SAGE THERAPEUTICS

Rethinking CNS

May 3, 2018

Q1 2018 Financial Results

Agenda – Today's Speakers

- **Paul Cox**, Senior Director, Investor Relations
- **Jeff Jonas**, M.D., Chief Executive Officer
- **Steve Kanes**, M.D., Ph.D., Chief Medical Officer
- **Mike Cloonan,** Chief Business Officer
- **Kimi Iguchi**, Chief Financial Officer
- **Q&A Session** (joined by Jim Doherty, Ph.D., Chief Research Officer)

Safe Harbor Statement

The slides presented today and the accompanying oral presentations contain forward-looking statements, which may be identified by the use of words such as “may,” “might,” “will,” “should,” “expect,” “plan,” “anticipate,” “believe,” “estimate,” “project,” “intend,” “future,” “opportunity”, “potential,” or “continue,” and other similar expressions. Forward-looking statements in this presentation include statements regarding: our expectations regarding acceptance by the FDA for filing and review of our NDA submission for brexanolone IV and the potential for approval; our anticipated development activities and timelines; the estimated number of patients with certain disorders or diseases; our expectations regarding potential commercialization of brexanolone IV, if approved, and our commercial plans and goals; the potential for EU expansion; the potential for development of our other products candidates in various indications; other planned activities; our strategy and business outlook; and our expectations with respect to cash needs. These forward-looking statements are neither promises nor guarantees of future performance, and are subject to a variety of risks and uncertainties, many of which are beyond our control, which could cause actual results to differ materially from those contemplated in these forward-looking statements, including the risk that:

- The FDA may decide not to accept for filing our NDA for brexanolone IV in PPD;
- The FDA or other regulatory authorities may, despite prior advice, decide that the clinical and nonclinical data from our brexanolone development program in postpartum depression are not sufficient to support the grant of regulatory approval, and may require additional trials, analyses or data;
- Issues may arise during inspections by regulatory authorities of our facilities, data and systems or those of our contract research organization, contract manufacturer or clinical sites that could delay or prevent us from gaining approval of brexanolone;
- Success in SAGE’s pre-clinical studies or in early stage clinical trials may not be repeated or observed in ongoing or future studies involving the same compound or other product candidates, and future pre-clinical and clinical results for SAGE’s product candidates may not support further development of the product candidate or regulatory approval;
- We may not achieve expedited development or review of SAGE-217 as a result of the Breakthrough Therapy designation;
- We may experience slower than expected enrollment in our clinical trials or may encounter other delays or problems, including in analyzing data or requiring the need for additional analysis, data or patients, and such issues with any trial could cause delay in completion of the trial, availability of results and timing of future activities;
- Even if our products are successfully developed and approved, the number of patients with the diseases or disorders our products treat, and the actual market for such products may be smaller than our current estimates; or we may not achieve market acceptance or reimbursement at acceptable levels;
- We may encounter issues, delays or unexpected challenges in launching or commercializing brexanolone IV, if approved, including issues related to market acceptance and reimbursement, options for site of administration, and challenges associated with our build, and we may not be successful in our commercialization efforts;
- We may encounter unexpected safety or tolerability issues with respect to any of our product candidates;
- We may not be able to obtain and maintain adequate intellectual property protection or other forms of data and marketing exclusivity for its products, or to defend ours patent portfolio against challenges from third parties;
- We may face competition from others developing products for similar uses as those for which our products are being developed;
- Our operating expenses may be higher than forecasted, and we may also face unexpected expenditures or decide to expand our activities, in either case which may result in the need for additional funding to support its business activities earlier than anticipated;
- Funding to support operations may not be available, when needed, on reasonable terms or at all, or may result in significant dilution to existing shareholders;
- We may not be able to establish and maintain key business relationships with third parties on We may encounter technical and other unexpected hurdles in the manufacture and development of its products.

For additional disclosure regarding these and other risks SAGE faces, see the disclosure contained in the "Risk Factors" section of SAGE’s our most recent annual or quarterly report, and in SAGE’s other public filings with the Securities and Exchange Commission, available on the SEC's website at http://www.sec.gov. Any forward-looking statement represent our views only as of today, and should not be relied upon as representing its views as of any subsequent date. We undertake no obligation to update or revise the information contained in this presentation, whether as a result of new information, future events or circumstances or otherwise.

RETHINKING treatment of brain disorders.

ORIGINATING differentiated medicines.

INNOVATING with a purpose for patient benefit.

