

Patient-Defined Goal Attainment and Progress in the PatientsLikeMe (PLM) Community: Insights From a Longitudinal, Quantitative, Decentralized Study Using the PLM Platform

Jeffrey Bispham,¹ Mary C. Burke,¹ Chris Blair,^{2*} Roger S. McIntyre,^{3,4} Mark Opler,⁵ Erlyn Macarayan,¹ Alina Karim,¹ Michael Martin,² Priscilla Driscoll Shempp,² Ian Robinson,² Maggie McCue,² Sagar V. Parikh⁶

¹PatientsLikeMe, LLC, Boston, MA, US; ²Takeda Pharmaceuticals U.S.A., Inc., Lexington, MA, US; ³Department of Psychiatry, University of Toronto and Centre for Addiction and Mental Health, Toronto, Canada; ⁴University Health Network, Mood Disorders Psychopharmacology Unit, Toronto, Canada; ⁵Clario, Inc., New York, NY, US;

⁶Department of Psychiatry, Michigan Medicine, University of Michigan, Ann Arbor, MI, US

*Presenting author

Poster 24

BACKGROUND

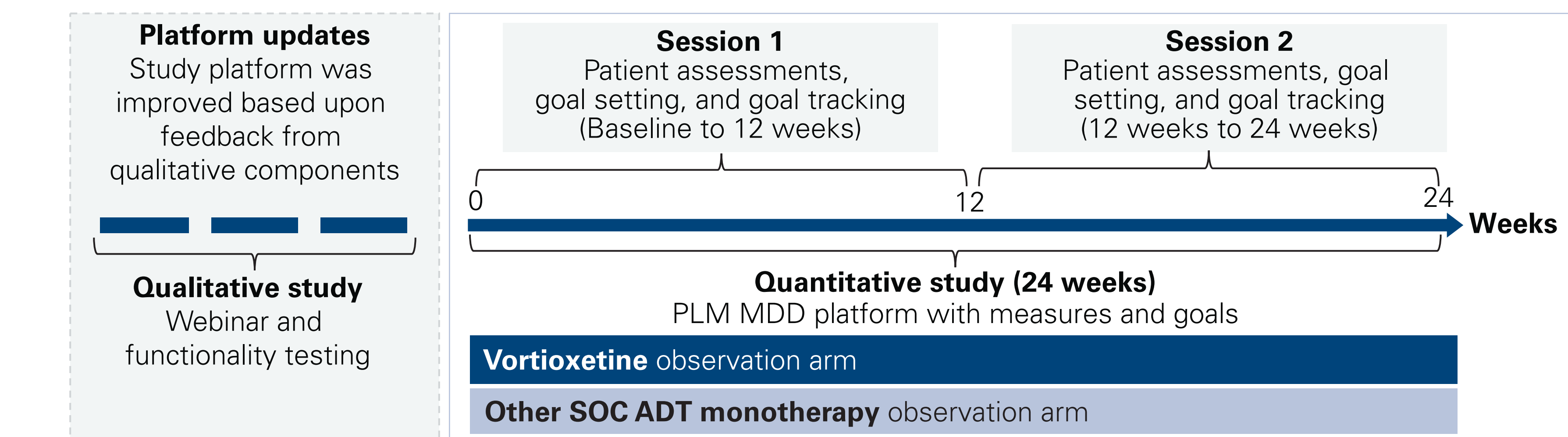
- Major depressive disorder (MDD) is a worldwide debilitating mental health disorder, yet a large proportion of patients taking antidepressant treatments (ADTs) continue to face challenges in responding to treatment or achieving long-term remission^{1,3}
- Effective communication between patients and their healthcare providers (HCPs) can have a positive influence on treatment adherence and patient satisfaction^{2,4}
- Goal setting can direct desirable behavioral changes and improve patient-provider engagement³
 - Recent studies suggest that progression toward treatment goals can improve patient-provider communication and patient retention, supporting positive long-term treatment outcomes^{5,6}
- PatientsLikeMe (PLM) is a web-based interactive digital health platform powered by patients that facilitates a peer-to-peer community helping patients with MDD to receive insights and education on their condition and treatment options⁷
- A recent prospective, decentralized, observational, patient-centric, real-world study conducted with the PLM online community was designed to understand the treatment experience and empower patient care in patients with MDD who had recently started or switched to vortioxetine or standard of care (SOC) ADTs^{3,9}
 - Although both treatment groups reported improved global impression of improvement after 12 weeks of ADT, long-term treatment (24 weeks or more) with vortioxetine was associated with significantly higher remission rates and greater increases in global impression, quality of life, and life satisfaction compared with the other SOC ADT monotherapy group^{7,8}
- Here we present secondary outcomes from this study on goal attainment and patient engagement during the 6-month study

