

JANUARY 2023

# SPL026 Phase IIa trial in Major Depressive Disorder

## Topline results

TSXV: DMT  
OTCQB: DMTTF

 **Small Pharma**

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# SPL026 Phase IIa trial in Major Depressive Disorder

## Topline results

Overview

George Tzirias, Chief Executive Officer

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Trial design & results

Carol Routledge PhD, Chief Medical and Scientific Officer

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Concluding remarks

George Tzirias, Chief Executive Officer

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Q&A

Presenters

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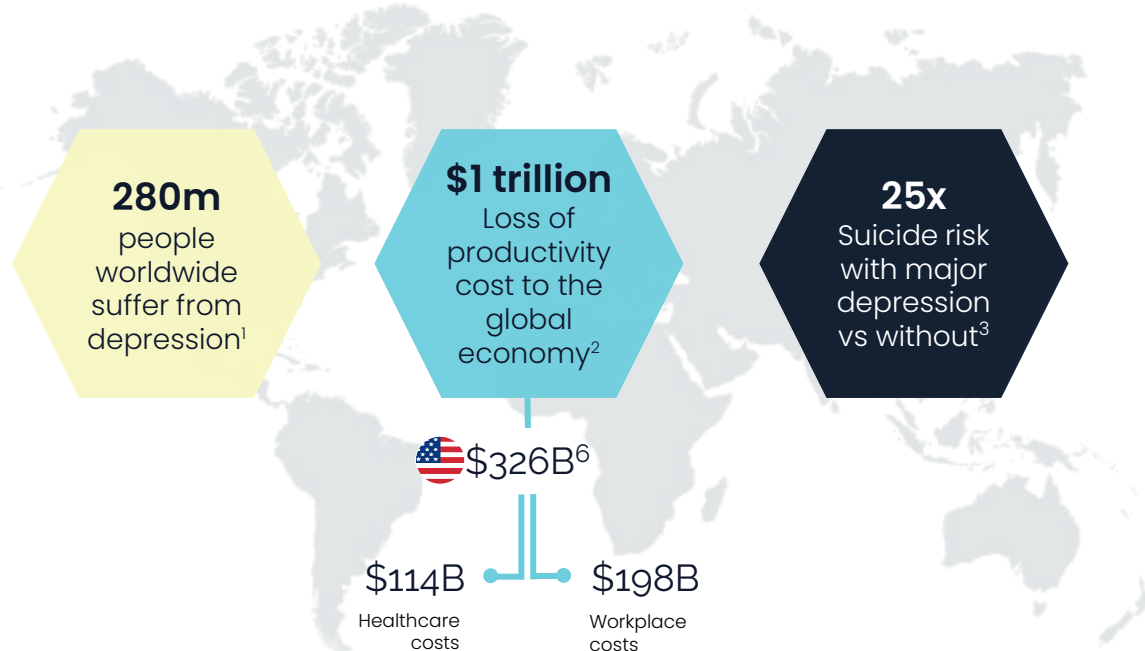


# OVERVIEW

# Our focus on depression

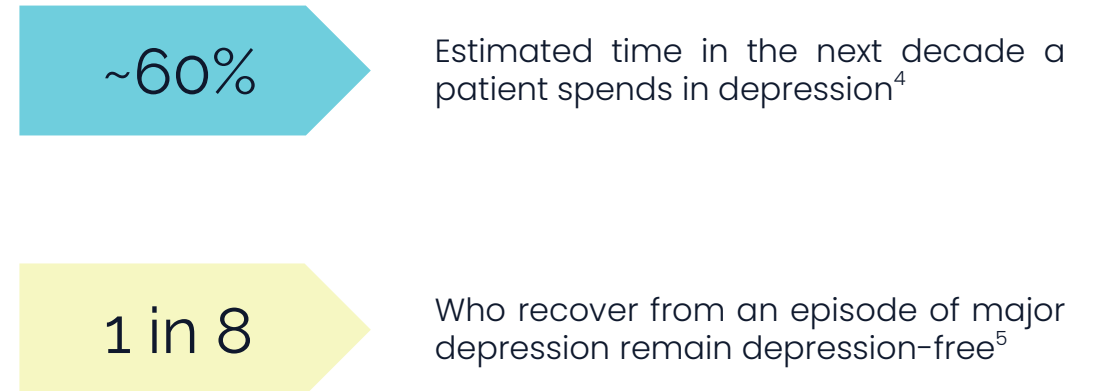
A major contributor to the global burden of disease with critical unmet need

## Global impact of depression



## Human impact of depression

**Major Depressive Disorder (“MDD”)** – a mental health disorder characterized by at least two weeks of pervasive low mood, low self-esteem, and loss of interest or pleasure in normally enjoyable activities.<sup>1</sup>



**Notes**

1. WHO (2021), Depression factsheet
2. Mental health matters (2020), The Lancet Global Health
3. American Association of Suicidology, 2014
4. Judd et al (1998) A Prospective 12-Year Study of Subsyndromal and Syndromal Depressive Symptoms in Unipolar Major Depressive Disorders
5. Mitchell (2006) Depressed patients and treatment adherence
6. Greenberg PE, Fournier AA, Sisitsky T, Simes M, Berman R, Koenigsberg SH, Kessler RC. The Economic Burden of Adults with Major Depressive Disorder in the United States (2010 and 2018), Pharmacoeconomics. 2021 Jun