Sage Accomplishments in 6 Years

Successfully Established a Robust Pipeline Focused on Unmet Need in CNS

1

NDA-Ready Product Candidate

2

Breakthrough Designated Product Candidates

7

Development Candidates

35

Months from 1st PPD Patient to Positive Phase 3

>3,000

Diverse Compounds in Chemical Library

>300M

Estimated Worldwide Patients Impacted by Pipeline Indications[1,2]

1. World Health Organization, http://apps.who.int/iris/bitstream/10665/254610/1/WHO-MSD-MER-2017.2-eng.pdf. 2. All estimates represent management's assessment of total number of patients based on relevant literature. Other estimates exist in the literature or using claims analysis which are smaller than our estimates. We attribute differences to differences in methodologies and other factors. As a result, more in-depth studies are needed to better understand prevalence in each case.

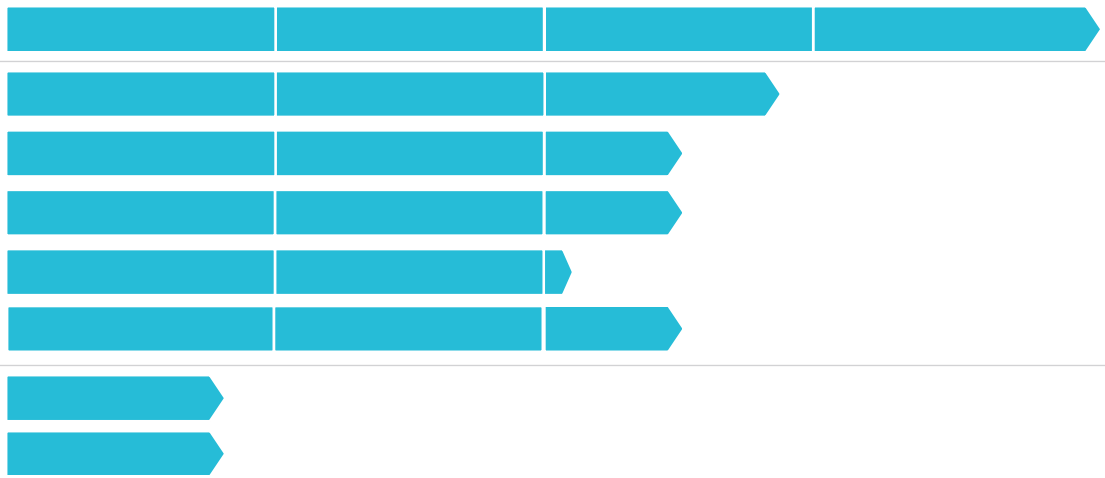
Sage Today

- Building a leading CNS biotech company
- Positioned on the cusp of potential product commercialization
- Advancing a robust development pipeline of new classes of CNS therapeutics
- Executing through a strong financial position

Advancing a Leading CNS Clinical Portfolio

GABA

COMPOUND	INDICATION	PRECLINICAL	PHASE 1	PHASE 2	PHASE 3	REGISTRATION
Brexanolone	Postpartum Depression					
SAGE-217	Major Depressive Disorder					
	Postpartum Depression					
	Parkinson's Disease					
	Bipolar Depression					
	Insomnia					
SAGE-324	Essential Tremor					
	Epileptiform Disorders					



