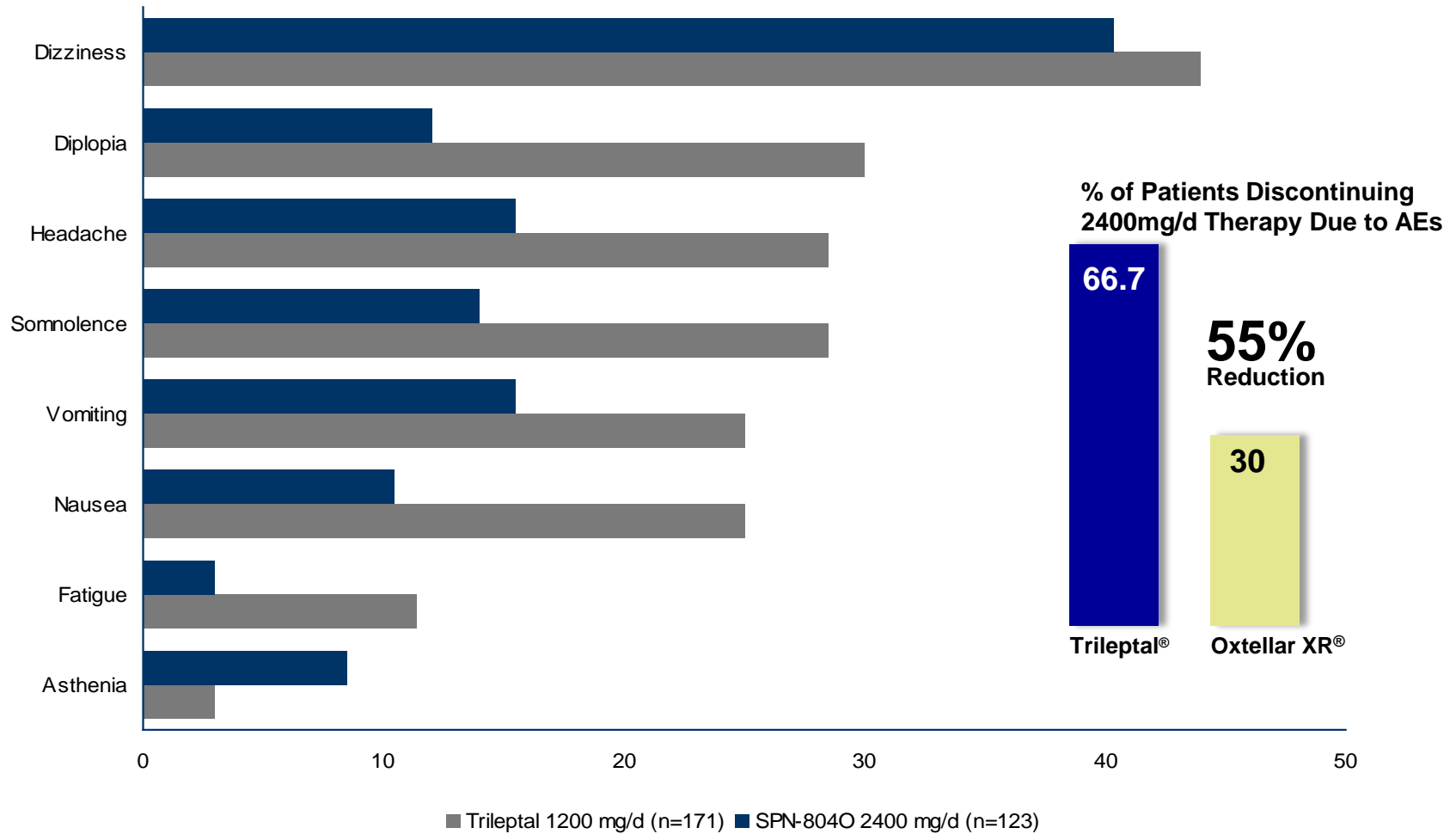
Median Monthly Migraine Frequency  
Pre- vs. Post-Initiation of Trokendi XR