# SPL026

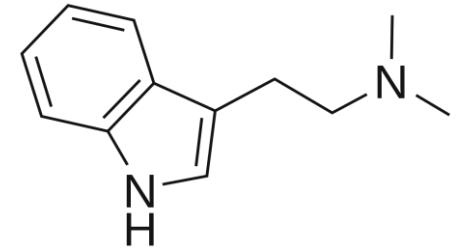
Chemical compound N,N, dimethyltryptamine (“DMT”) fumarate

Primary pharmacology 5-HT receptor agonist

Treatment protocol

- 1** SPL026
  - Proprietary synthetic formulation of DMT fumarate
  - Route: short intravenous (“IV”) infusion
- 2** Supportive psychological therapy
  - Includes both preparation and post-dosing integration sessions with licensed therapists

Treatment session: ~1¾ hrs to 2½ hrs

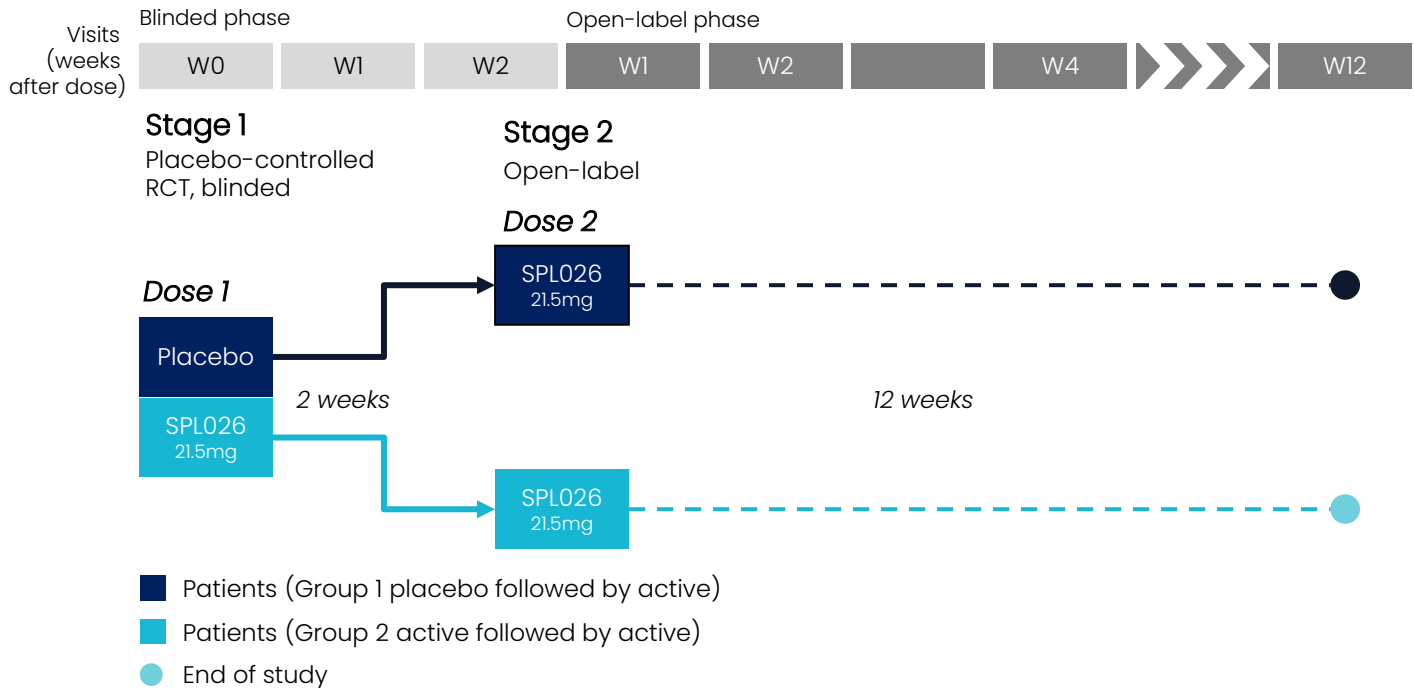


# Phase IIa trial design

Assessing the efficacy, safety and tolerability of IV SPL026 with supportive therapy for the treatment of MDD

**Patients** N=34  
 MDD patients (moderate/severe), HAMD ≥17  
 Not on antidepressant medication/willing to discontinue

**Status**  
 Completed Q4'22



## OVERVIEW OF STUDY

- Stage 1 : Blinded, randomized, placebo-controlled
- Stage 2: Open-label

## Treatment groups

- Group 1 (PA) – 1<sup>st</sup> dose: Placebo, 2<sup>nd</sup> dose: 21.5mg SPL026 (active)
- Group 2 (AA) – 1<sup>st</sup> & 2<sup>nd</sup> dose: 21.5mg SPL026
- Each treatment arm includes supportive therapy with each dose

## Primary endpoint

- Difference in MADRS change from baseline at Week 2 (SPL026 vs. placebo)

## Key secondary endpoint

- Efficacy as above at Week 1



**Note:** N = population number; HAMD = Hamilton Depression Rating Scale; MADRS = Montgomery-Asberg Depression Rating Scale; RCT = randomized controlled trial



TRIAL RESULTS



# Patient demographics and baseline characteristics<sup>1</sup>

	Placebo	21.5mg SPL026 (Active)	All subjects
	N=17	N=17	N=34
Age - Mean years (SD)	33 (9.7)	32 (8.6)	33 (9.0)
Gender: % Female	35%	24%	29%
Screening HAMD – Mean (SD)	19.5 (1.9)	18.8 (1.1)	19.2 (1.6)
Baseline MADRS – Mean (SD)	26 (7.3)	26 (6.1)	26 (6.6)
Duration of illness – Mean years (SD) <sup>2</sup>	13.0 (9.4)	7.7 (6.8)	10.4 (8.5)
# subjects treated who received open label dose 2	16	13	29