METHODS

Study Design

- This longitudinal, decentralized, observational, prospective, patient-centric, quantitative study enrolled US-based adults with MDD from the PLM online community who had a recent ADT start or switch
- Participants were enrolled in a 1:2 ratio of vortioxetine to other SOC monotherapy ADTs
- Participants completed surveys at baseline, week 12, and week 24. Session 1 covered the period from baseline to week 12 and session 2 covered week 12 to week 24 (**Figure 1**)
- Retention strategies included multiple touch point reminders, such as e-mail communication for goal setting and tracking purposes, personalized messages, and timely responses to support questions throughout the survey
 - Patient community content also included educational articles, posts or discussions, and support resources as needed

Figure 1. Study Design⁷



ADT, antidepressant treatment; MDD, major depressive disorder; PLM, PatientsLikeMe; SOC, standard of care.

Eligibility Criteria

- Enrolled participants were US adults (aged ≥18 years) with a confirmed diagnosis of MDD who were current members of the PLM platform and had a recent start or switch in monotherapy ADT in the last 180 days and a Patient Health Questionnaire-9 (PHQ-9) score of ≥5
- Patients with a reported diagnosis of bipolar depression, schizophrenia, schizoaffective disorder, or post-traumatic stress disorder were excluded

Study Outcomes

- The primary endpoint of the quantitative study was to assess response at week 12 according to overall Patient Global Impression of Improvement (PGI-I) scores <2; these results have already been reported^{8,9}
- Key secondary endpoints included patient-reported measures (PGI-I, 5-item Perceived Deficits Questionnaire–Depression [PDQ-D5], 5-item World Health Organization Well-Being Index [WHO-5], Quality of Life Enjoyment and Satisfaction Questionnaire–Short Form [Q-LES-Q-SF], PHQ-9, and Connor-Davidson Resilience Scale 10-item [CD-RISC-10] scores) and goal attainment score comparisons between vortioxetine and other SOC ADTs using the Goal Attainment Score for Depression (GAS-D; ©2017 Takeda Pharmaceuticals U.S.A., Inc. All rights reserved.) approach
 - Participants were asked to set up to 3 SMART (specific, measurable, achievable, realistic, and time-bound) goals using the GAS-D approach for two 12-week periods
 - A formal GAS-D approach includes shared decision-making with HCPs and patients to set goals^{3,4}
 - Participants in this study could have recorded goals that were established through shared decision-making with their HCP
 - Weekly tracking of goals and participation was recorded as goal engagement

Statistical Analysis

- Patient characteristics, treatments, and continuous variables were summarized using descriptive statistics
- All comparisons between groups were performed using the Mann-Whitney U test, and data analysis was performed by PLM using Python software

RESULTS

Baseline Demographics

- A total of 503 participants were enrolled
- Participants reflected a diverse population (38% non-White; **Table 1**)
- The majority of participants were educated at the graduate or bachelor's degree level and employed

