

SEQUENTIAL VIRTUAL PATIENT SIMULATIONS REINFORCE AND IMPROVE PSYCHIATRISTS' PERFORMANCE IN MDD CARE

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STUDY OBJECTIVES

- We have previously shown that physician participation in online continuing medical education (CME) presented as a virtual patient simulation (VPS) can improve assessment of severity, diagnosis, and evidence-based treatment decisions for patients with MDD.¹
- The goal of this study was to assess the effects of exposure to multiple online VPS interventions on psychiatrists' performance in MDD management.

METHODS

- Two CME activities on MDD (VPS1 and VPS2)—each consisting of 2 patient cases—were made available to psychiatrists online on a website dedicated to continuing professional development.
- The interactive VPS-based learning platform offered simulated clinical care experience with complete freedom of choice in clinical decision making matching the scope of actual practice.
- Following VPS-based interactions in patient cases, psychiatrists made open-ended clinical decisions regarding assessments, diagnoses, pharmacologic therapies, and nonpharmacologic orders, such as consults and referrals.

FIGURE 1: VPS1 Images

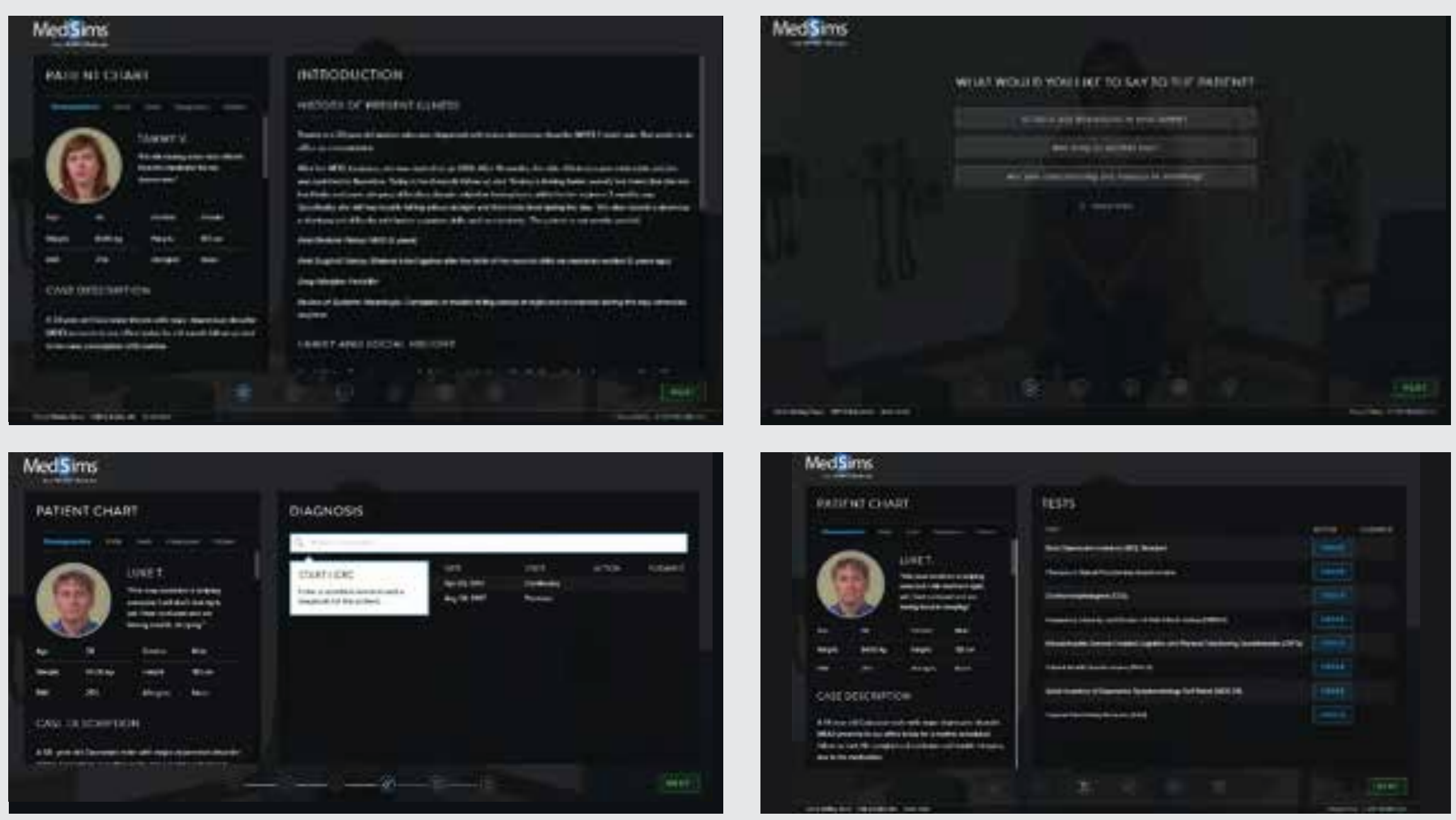
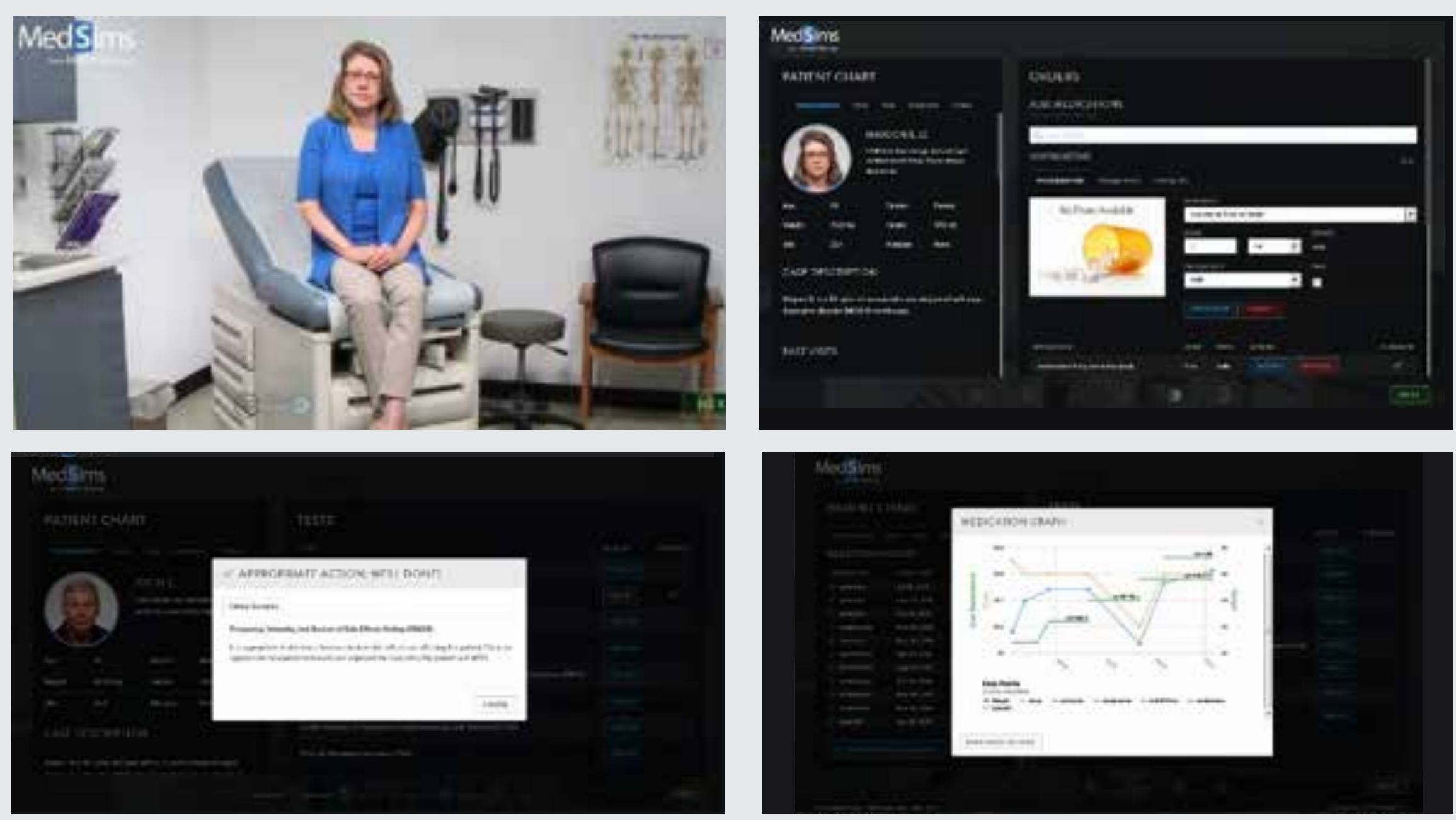
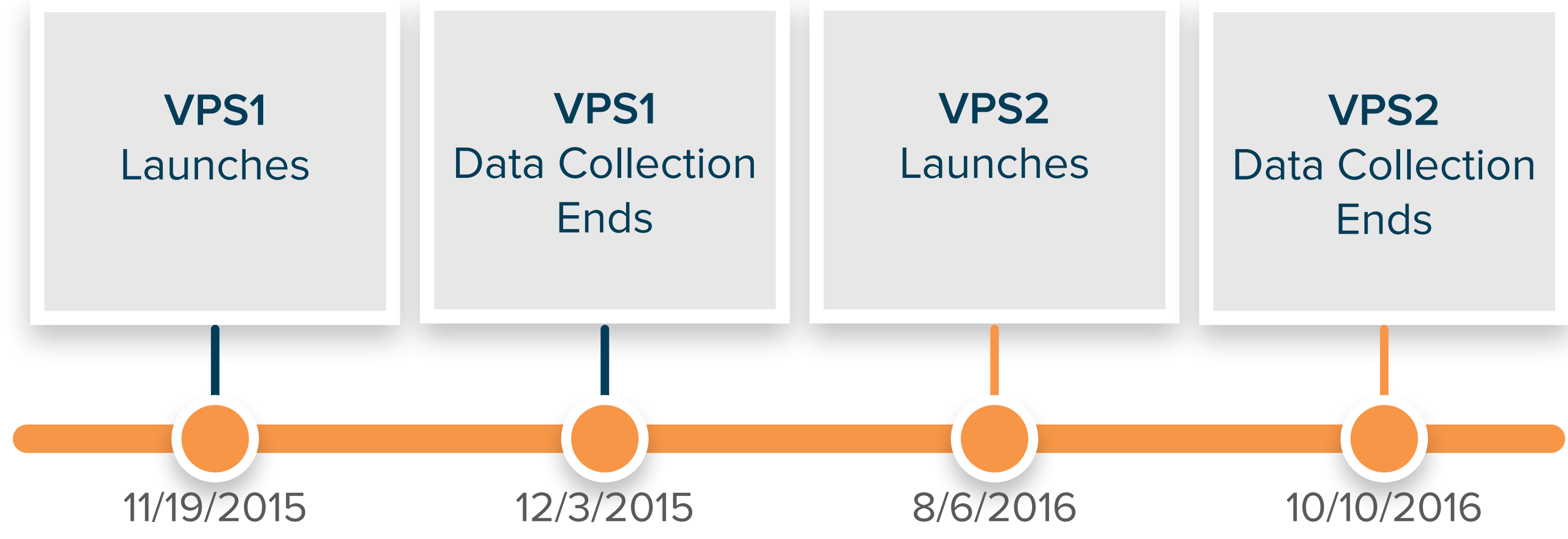