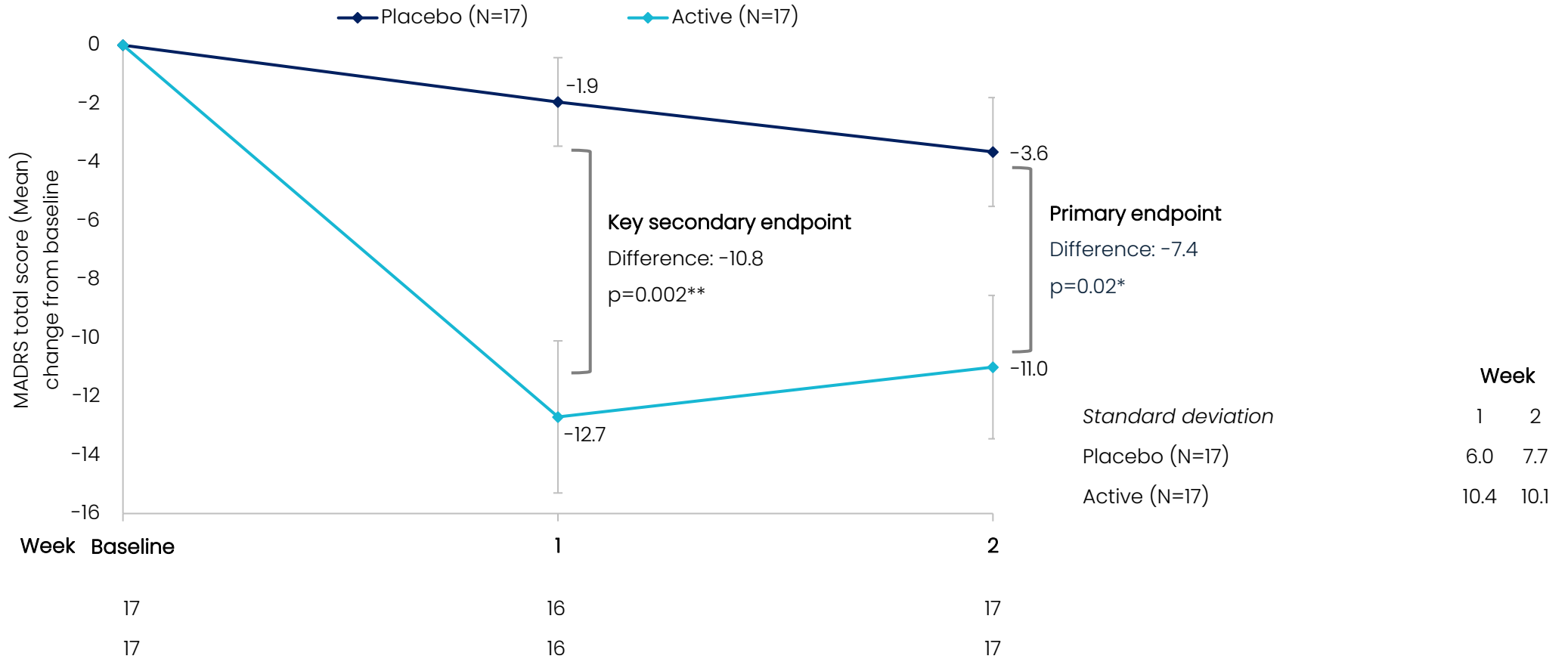
**Note:** SD = standard deviation; N = population number; HAMD = Hamilton Depression Rating Scale for Depression; MADRS = Montgomery-Asberg Depression Rating Scale

1. Refers to preliminary analysis of data

2. Number of years since initial diagnosis of MDD as per patients' medical records

# Primary endpoint

IV SPL026 with supportive therapy shows **statistically significant rapid-onset antidepressant effects** vs. placebo