NMDA

COMPOUND	INDICATION	PRECLINICAL	PHASE 1	PHASE 2	PHASE 3	REGISTRATION
SAGE-718	NMDA Hypofunction					

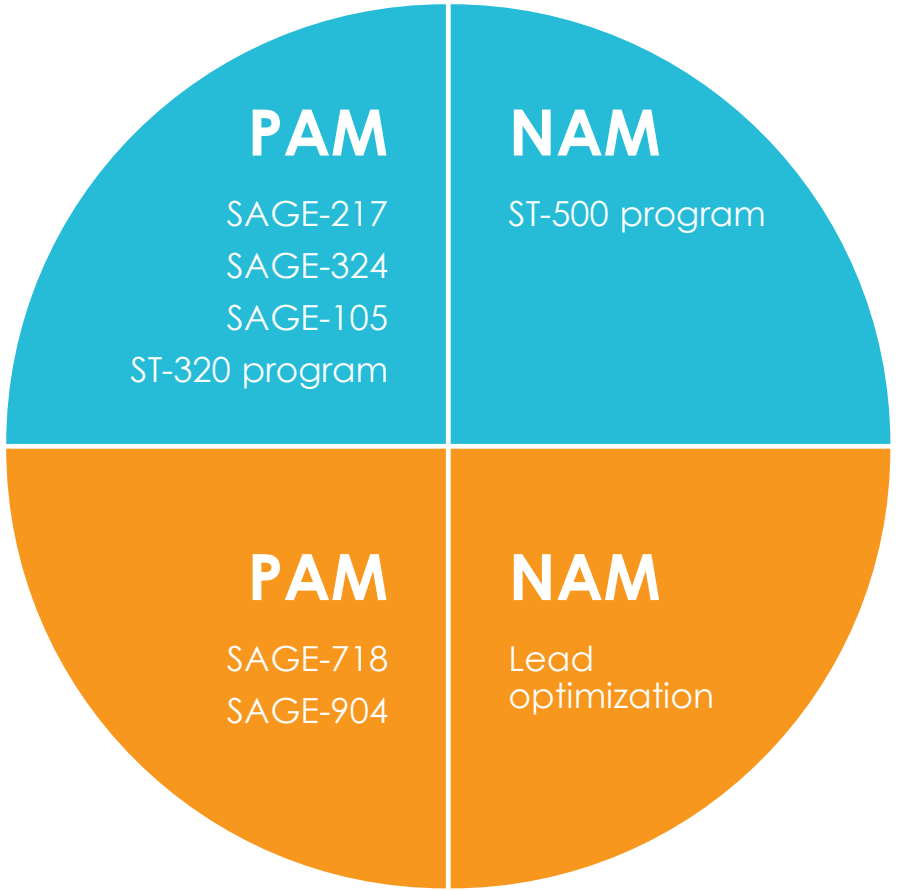
Sage's Discovery Engine

GABA

- Clinical programs
- IND-enabling programs
- ST-320 program
- Issued patents (SAGE-217)
- Large portfolio of filed patent applications

NMDA

- SAGE-718 in Phase 1
- SAGE-904 in IND-enabling
- Large portfolio of filed patent applications



GABA

- Few examples known in literature
- ST-500 program
- Exploratory Discovery

NMDA

- Exploring two distinct series
- Lead Op program underway
- Patents filed

Building A Depressive Disorder Franchise

First ever successful PPD clinical development program

SAGE-217 Phase 2 in MDD establishes potential for **broad footprint** in depressive disorders

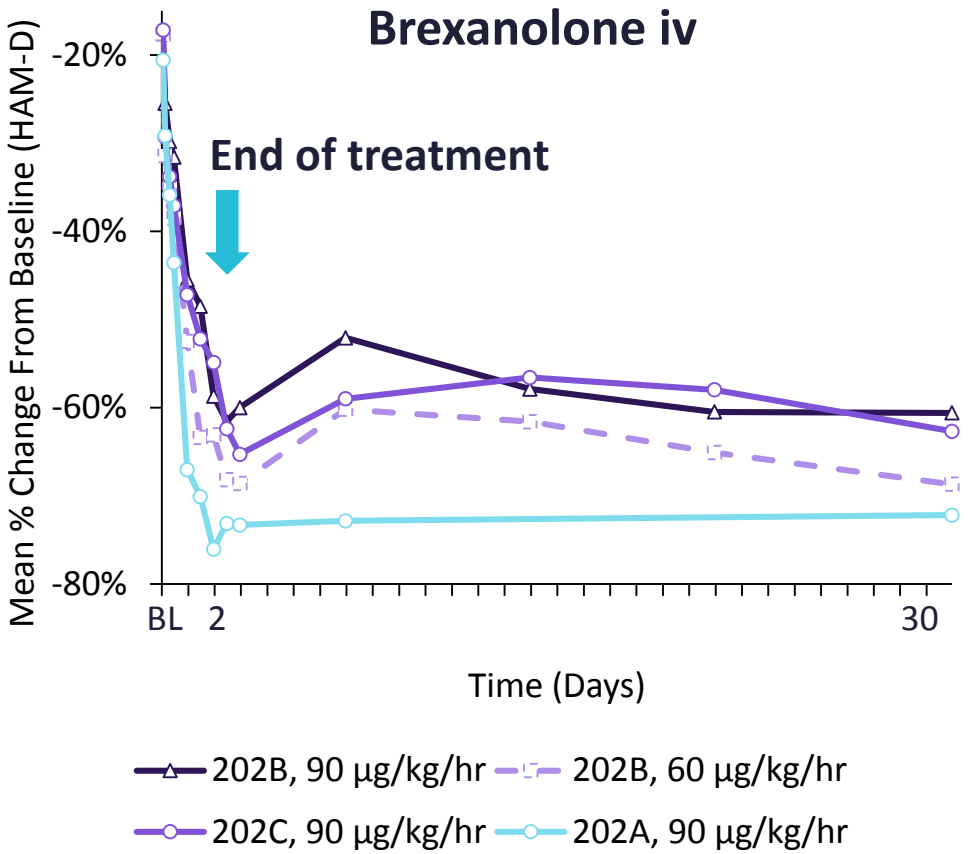
Potential for **groundbreaking approach** to mood disorders