<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

# 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

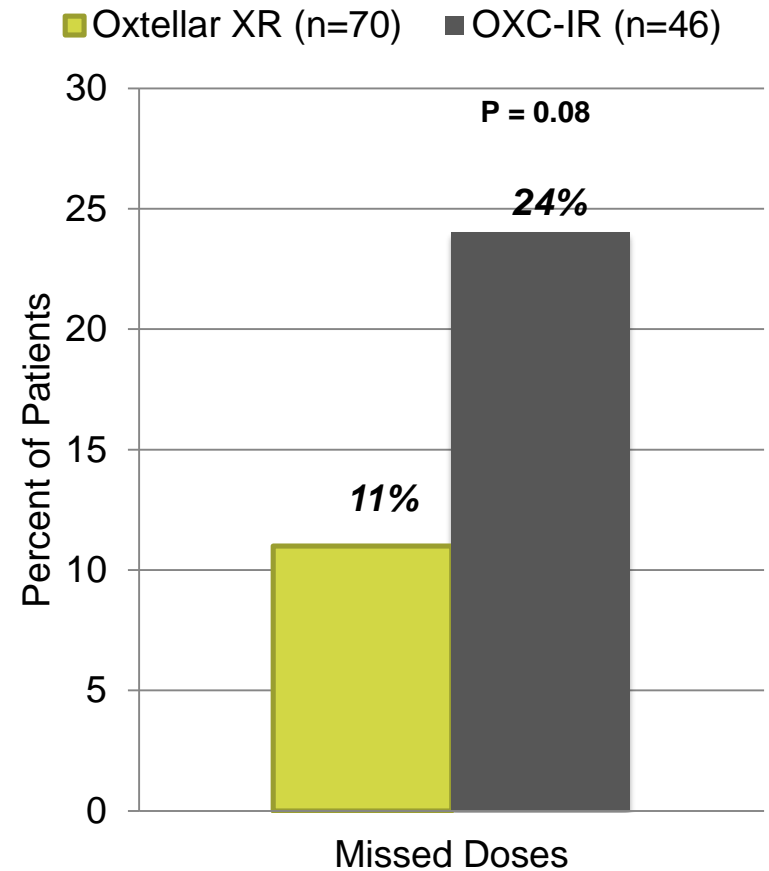