Table 1. Participant Demographic Characteristics

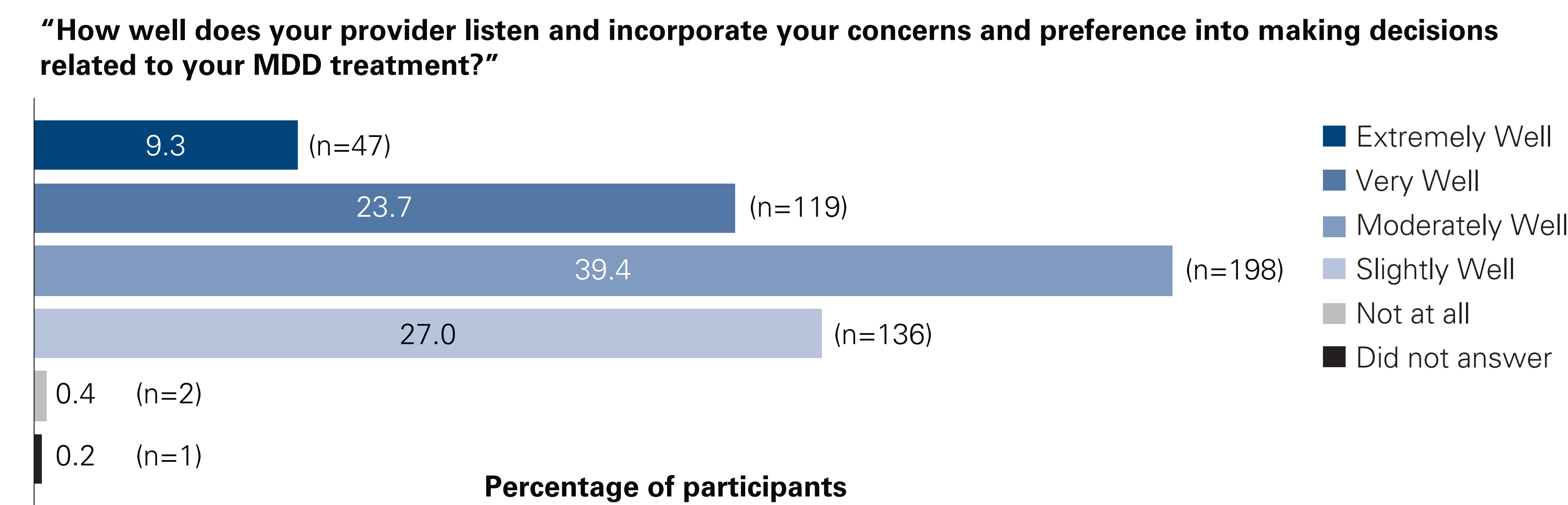
Characteristics	Vortioxetine group (n=151)	Other SOC ADT monotherapy group (n=352)	All participants (N=503)
Age, mean (SD), y	46.9 (9.9)	47.6 (8.9)	47.4 (9.2)
Sex, n (%)			
Female	87 (57.6)	207 (58.8)	294 (58.4)
Male	64 (42.4)	145 (41.2)	208 (41.6)
Race or ethnicity, n (%)			
White	92 (60.9)	222 (63.1)	314 (62.4)
Black or African American	28 (18.5)	75 (21.3)	103 (20.5)
Native American or Alaskan	14 (9.3)	21 (6.0)	35 (7.0)
Native Hawaiian or Pacific Islander	11 (7.3)	9 (2.6)	20 (4.0)
Mixed race	5 (3.3)	14 (4.0)	19 (3.8)
Asian	1 (0.7)	3 (0.9)	4 (0.8)
Prefer not to answer	0	8 (2.3)	8 (1.6)
Education, n (%)			
Graduate or professional degree	91 (60.3)	180 (51.1)	271 (53.9)
Bachelor's degree	53 (35.1)	151 (42.9)	204 (40.6)
Employment, n (%)			
Employed, working full-time	98 (64.9)	214 (60.8)	312 (62.0)
Employed, working part-time	31 (20.5)	73 (20.7)	104 (20.7)
Not employed, and not looking for work	10 (6.6)	31 (8.8)	41 (8.2)

ADT, antidepressant treatment; SOC, standard of care; y, years.

Participant Experience in Goal Setting

- Overall, more than half of participants discussed setting goals for their MDD treatment with their HCP; 33% of participants had personal health goals and approximately half of those were created with the support of their HCP
 - At session 1, 56% responded “Yes” in response to “Have you and your doctor ever discussed setting goals for your MDD treatment?”
 - Similarly, at the start of session 2, 61% responded “Yes” in response to “Did you get a chance to talk to your doctor about setting goals for your MDD treatment?”
 - Furthermore, nearly half of participants reported developing goals with their HCP
 - At session 1, 53% indicated they created their goals in response to “Were your health goals created with the help of your healthcare provider?”
 - At session 2, 49% reported they received guidance in response to “Did you receive any guidance from your healthcare provider with regards to goal setting?”
- However, participants had mixed opinions about their HCP's participation in making treatment decisions, with only one-third reporting that their HCP listened to or incorporated their concerns about treatment decisions “extremely” or “very” well (**Figure 2**)

Figure 2. Proportion of Participant Responses to Provider Participation in Making Treatment Decisions