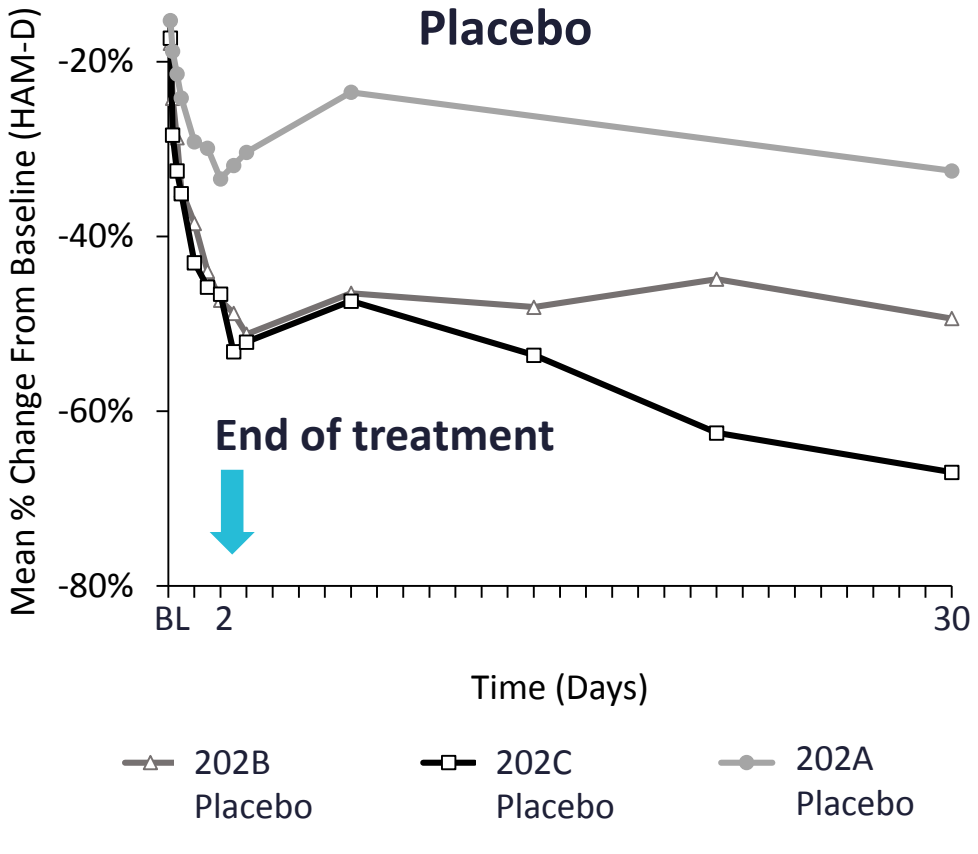
Unmet Need

- Rapidly-acting
- Profound
- Durable
- Well-tolerated

Brexanolone in PPD

Consistent Rapid Antidepressant Effect in Three Placebo-Controlled Trials

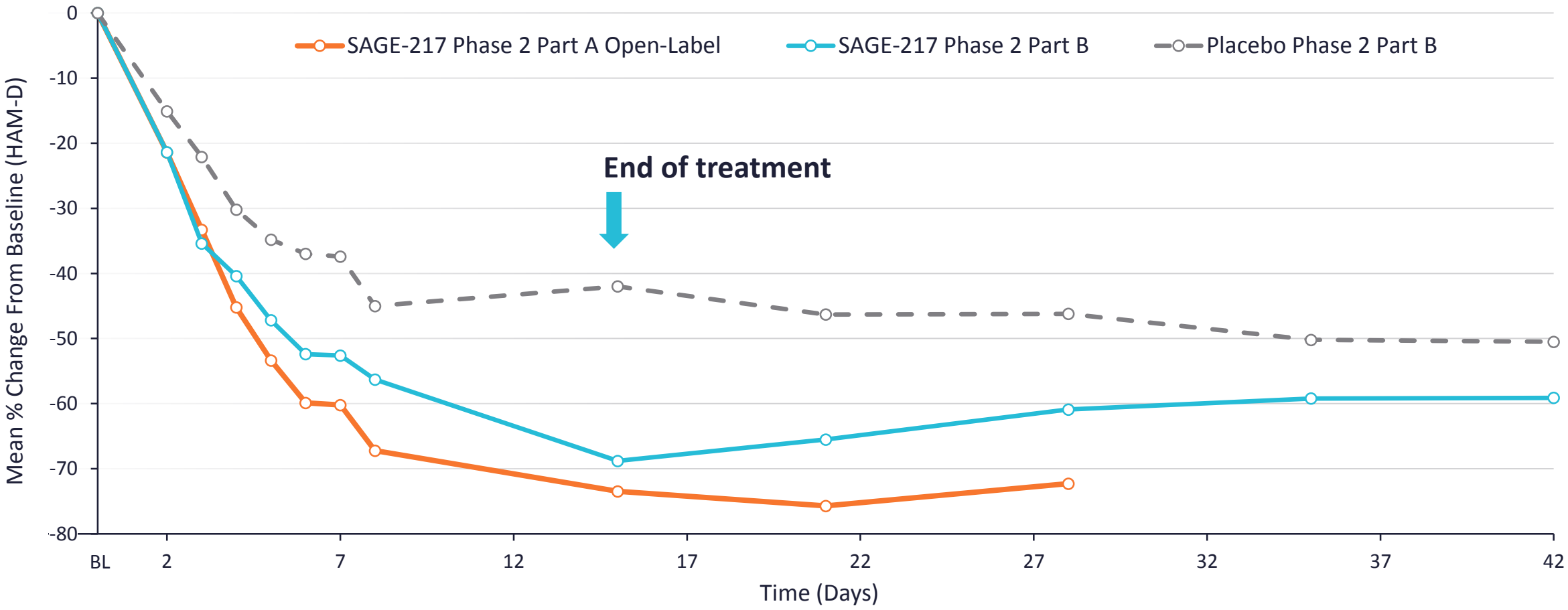




Brexanolone was generally well tolerated in all three studies. The most common AEs were headache, somnolence/sedation and dizziness/vertigo. The most common adverse events leading to dose reduction or interruption were related to sedation or the infusion site.

SAGE-217: Potential 1st Line Treatment for MDD

Positive Placebo-Controlled Phase 2 Results Demonstrate Potential in Depressive Disorders



SAGE-217 was generally well-tolerated in both studies. The most common adverse events in both trials included headache, dizziness, nausea and somnolence, and in Part A, also included myalgia.

Expanding SAGE-217 Clinical Potential with Unifying Focus on Related Symptoms

INDICATION	Sleep disruption	Mood disruption	Potential for episodic treatment	Potential for chronic treatment	Motor disruption
Major Depressive Disorder	✓	✓	✓	✓	
Postpartum Depression	✓	✓	✓	✓	
Bipolar Depression	✓	✓	✓	✓	
Parkinson's Disease	✓	✓		✓	✓
Insomnia	✓		✓		

Positive Phase 1/2 Results for SAGE-217 in Insomnia Model

Primary Endpoint and Multiple Secondary Endpoints Met

Efficacy Summary:

- SAGE-217 met primary endpoint of improved Sleep Efficiency and demonstrated improvements in maintaining sleep compared to placebo
- Secondary endpoint measures demonstrated dose response with statistical significance in Total Sleep Time and time spent awake after sleep onset, though there was not a significant impact on Latency to Persistent Sleep
- Data support further development of SAGE-217 in disorders associated with disruption of normal sleep

Safety and Tolerability Summary:

- SAGE-217 was generally well tolerated
- Adverse event (AE) rates were low across all dose groups and all AEs were mild
- No serious AEs or AEs leading to discontinuation