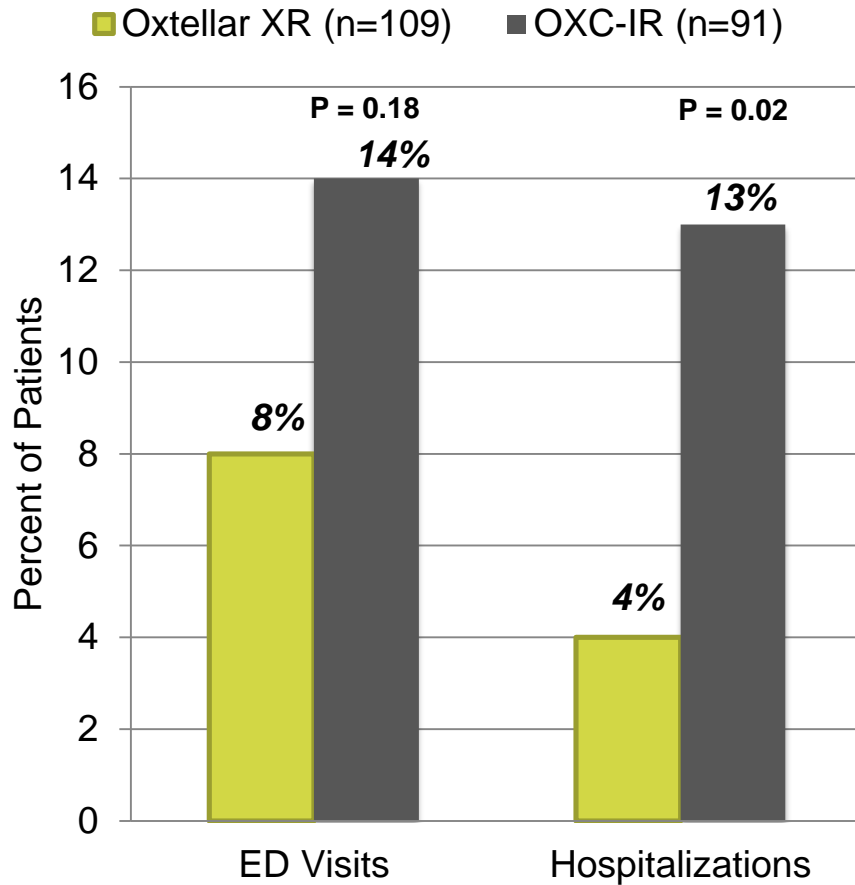
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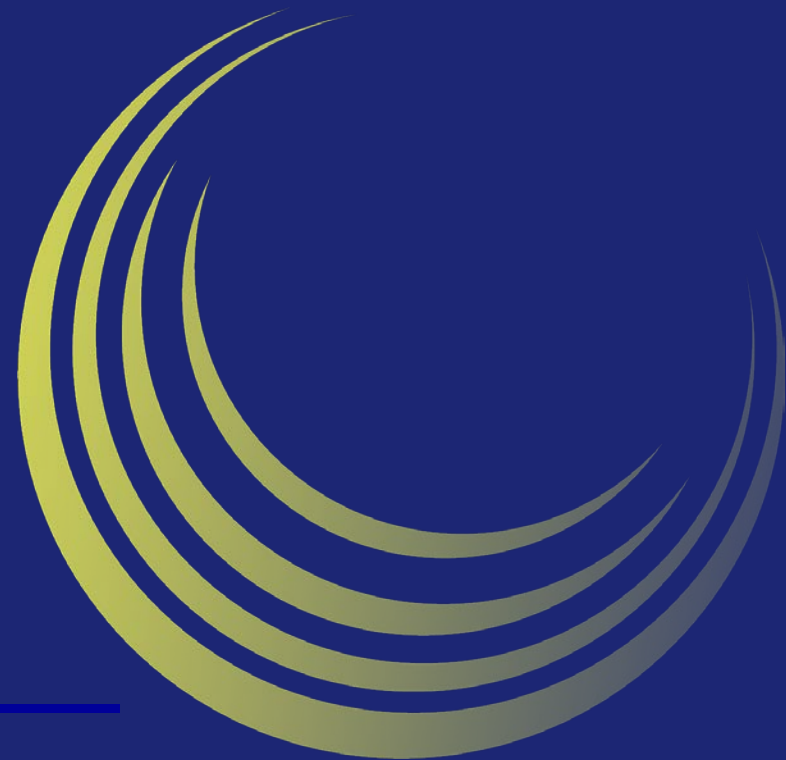
# Oxtellar XR