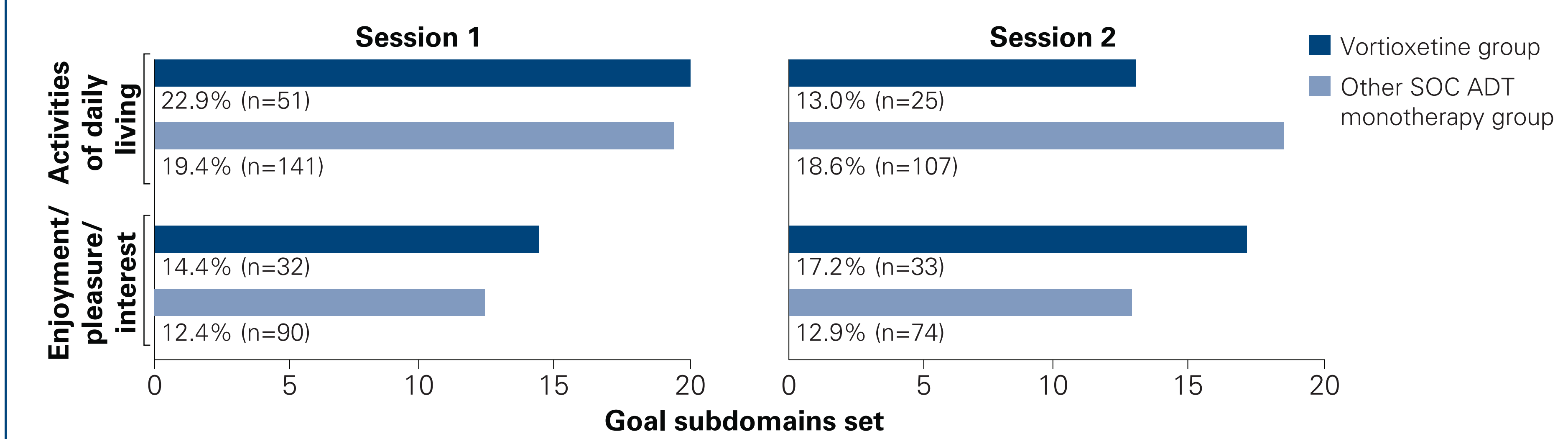


MDD, major depressive disorder.

Goal Domains and Subdomains

- Nearly all participants, 99% (n=499/503) of participants from session 1 and 97% (n=486/503) of participants from session 2, set at least 1 goal
- The highest number of goals were set in the physical well-being/function domain (session 1: 45.7%; session 2: 46.7%) followed by emotional well-being (session 1: 22.4%; session 2: 23.5%)
 - The top 2 most common subdomains selected by participants of both groups for goals were “Activities of daily living” and “Enjoyment/pleasure/interest” (**Figure 3**)
 - In session 2, cognitive goals were the most achieved goal domain in the vortioxetine group (44.4%)

Figure 3. Most Common Goal Subdomains Set Across Sessions 1 and 2

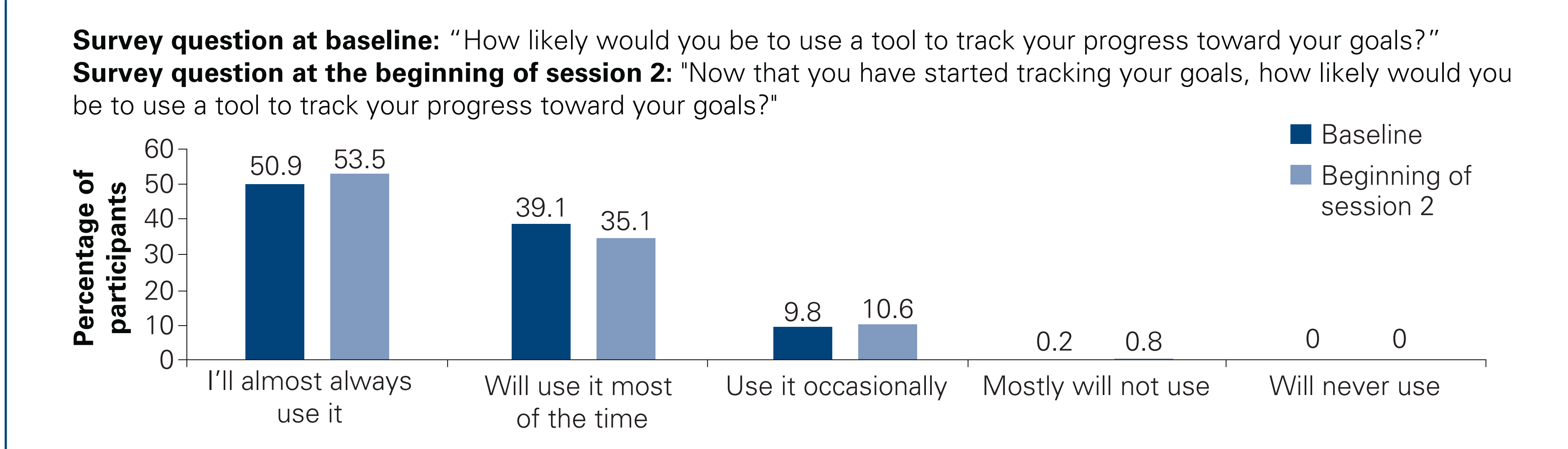


ADT, antidepressant treatment; SOC, standard of care.