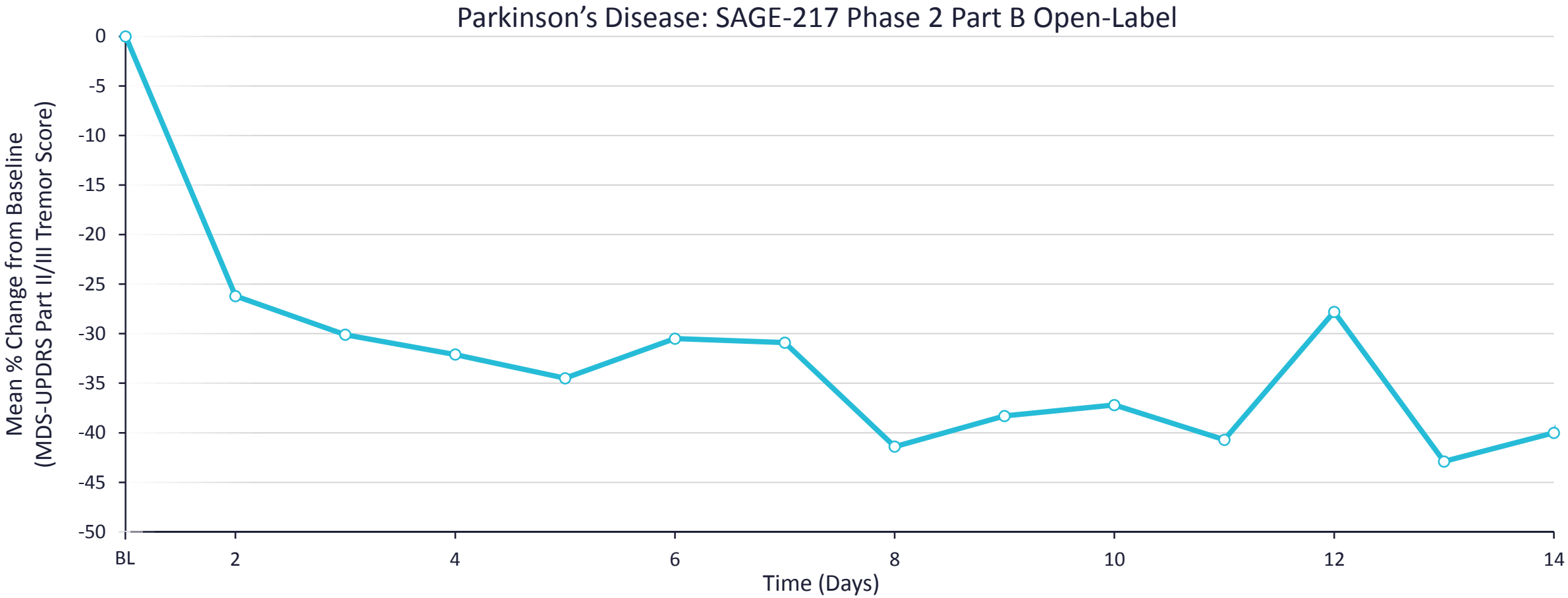
Top-line Efficacy Results*

	Primary Endpoint	Secondary Endpoints		
	Sleep Efficiency	Wake After Sleep Onset	Total Sleep Time	Latency to Persistent Sleep
SAGE-217 30 mg	84.64% (p<0.0001)	55.0 mins (p<0.0001)	406.25 mins (p<0.0001)	SAGE-217 did not have a significant impact (p=0.7049) with either dose
SAGE-217 45 mg	87.55% (p<0.0001)	42.5 mins (p<0.0001)	420.25 mins (p<0.0001)	
Placebo	72.92%	113 mins	350.0 mins	

**All data presented are median values*

Parkinson's Disease: Developing a Novel Mechanism

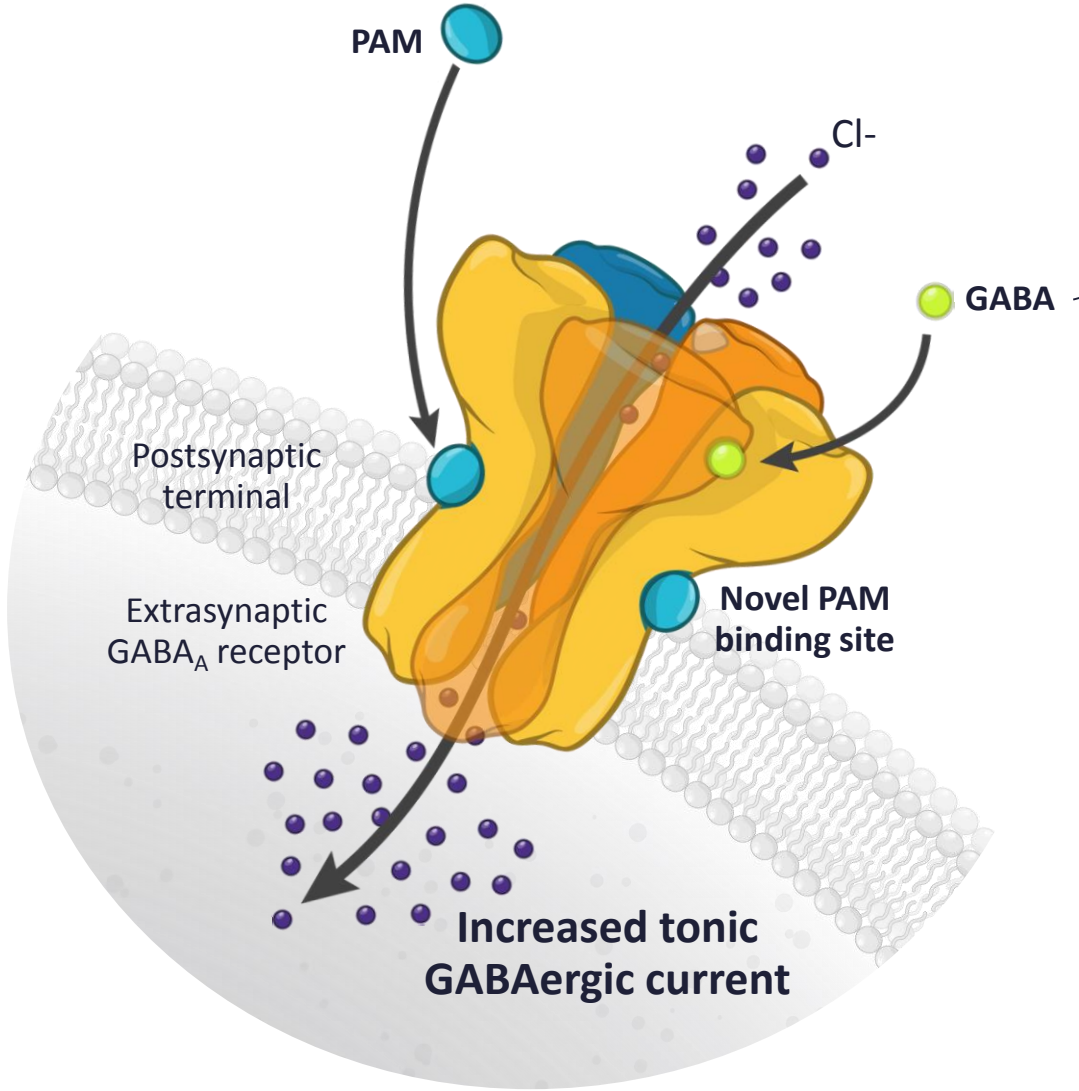
Extending Exploratory Methodology Studies into Clinical Development Programs