## More Favorable Clinical Outcomes & Greater Adherence Compared to OXC-IR<sup>1</sup>



<sup>1</sup>O'Neal W, et al., Adherence and Resource Utilization with Extended-Release Oxtellar XR® or Immediate-Release Oxcarbazepine (OXC-IR) Treatment in Clinical Practice: A Standardized Case Record Review. Neurology 2015;84 (P1.244)

# Psychiatry Pipeline



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## Innovative Late Stage Portfolio

- SPN-810**      **First Treatment to be Developed for Impulsive Aggression**
- SPN-812**      **Well Differentiated Novel Non-Stimulant**
- Oxtellar XR**    **Novel Product for Bipolar Disorder**

# SPN-810

## Understanding Impulsive Aggression (IA)

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- IA is a subtype of Maladaptive Aggression
- Impulsivity can be defined neurobiologically
  - Impairment in self-control
- IA occurs across multiple disorders including
  - ADHD, autism, bipolar disorder, schizophrenia, Alzheimer's, PTSD and disorders of traumatic stress
- Initial development in ADHD with plans to expand into other areas.

# SPN-810

## Novel Product Candidate for IA



**Granted Fast Track Designation**



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

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

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

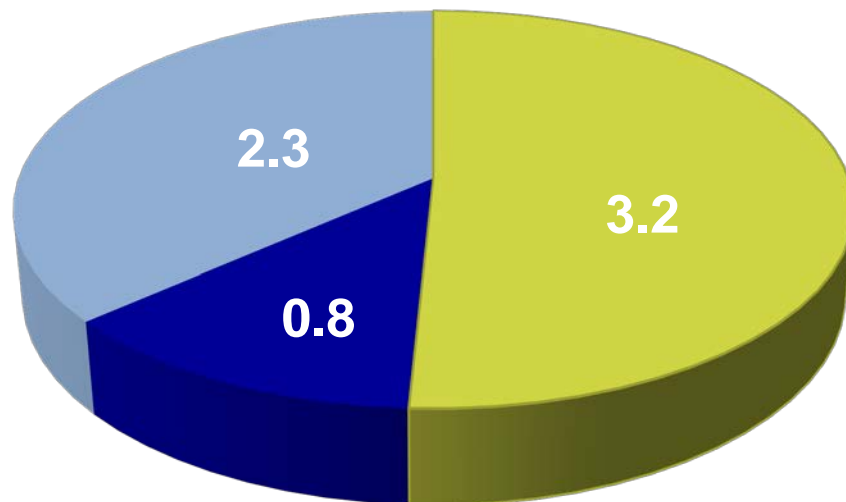


**Building Strong IP with Expirations 2029-2033**

**2018**

**Two Ongoing Phase III Pediatric Trials**

**Phase III Adolescent Trial Expected to Start Mid-2018**



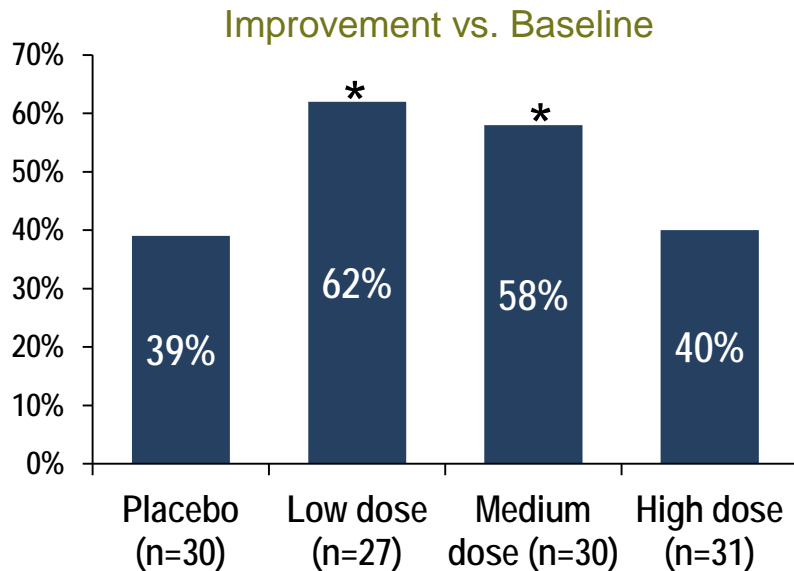
■ ADHD ■ Autism ■ PTSD/Bipolar

<sup>1</sup> Initial indication in ADHD population with plans to expand into areas such as Autism and PTSD. CDC/US Census; IMS; Qualitative Opportunity Assessment Research 2014; \* Assumption that 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 IIb – Low and Medium Doses Met Primary Endpoints

Primary Endpoint: Change from Baseline at Visit 10 in R-MOAS# Score<sup>1</sup>  
 LOCF, ITT Population