Goal Tracking

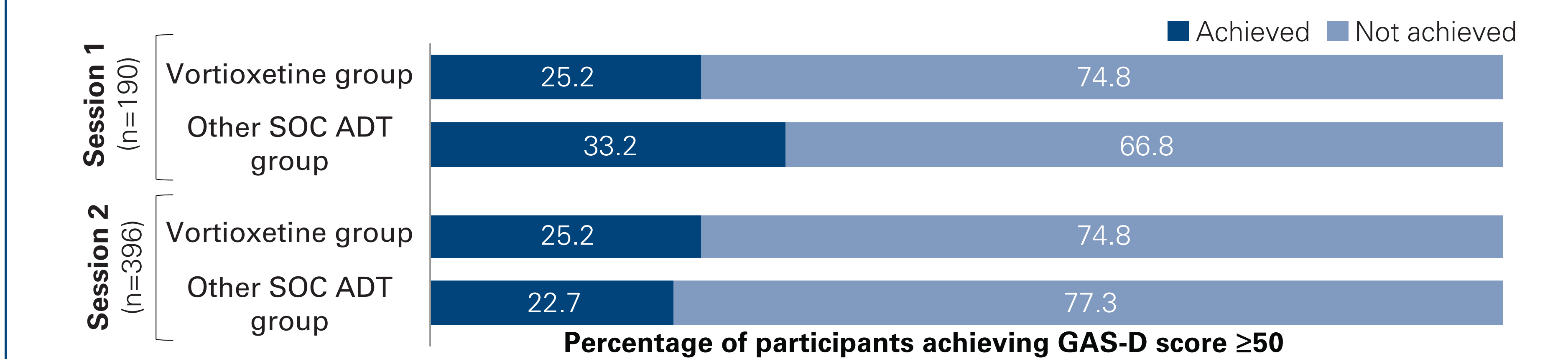
- Goal tracking engagement is defined as the percentage of weeks tracked of the total possible by each participant
- At baseline, ~90% of participants were willing to use a goal-tracking tool (**Figure 4**); 56% preferred an electronic way of tracking progress toward goals, 87% preferred using mobile apps, and only 16% preferred paper diaries
 - There were few differences in reported interest in goal-tracking tools between baseline and at the beginning of session 2

Figure 4. Likelihood of Using a Tool to Track Goal Progress



- 317 participants at session 1 and 396 participants at session 2 completed tracking at least 1 goal over 12 weeks
 - At session 1, 79.8% of vortioxetine users (n=148) showed numerically higher goal-tracking engagement compared with 71.3% of other SOC ADT users (n=351). At session 2, this engagement was statistically significant, with 81.4% of vortioxetine users (n=142) tracking their weekly goals compared with 65.4% of other SOC ADT users (n=344) ($P < 0.001$)
 - Overall, participants in this study were highly engaged in tracking their goals, with over 70% of weeks tracked on average within the initial 12 weeks
- No statistically significant difference was observed in the overall GAS-D achievement scores between groups in either session ($P=0.05$ for session 1 and $P=0.44$ for session 2)
 - A total of 190 participants from the other SOC ADT monotherapy group and 127 participants from the vortioxetine group completed 12 weeks of tracking in session 1
 - Of those who completed tracking goals in session 1, 33.2% (n=63/190) of participants in the other SOC ADT monotherapy group and 25.2% (n=32/127) in the vortioxetine group achieved a GAS-D score of ≥50
 - Conversely, among participants who completed 12 weeks of goal tracking at session 2, 25.2% (n=30/119) of participants in the vortioxetine group and 22.7% (n=63/277) in the other SOC ADT group achieved a GAS-D score of ≥50 (**Figure 5**)

Figure 5. Overall GAS-D Achieved (Week 12 Completed)



ADT, antidepressant treatment; GAS-D, Goal Attainment Score for Depression; SOC, standard of care.