n	Baseline	1	2
Placebo	17	16	17
Active	17	16	17

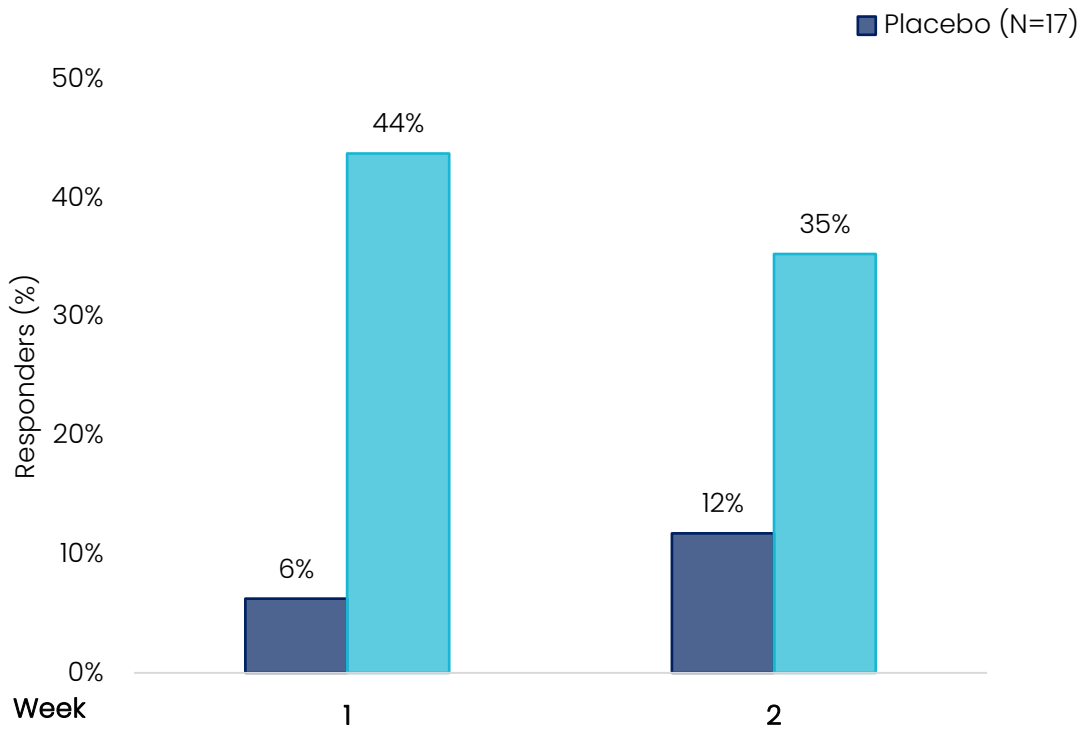


**Note:** Error bars represent Standard Error Mean (SEM); MADRS = Montgomery-Asberg Depression Rating Scale; n = number of datapoints; N = population number; p = p-value; \* = p<0.05; \*\* = p<0.01

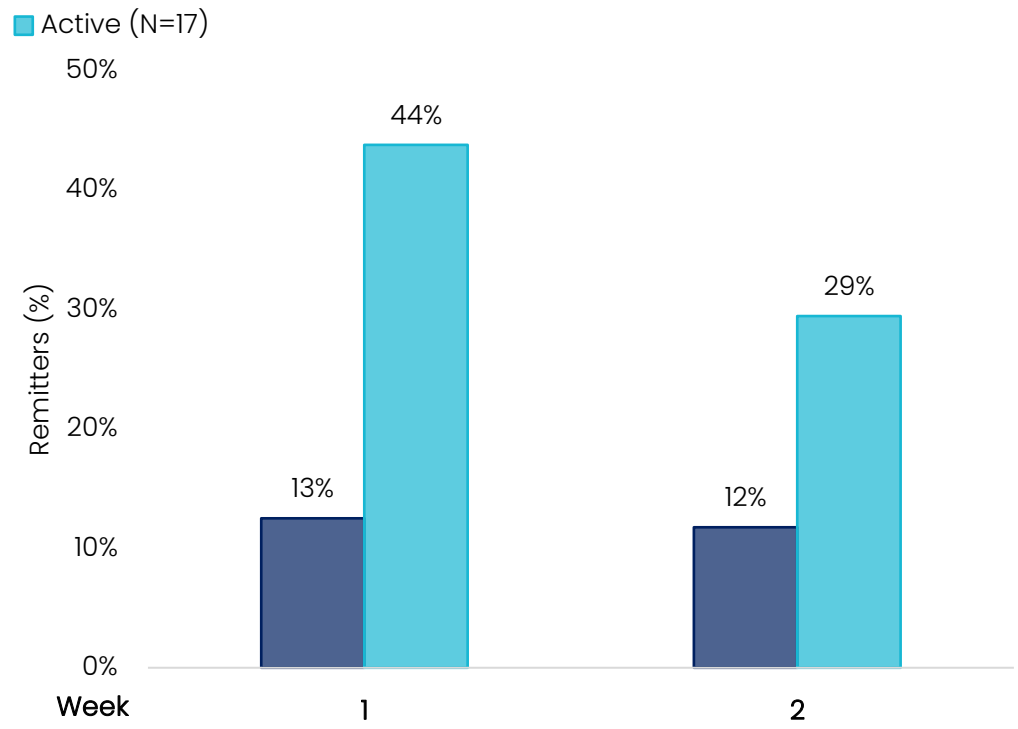
# Response & remission

**Rapid** response and remission of a single dose of IV SPL026 vs. placebo

Responders (%) ( $\geq 50\%$  MADRS reduction from baseline)



Remitters (%) (MADRS score  $\leq 10$ )




Responders (n)