\* P<0.05 vs. placebo

# Retrospective modified overt aggression scale

<sup>1</sup> Primary Endpoint based on FDA input

### Improved Remission Rate at End of Study<sup>2</sup>

R-MOAS	Placebo (n=30)	Low Dose (n=27)	Medium Dose (n=30)	High Dose (n=31)
Subjects Remitted	6 (20%)	14 (52%)	12 (40%)	10 (32%)
P-value for Remission Rate		<b>0.009</b>	<b>0.043</b>	0.276

Remission: RMOAS≤10, P significant at p< 0.05

<sup>2</sup> Primary Endpoint before FDA input



# SPN-810

## Phase IIb – Well Tolerated by Patients

<b>Most Common Adverse Events*</b> <i>(Reported by ≥ 5% of Subjects in one or more treatment groups)</i>	<b>Placebo (n=31)</b> <b>N (%)</b>	<b>All Treatment (n=90)</b> <b>N (%)</b>
<b>Headache</b>	4 (13%)	9 (10%)
<b>Sedation</b>	2 (7%)	8 (9%)
<b>Somnolence</b>	1 (3%)	2 (2%)
<b>Abdominal Pain</b>	1 (3%)	5 (6%)
<b>Increased Appetite</b>	1 (3%)	7 (8%)
<b>Decreased Appetite</b>	0	5 (6%)
<b>Fatigue</b>	0	3 (3%)
<b>Abnormal Weight Gain</b>	0	1 (1%)
<b>Extrapyramidal Symptoms (EPS)</b>		
<b>Dystonia</b>	0 (0)	2 (2%) [Severe]
<b>Akathisia</b>	1 (3.2%) [Mild]	0 (0)
<b>Dyskinesia</b>	0 (0)	1 (1%) [Moderate]

\*There is no statistically significant difference in the rate of incidence of AEs between the placebo arm and all active treatment groups combined

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# SPN-810

## Phase III Studies

Study	Population	Primary Objective*	Study Duration	Treatment Duration	Dose Range <sup>1</sup>	No. of Subjects	Status
P301	Pediatric (6-12 years)	Efficacy	10 weeks	6 weeks	Placebo 36mg	291 Randomized	Enrolling
P302	Pediatric (6-12 years)	Efficacy	10 weeks	6 weeks	Placebo 36mg	291 Randomized	Enrolling