GAS-D Scores Correlation

- In session 1, changes in the GAS-D goal score were found to have a statistically significant correlation with resilience (CD-RISC-10, $P < 0.001$), perceived cognitive difficulties (PDQ-D5, $P < 0.001$), depression severity (PHQ-9, $P < 0.001$), and impression of improvement (PGI-I, $P < 0.05$); outcomes improved as goal scores increased (**Table 2**)
- In session 2, changes in the GAS-D goal score were found to have a statistically significant correlation with week 18 and week 24 PHQ-9 score ($P < 0.01$) and Q-LES-Q-SF score ($P < 0.05$), with higher goal score correlated with better outcomes (**Table 2**)

Table 2. Correlation Between PRO Scale Change and GAS-D Change

Week 12 PRO score change correlation with GAS-D change score – Session 1					Week 24 PRO score change correlation with GAS-D change score – Session 2				
Variable vs GAS-D	Statistic (p)	P value	n	Significance	Variable vs GAS-D	Statistic (p)	P value	n	Significance
PHQ-9	−0.30	<0.001	305	***	PHQ-9 at W18	−0.15	<0.01	392	**
PGI-I	−0.13	0.02	305	*	PGI-I	0.05	0.34	395	NS
WHO-5	−0.09	0.11	305	NS	WHO-5	−0.09	0.06	395	NS
PDQ-D-5	−0.20	<0.001	305	***	PDQ-D-5	0.01	0.86	395	NS
Q-LES-Q-SF	−0.07	0.22	305	NS	Q-LES-Q-SF	−0.12	0.02	395	*
					PHQ-9	−0.16	<0.01	395	**
CD-RISC	0.22	<0.001	303	***	CD-RISC	−0.07	0.15	394	NS

* $P < 0.05$, ** $P < 0.01$, *** $P < 0.001$, p=Spearman's rank correlation coefficient.

CD-RISC, Connor-Davidson Resilience Scale; GAS-D, Goal Attainment Score for Depression; NS, not statistically significant; PDQ-D-5, Perceived Deficits Questionnaire–Depression 5-item; PGI-I, Patient Global Impression of Improvement; PHQ-9, Patient Health Questionnaire-9; PRO, patient-reported outcome; Q-LES-Q-SF, Quality of Life Enjoyment and Satisfaction Questionnaire – Short Form; W18, week 18; WHO-5, World Health Organization 5-item Well-Being Index.

Retention Rate

- Retention rates in the study remained high: 95% of participants continued to complete responses at week 12 and 90% at week 24

CONCLUSIONS

- Goal setting by patients collaborating with clinicians is feasible, sustainable, and linked not only with reduction in depression severity but also with resilience, cognitive improvements, and quality of life enhancements
- Patients receiving MDD treatment highly value setting and actively tracking progress toward treatment-related healthcare goals with the potential to enhance shared decision-making and improve clinical outcomes⁷
- The diverse population and high engagement in this decentralized longitudinal study underscores the role of community in understanding patient experiences and informing care models
- To the best of our knowledge, this is the first study where patients set and tracked goals on their own according to the GAS-D approach, not in close collaboration with an HCP, suggesting that participants were independently monitoring their progress
- Progress on goals as measured by GAS-D was significantly associated with lower depression severity and greater life satisfaction and enjoyment during this 6-month, real-world study with an exceptionally high retention rate
- These findings highlight an opportunity to enhance measurement-based care and shared decision-making through goal setting via use of online communities, patient-provider communication, and digital tools to advance patient-centered research and support the clinical relevance of patient-defined goals in MDD

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DISCLOSURES

MCB, EM, JB, and AK are employees of PatientsLikeMe, LLC. MO is an employee of MedAvante ProPhase. CB, M Martin, PDS, IR, and M McCue are employees of Takeda Pharmaceuticals U.S.A., Inc. SVP has received research grant support from Alfreid, Compass, Janssen, and Sage; speaker fees/honoraria from Otsuka; stock ownership/equity interests from Mensante; and consultant/advisory fees for Alfreid, Boehringer Ingelheim, Mensante, and Otsuka. RSM has received research grant support from CIBR/GACD/National Natural Science Foundation of China and the Milken Institute; speaker/consultation fees from Lundbeck, Janssen, Johnson & Johnson, Alkermes, Neumora Therapeutics, Boehringer Ingelheim, Bristol Myers Squibb, Sage, Mitsubishi Tanabe, Purdue, Pfizer, Otsuka, Takeda, MindMed, Neurocrine, Neurawell, Supernus, Bausch Health, Axsome, Novo Nordisk, Kris, Sanofi, Eisai, Intra-Cellular, NewBridge Pharmaceuticals, Viatrix, AbbVie, and Atai Life Sciences.

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