16 16 17 17

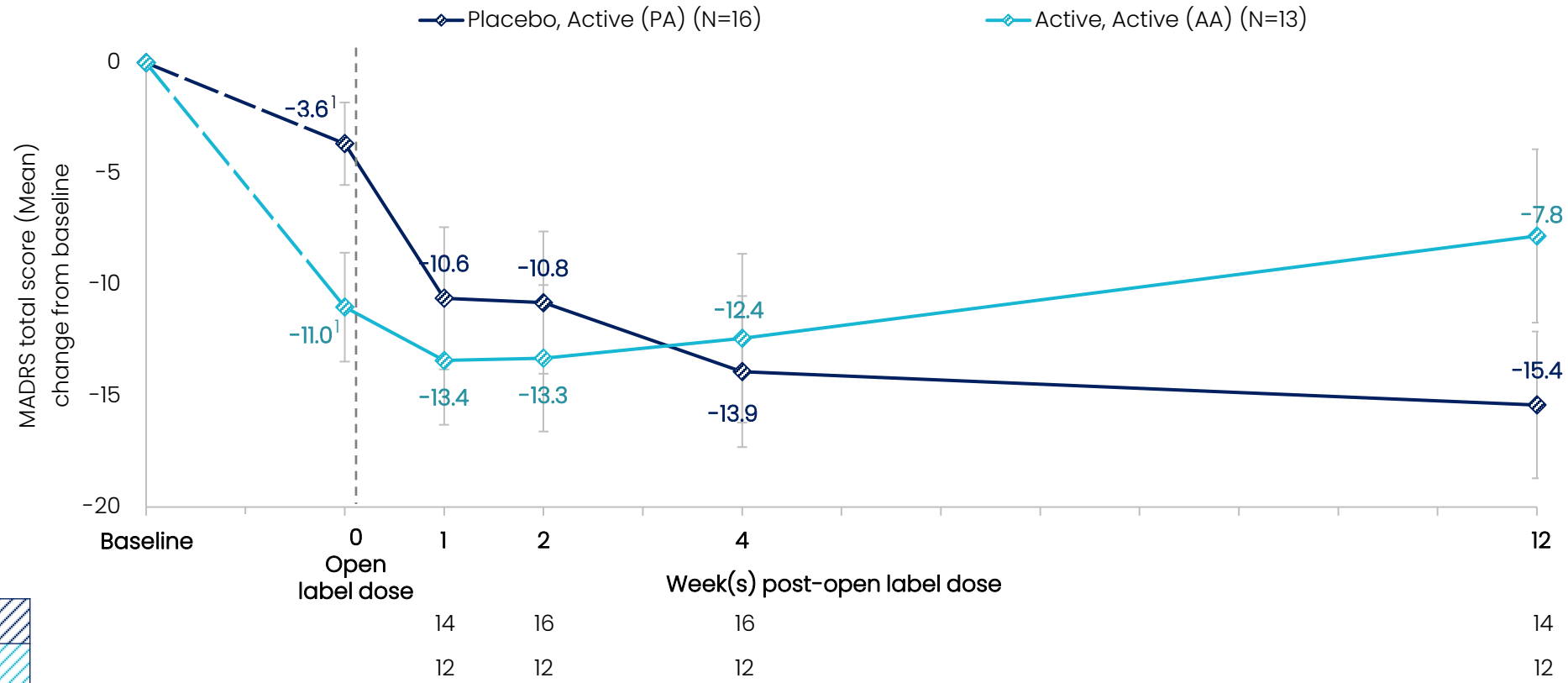
Remitters (n)

16 16 17 17

 **Note:** MADRS = Montgomery-Asberg Depression Rating Scale; n = number of datapoints; N = population number

# Change in MADRS over time

One and two dose regimens of IV SPL026 with supportive therapy show ***durable reduction in depression symptoms***



**Note:** Dashed lines on chart represent blinded phase. Lines are illustrative not representative of data in this phase; Error bars represent Standard Error Mean (SEM); MADRS = Montgomery-Asberg Depression Rating Scale; n = number of datapoints; N = population number