\*Primary Endpoint : Change in IA behavior frequency

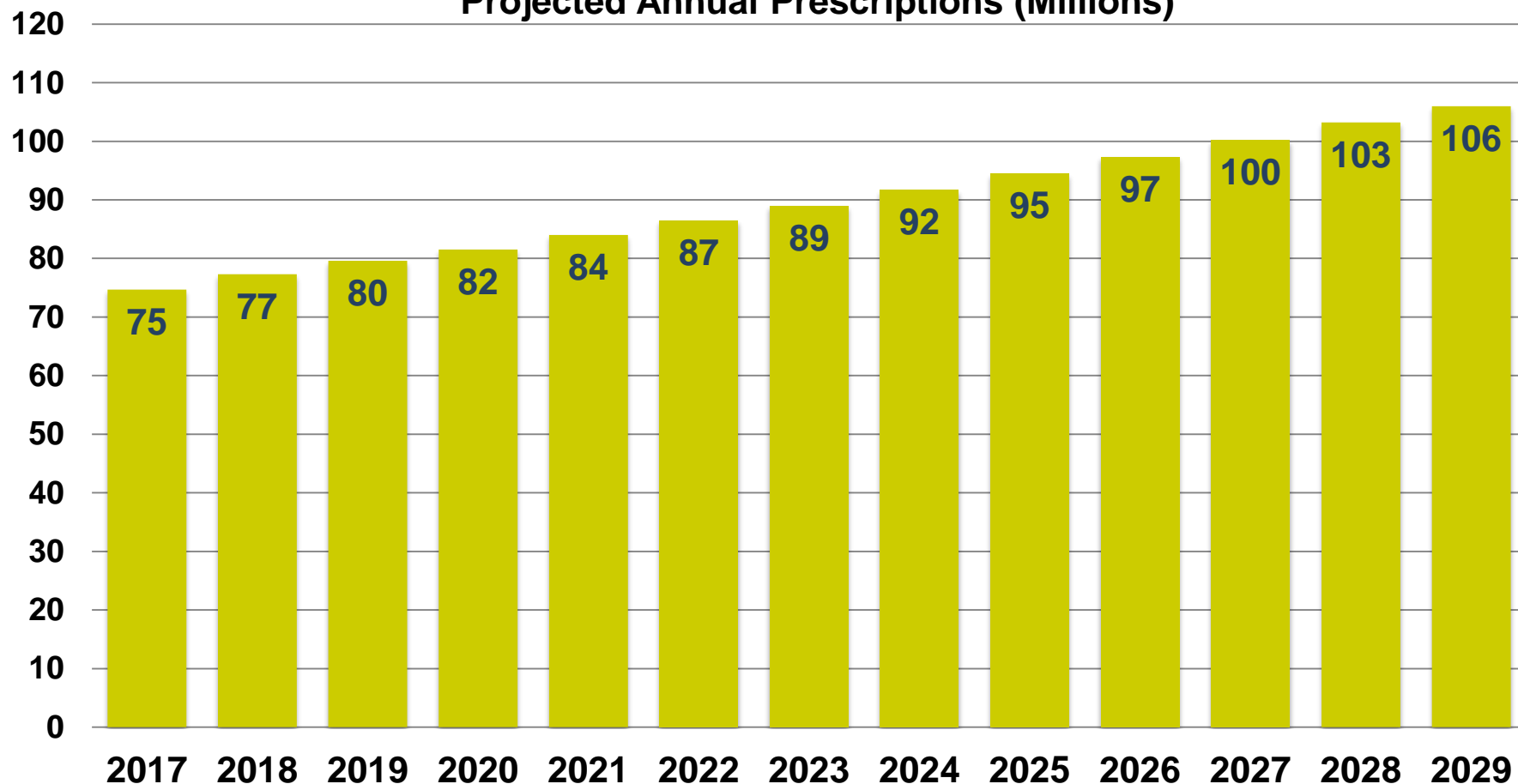
<sup>1</sup>Predefined interim analysis of P301 completed September 2017

- Both trials proceeding to completion with 1:1 randomization to 36mg dose and placebo

● Data expected in 1Q 2019

# ADHD Market Opportunity in the U.S

Projected Annual Prescriptions (Millions)



Source - IMS NPA and Company Estimates

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

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# SPN-810

Significant Market Opportunity: \$0.5B - \$1.0B Peak Sales in ADHD

	Percent	Estimated Prescriptions in Peak Year
<b>ADHD Market Prescriptions</b>		92 - 103 Million
<b>Child and Adolescent ADHD Prescriptions</b> Child Psychiatrists, Child Neurologists, Psychiatrists, and Top Pediatrician Deciles		24 - 28 Million
<b>Prevalence of Impulsive Aggression</b>	22.5 - 32%	5.4 - 9.0 Million
	Peak Market Share	SPN-810 Potential Prescriptions
<b>SPN-810 Peak Demand in ADHD</b>	<b>16 - 20%</b>	<b>0.9 - 1.8 Million</b>

SPN-810 Market Sizing and Demand Study (April 2015); Assumes prevalence and demand from quantitative research are applicable to high ADHD pediatrician prescribers, and peak market share 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