FIGURE 2: VPS2 Images



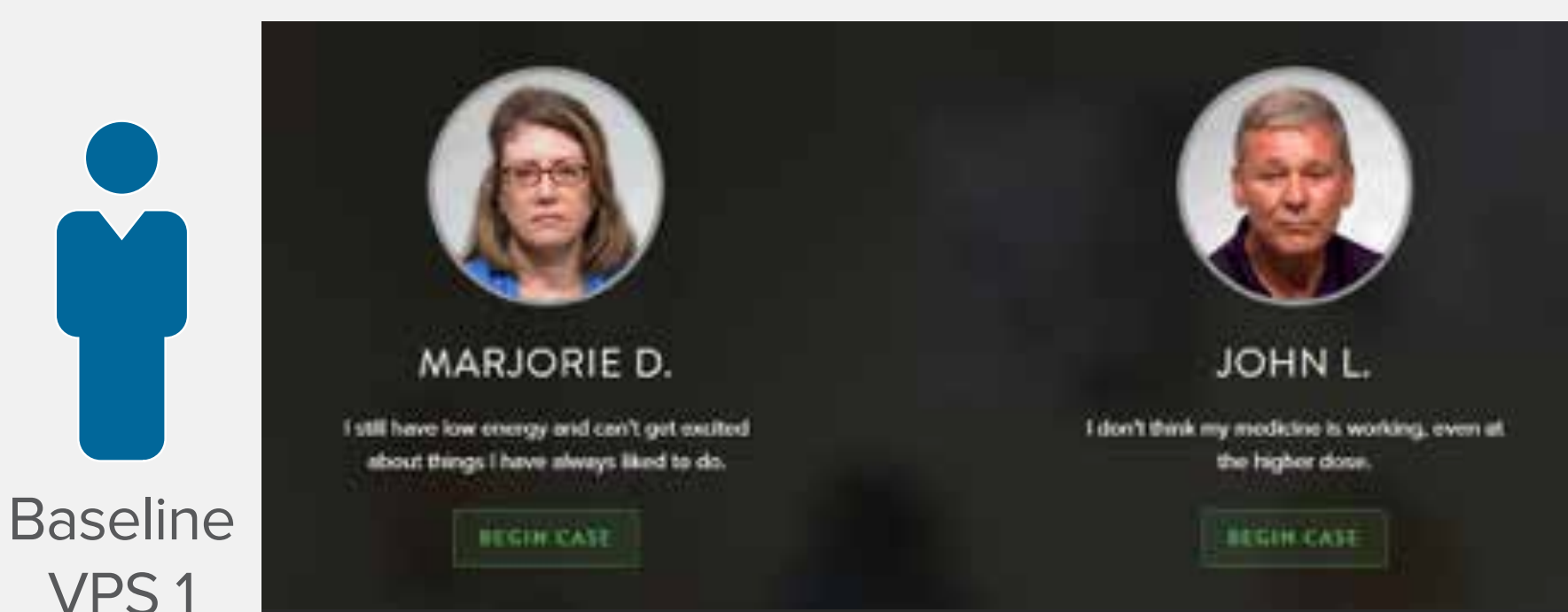
DATA COLLECTION (FIGURES 1 & 2)