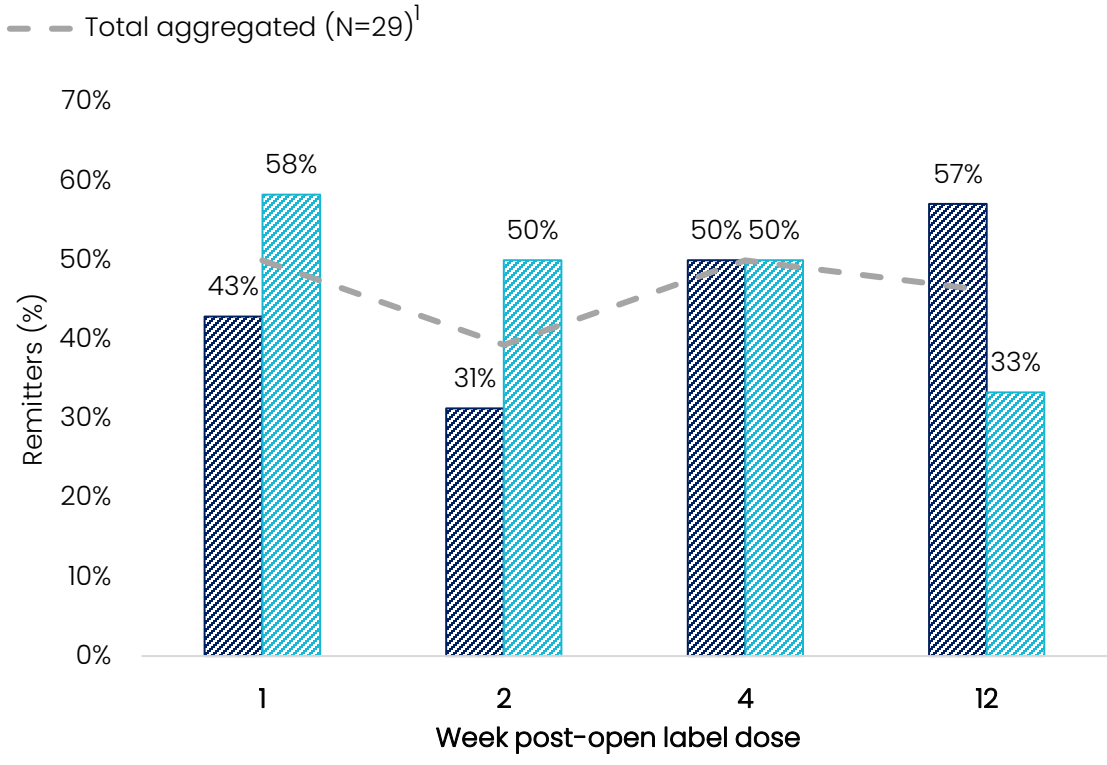
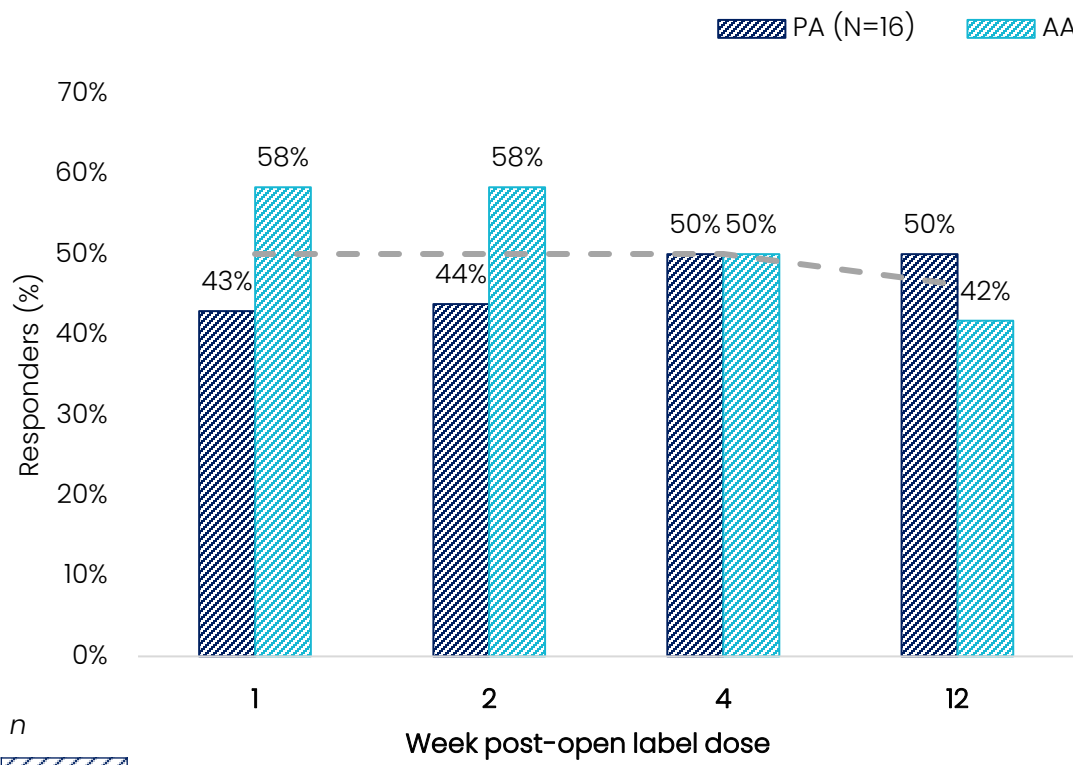
1. Represents Week 2 endpoint of both treatment groups in the blinded phase taken prior to receiving open label dose

# Response & remission

## **Durable** response and remission in one and two dose SPL026 regimens

Responders (%) ( $\geq 50\%$  MADRS reduction from baseline)

Remitters (%) (MADRS score  $\leq 10$ )