- SAGE-217 was generally well tolerated.
- Most common AEs were dizziness, sedation, and somnolence.

SAGE-324

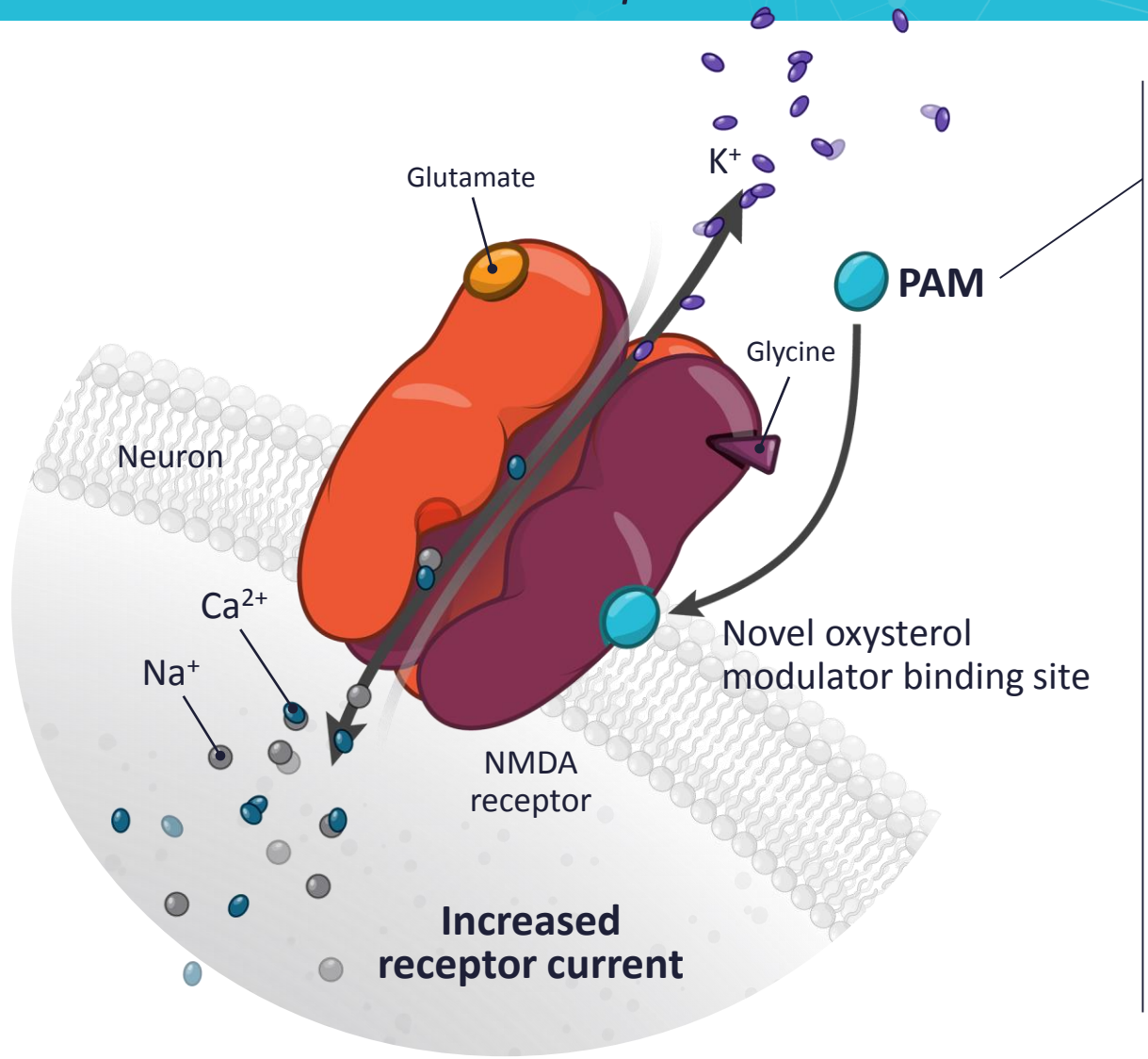
Next Generation Oral $GABA_A$ Receptor PAM