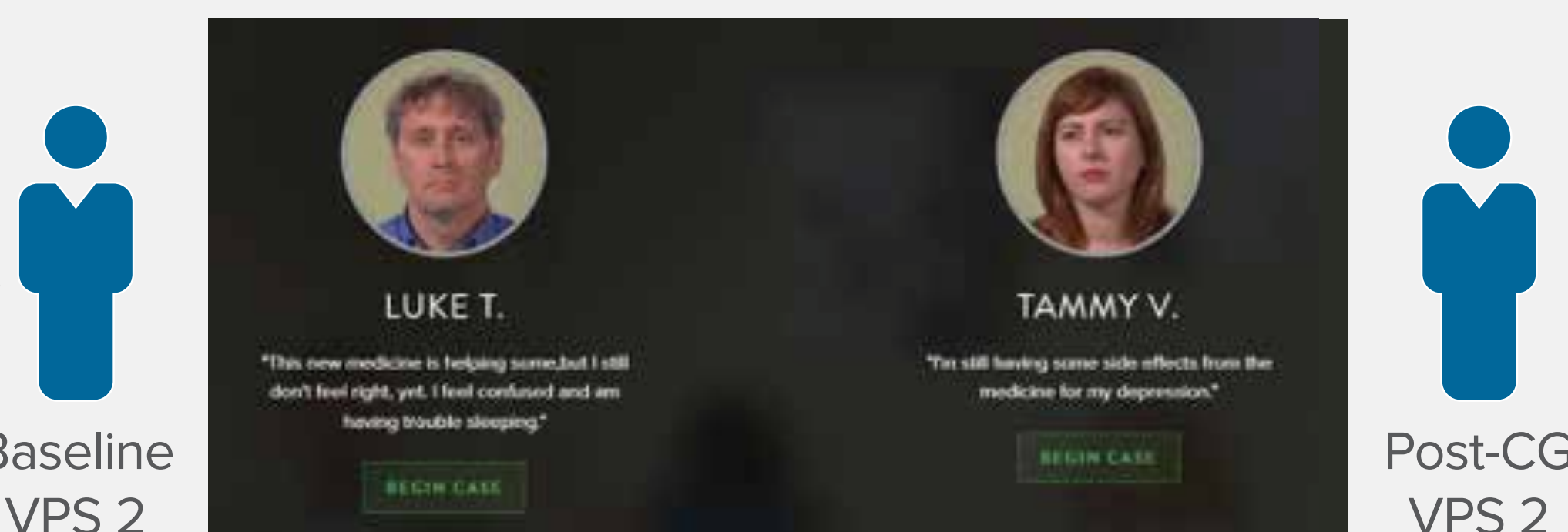
ANALYSIS

- The clinical decisions were analyzed using a sophisticated decision engine, and tailored clinical guidance (CG) based on current evidence-based recommendations was provided in response to each learner's clinical decisions.
- The performance of psychiatrists who participated in both VPS activities was compared at various points in the simulation: baseline VPS1, post-CG VPS1, baseline VPS2, and post-CG VPS2.
- Statistics: 2-tailed, paired-proportions tests, where $P < .05$ was considered statistically significant.

VPS1 PERFORMANCE—CLINICAL GUIDANCE



VPS2 PERFORMANCE—CLINICAL GUIDANCE



ANALYSIS PLAN

01

02

03

Reference

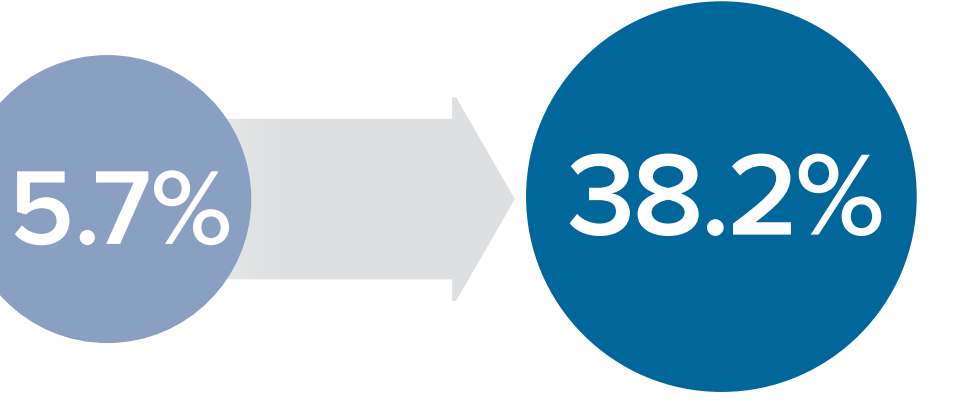
1. Lubarda J, Braun R, Thase M. Improving management of major depressive disorder through virtual patient simulation. Presented at: Neuroscience Education Institute Pharmacology Conference, Colorado Springs, CO; November 3-6, 2016. Abstract From: <http://img.medscapestatic.com/pi/edu/qrcode/posters/improving-management-of-mdd-through-virtual-patient-simulation.pdf>