n	1	2	4	12
PA	14	16	16	14
AA	12	12	12	12



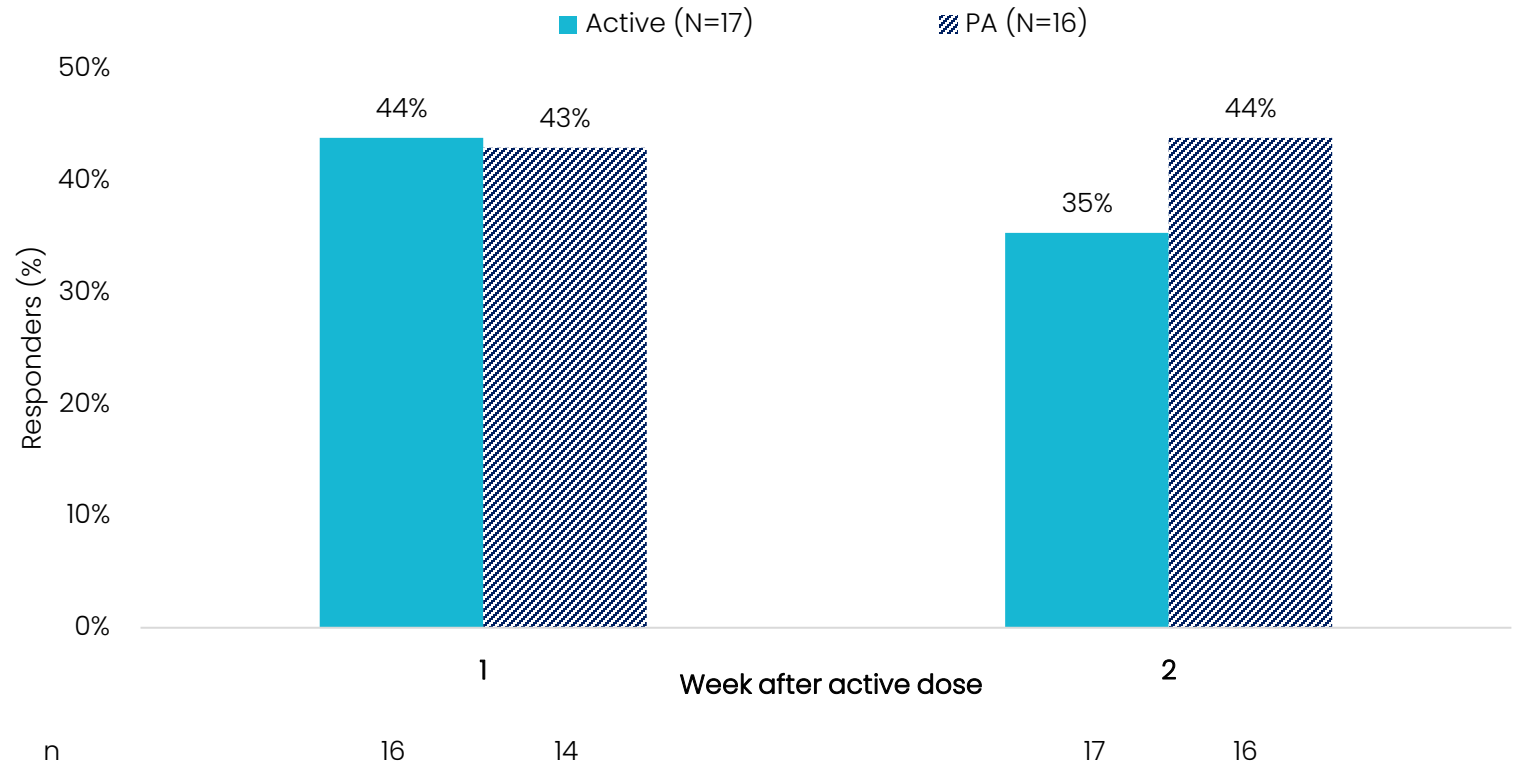
**Note:** PA = 1<sup>st</sup> dose: Placebo, 2<sup>nd</sup> dose: Active; AA – 1<sup>st</sup> & 2<sup>nd</sup> dose: Active; MADRS = Montgomery-Asberg Depression Rating Scale; n = number of datapoints; N = population number

1. Refers to mean aggregated outcomes of all patients receiving an active dose in the open label phase

# Response: Single dose comparison

**No apparent difference** in rapid onset antidepressant effects of a single SPL026 dose in the blinded and open label phases

The graph represents % responders at Week 1 and Week 2 in the group receiving a single blinded SPL026 dose (active) vs. the group receiving a single open label SPL026 dose following placebo (PA)



**Note:** PA = 1<sup>st</sup> dose: Placebo, 2<sup>nd</sup> dose: Active; n = number of datapoints; N = population number; Responder = ≥50% MADRS reduction from baseline

# Safety and adverse events<sup>1</sup>

**Favorable** safety and tolerability profile

- No drug-related Serious Adverse Events including suicidal ideation or behavior
- 100% of Adverse Events (“AEs”) deemed possibly related to treatment were mild to moderate in severity
- The most commonly reported AEs were infusion site pain or reaction, nausea and mild to moderate anxiety
- Majority of AEs (~80%) resolved during dosing visit
- No clinically significant safety concerns, including no concerns with vital signs, ECG or clinical laboratory findings in any treatment group

AEs possibly related to treatment	Blinded phase (to Day 14)		Total study
	Active	Placebo	All subjects
Infusion site pain or reaction	7	3	17
Musculoskeletal and connective tissue disorder	1		2
Nausea	3		6
Headache	1		2
Anxiety	2		5
Insomnia		1	3
Restlessness			2
Other <sup>2</sup>	5		10
<b>Total mild and moderate</b>	<b>19</b>	<b>4</b>	<b>47</b>
<b>Total severe</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total</b>	<b>19</b>	<b>4</b>	<b>47</b>



**Note:** AEs = Adverse Events; n = number of datapoints; N = population number

1. Refers to preliminary analysis of data

2. Refers to AEs incident possibly related to treatment equal to 1 and includes: disturbance in attention, paresthesia, pseudo-hallucination, hypertension, pallor, tinnitus, depression, patient dissatisfaction with treatment, night sweats, visual snow syndrome

# First placebo-controlled trial demonstrating efficacy of a short-duration psychedelic with supportive therapy in MDD

PHASE IIA MET PRIMARY ENDPOINT

- Primary endpoint met with a statistically significant -7.4 point difference between SPL026 (21.5mg) and placebo at two-weeks post-dose, as measured by MADRS change from baseline (p=0.02)

RAPID & DURABLE ANTIDEPRESSANT EFFECT

- Rapid onset antidepressant effects demonstrated at one-week post-dose with a statistically significant difference in MADRS of -10.8 versus placebo (p=0.002)
- Durable antidepressant effect with a 57% remission rate at 12-weeks following a single SPL026 dose<sup>1</sup> with supportive therapy
- No apparent differences identified in antidepressant effect between a one and two dose regimen of SPL026

FAVORABLE SAFETY PROFILE

- SPL026 data suggested a favorable safety profile and was well-tolerated
- No drug-related Serious Adverse Events
- 47 Adverse Events deemed possibly related to treatment, all reported to be mild or moderate, and majority resolved during dosing visit



**Note:** p = p-value; MADRS = Montgomery-Asberg Depression Rating Scale  
 1. Refers to 12-weeks following the open label dose