- Potent anti-seizure activity in preclinical models
- Differentiated preclinical profile (less sedative, potential for BID dosing)
- Targeted in essential tremor and epileptiform disorders
- Plan to initiate Phase 1 in 2018

SAGE-718

First-in-Class NMDA Receptor Modulator



- Novel, proprietary, oral, first-in-class, oxysterol-based positive allosteric modulator (PAM) of the NMDA receptor
- Strong preclinical basis for role of NMDA receptor system in cognition
- Multiple disease entities associated with low NMDA function, including Huntington's, ADHD, and Alzheimer's
- Currently in Phase 1 clinical development

SAGE THERAPEUTICS

By **thinking differently**, we can discover new things from R&D to commercial to patient care

Potential to Create New Treatment Pathway in Indication that May Affect Over 400,000 U.S. Women Each Year

Today's PPD Experience	Targeted PPD Experience with Brexanolone
• Lack of clear pathways to care • Inconsistent screening and diagnosis • Limited empowerment for patient and HCPs • Current treatments can take 6-8 weeks for efficacy • Feelings of fear, isolation and stigma	• Potential 1st approved therapy for PPD • Increased disease awareness and urgency to treat • HCPs feel more accountable for diagnosis and care • Rapid onset and potential for resolution in days • No patient falls through the cracks

Annual PPD Population (estimated)

>400,000

Women experience PPD each year in the US

~70-80% of patients are **moderate to severe**

1. CDC, https://www.cdc.gov/mmwr/volumes/66/wr/mm6606a1.htm, 2017. 2. Bonthapally, ISPOR Annual International meeting, 2017. 3. PACT, The Lancet, 2015. 4. All estimates represent management's assessment of total number of patients in U.S. based on relevant literature. Other estimates exist in the literature or using claims analysis which are smaller than our estimates. We attribute differences to differences in methodologies and other factors. As a result, more in-depth studies are needed to better understand prevalence in each case.

Goals for Brexanolone IV Launch and Rethinking How Care is Delivered

Taking on the stigma of PPD ►	• Establishing knowledge base of PPD as a medical complication of pregnancy
Establishing clear pathways to care ►	• OB/GYN and Psychiatrist engagement, ACOG leadership
Delivering family-centric support model ►	• Multiple site of care options, home infusion, patient support model
Ensuring strong access and supply ►	• Payer engagement strategy, value story, supply chain readiness
Expanding the footprint ►	• Potential EU expansion, disciplined evaluation of other markets
Growing the team ►	• Field teams, increased depth in core functions, patient/family centric culture

Q1 2018 Financial Results

	Q1 '18	Q4 '17
Cash and Marketable Securities	$1.1 B	$518.8 M

	Q1 '18	Q1 '17
Research & Development	$49.3 M	$45.2 M
General & Administrative	$28.8 M	$12.3 M
Net Loss	$74.6 M	$56.8 M

~$1.6 B
Cumulative cash raised

~$0.5 B
Net cash spent

$1.1 B
Cash & cash equivalents

Continued Momentum in 2018 and Beyond

ANTICIPATED TIMELINE	EVENTS
2Q 2018	• Acceptance of NDA submission for filing in U.S. for brexanolone IV in PPD
2Q 2018	• SAGE-718 initiation of Phase 1 multiple ascending dose trial
3Q 2018	• SAGE-324 initiation of Phase 1 single ascending dose trial
2H 2018	• SAGE-217 initiation of Phase 2 trial in Parkinson's disease
2018	• SAGE-217 planned trial initiations in MDD, bipolar depression, sleep disorders
2H 2018	• Brexanolone IV receipt of EMA Scientific Advice in PPD
2H 2018	• SAGE-718 Phase 1 data from multiple ascending dose trial
4Q 2018	• SAGE-217 Phase 2 data in PPD
2019	• SAGE-217 results from trials in MDD, bipolar depression, Parkinson's, sleep disorders
1H 2019	• Brexanolone IV commercial launch in PPD in U.S., if approved

Sage Today

- Building a leading CNS biotech company
- Positioned on the cusp of potential product commercialization
- Advancing a robust development pipeline of new classes of CNS therapeutics
- Executing through a strong financial position

….and we're just getting started.