## A Potential Billion Dollar Product for Supernus

### Potential Gross Revenue

ADHD

\$0.5 - \$1.1 Billion

Autism and PTSD

\$0.6 - \$0.7 Billion

Total at Peak

\$1.1 - \$1.8 Billion

+

### **Other Impulsive Aggression Opportunities:**

*Schizophrenia, Bipolar, Alzheimer's, Oppositional Defiant Disorder, etc.*

# SPN-812

## Novel Non-Stimulant ADHD Product Candidate

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- Viloxazine hydrochloride
  - Norepinephrine reuptake inhibitor
  - New Chemical Entity (NCE) with five year market exclusivity
  - Previously marketed outside the US as an antidepressant
- Building strong IP with expirations from 2029-2033
- Emerging clinical profile points to a potentially well differentiated ADHD product
- Four Phase III trials currently ongoing
  - Pediatric and adolescent patients
  - Data expected in 1Q 2019

# SPN-812

## Phase IIb – Three Doses Met Primary Endpoint

### Primary Analysis

### Change from baseline in ADHD-RS-IV Total Score (ITT Population with LOCF)

Statistics	400 mg N=44	300 mg N=47	200 mg N=46	100 mg N=45	Placebo N=24	
LS Mean	-19.0	-18.6	-18.4	-16.7	-10.5	End of Study
Effect Size	0.63	0.60	0.55	0.46		
<b>P-value</b>	<b>0.021*</b>	<b>0.027*</b>	<b>0.031*</b>	<b>0.089</b>		

\* At end of study all SPN-812 doses except the 100 mg dose are statistically significant compared to placebo at  $\alpha = 0.05$  level.

ITT = Intent To Treat  
LOCF = Last Observation Carried Forward

# SPN-812

## Phase IIb – Well Tolerated by Patients

Percentage of Patients with Related AEs, >5%	SPN-812 ER				
	Placebo N=24	100 mg N=48	200 mg N=48	300 mg N=48	400 mg N=49
<b>Adverse Event (AE)</b>					
<b>Somnolence</b>	0	14.6	20.8	20.8	24.5
<b>Decreased appetite</b>	8.3	10.4	12.5	8.3	16.3
<b>Headache</b>	0	4.2	10.4	6.3	12.2
<b>Insomnia</b>	0	6.3	4.2	6.3	6.3
<b>Nausea</b>	0	4.2	2.1	8.3	4.1
<b>Fatigue</b>	0	4.2	4.2	2.1	10.2
<b>Irritability</b>	0	2.1	8.3	4.2	2.0
<b>Weight decreased</b>	0	0	0	0	8.3
<b>Discontinuations Due to AEs</b>	0	8.3	6.3	2.1	10.2

# SPN-812

## Significant Market Opportunity

	Percent	Target 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>3 - 5%</b>	<b>2.7 - 5.0 Million</b>
<b>SPN-812 Peak Gross Revenue</b>		<b>\$1.6 - 3.0 Billion</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

# Oxtellar XR

## 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

**2018** Investigator-Initiated Trial  
Ongoing



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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# Financial Summary and Guidance

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## 2017 Full Year Financial Results

- Net product sales of \$294.1 million, up 40% over 2016
- Operating income of \$99.5 million, up 84% over 2016
- Cash, cash equivalents, and investments at \$273.7 million as of December 31, 2017

## Pricing of \$350 Million Convertible Deal on 3/15/2018

## Full Year 2018 Financial Guidance<sup>1</sup>

- Net product sales: \$375 million - \$400 million
- Operating income: \$125 million - \$135 million
  - R&D expenses: ~\$80 million

<sup>1</sup> Guidance as provided on February 27, 2018 which has not been updated



# Corporate Governance

## Committees of the BOD

- **Board of Directors**

	<u>Audit</u>	<u>Comp</u>	<u>Governance</u>
• Jack Khattar, CEO			
• Frederick M. Hudson	√	√	
• Charles W. Newhall		√	√
• John M. Siebert	√	√	
• Georges Gemayel	√		√
- **Code of Business Conduct and Ethics; Insider Trading Policy**
  - New employees execute both policies
  - Annually, all employees recertify adherence to Code of Ethics and Compliance with Securities Trading Policy
    - Results reported to Audit Committee
  - All employees and BOD members receive email communication regarding black out and open periods for trading in Company securities
    - Company facilitates 10(b)5-1 trading programs for senior management