CONCLUDING  
REMARKS

# Multiple meaningful R&D catalysts expected in 2023

## Financial overview

Cash raised

~C\$63m

2021

Cash position

~C\$22.7m

Nov 22<sup>1</sup>

Common shares  
outstanding

321.6m

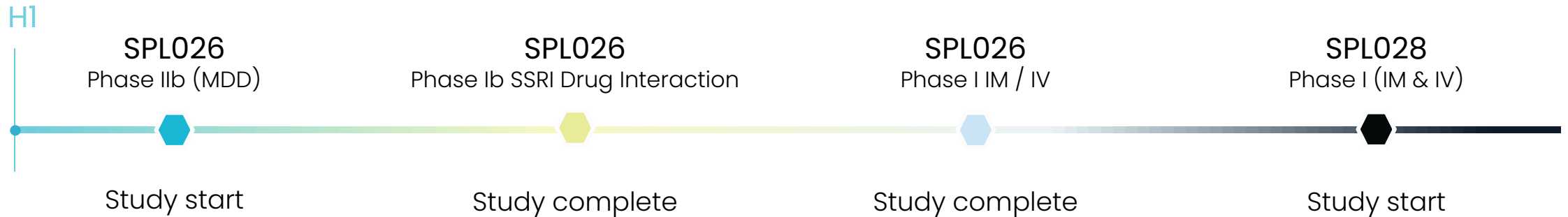
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Fully diluted shares  
outstanding

348.9m

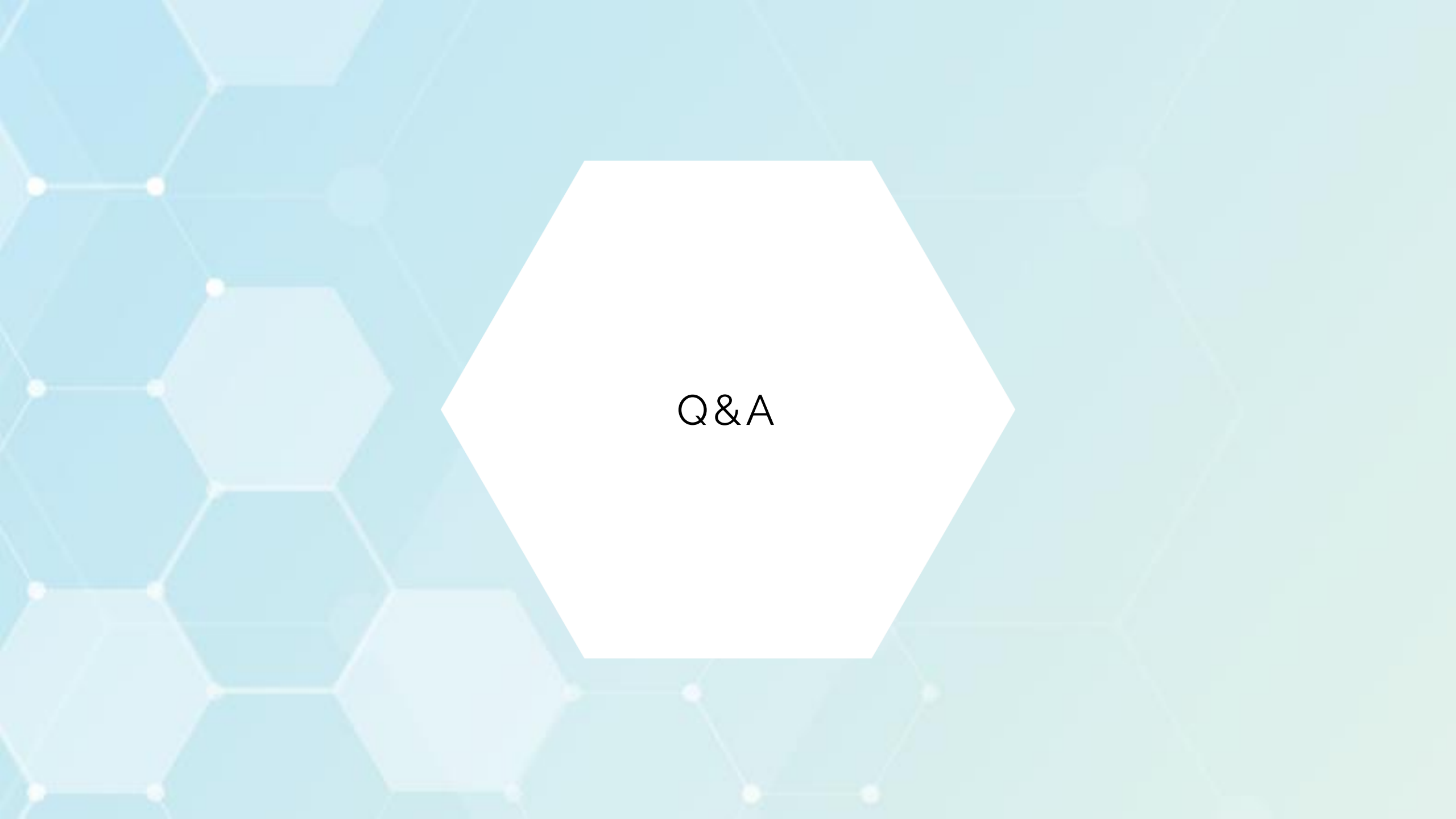
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## Expected key milestones in 2023<sup>2</sup>



### Note

1. Refers to latest quarterly results
2. Milestone timelines refer to calendar year



Q&A



THANK YOU