RESULTS

FROM BASELINE PERFORMANCE IN VPS1 TO THE BASELINE PERFORMANCE IN THE VPS2 (1 ABOVE), psychiatrists (n=32) were more likely to make evidence-based clinical decisions related to:

- Evaluating and prescribing appropriate MDD therapies based on patient presentation during a clinical visit, which improved from 5.7% to 38.2%, $P < .05$

MDD THERAPIES IMPROVED

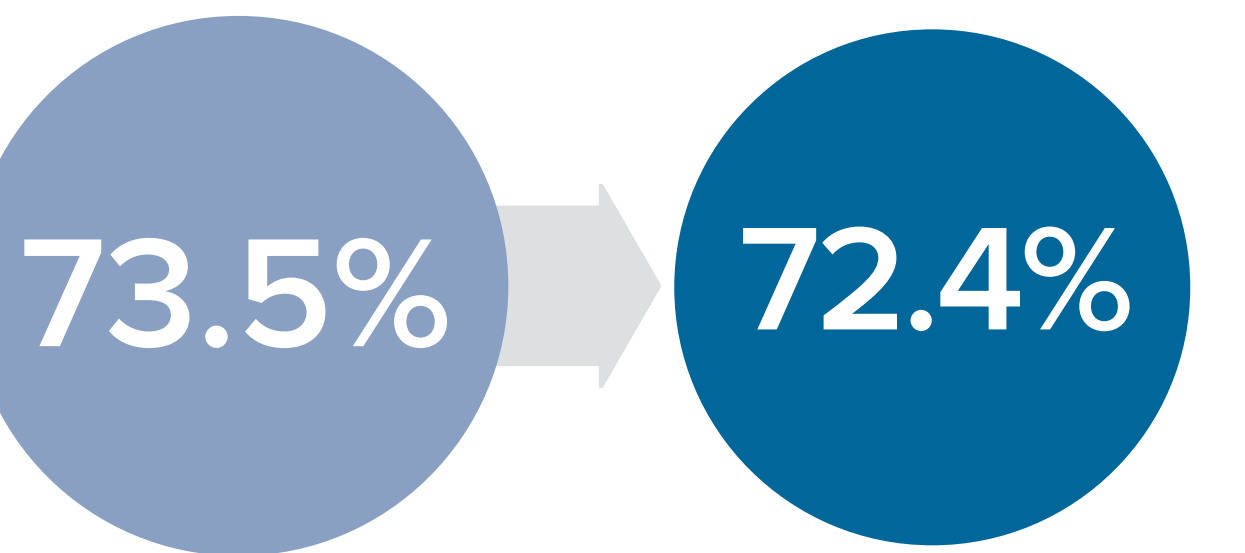


$P < .05$

FROM POST-CG IN THE VPS1 TO THE BASELINE PERFORMANCE IN THE VPS2 (2 ABOVE), psychiatrists (n=32) were more likely to make evidence-based clinical decisions related to:

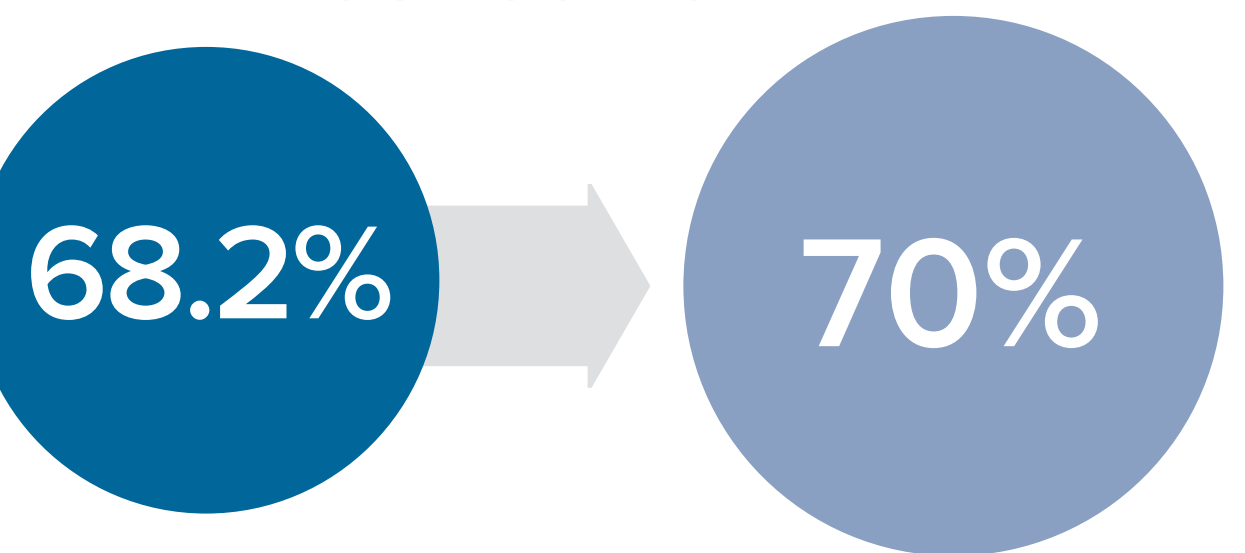
- Ordering appropriate tests to evaluate a patient's response to MDD therapies and determining the presence of adverse events, which were 73.5% and 72.4%, respectively, $P = .54$
- Ordering appropriate nonpharmacologic referrals and consults for patients who present with MDD, which were 68.2% and 70%, respectively, $P = .44$

TESTS



$P = .54$

REFERRALS AND CONSULTS

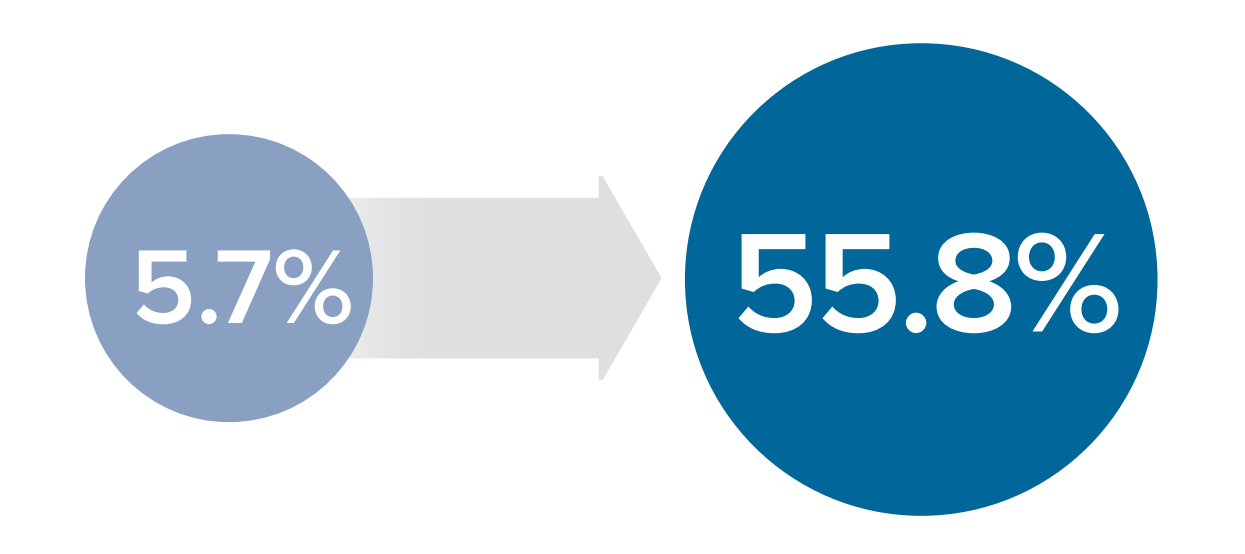


$P = .44$

FROM POST-CG IN THE VPS1 TO POST-CG IN THE VPS2 (3 ABOVE), psychiatrists (n=32) improved performance in making evidence-based clinical decisions related to:

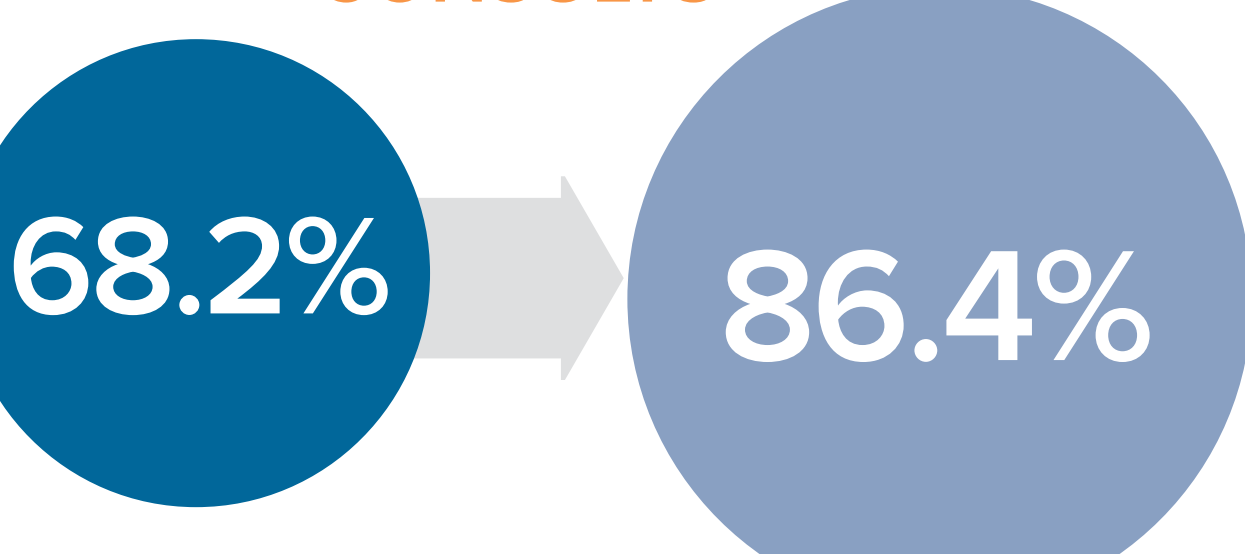
- Evaluating and prescribing appropriate MDD therapies based on patient presentation during a clinical visit, which improved from 5.7% to 55.8%, $P < .05$.
- Ordering appropriate nonpharmacologic referrals and consults for patients who present with MDD, which were 68.2% and 86.4%, respectively, $P < .05$

MDD THERAPIES



$P < .05$

REFERRALS AND CONSULTS



$P < .05$

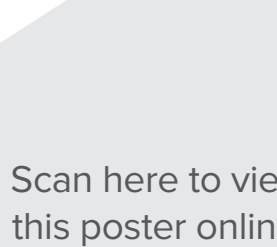
CONCLUSIONS

Incremental exposure of psychiatrists to online CME in case-based interactive VPS formats resulted in retention and improvement of performance in crucial aspects of MDD care, including patient assessment and individualization of management approaches. Given that appropriately designed VPS immerses and engages in an authentic, practical learning experience matching the scope of clinical practice, multiple exposures to this type of intervention can be continuously applied to improve the quality of care.

Acknowledgements

The educational activity and outcomes measurement were funded through an independent educational grant from Takeda Pharmaceuticals U.S.A., Inc. and Lundbeck

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