

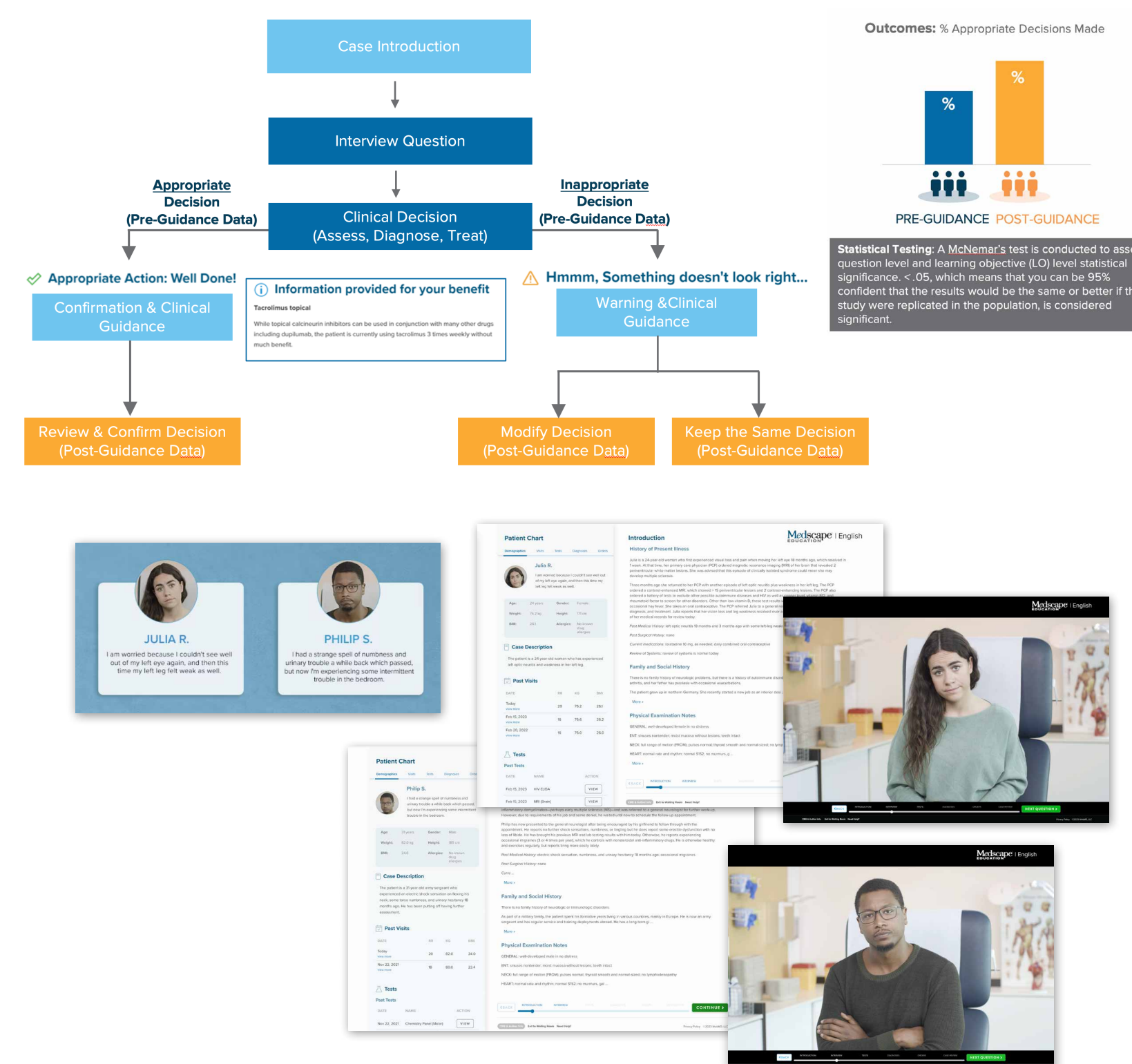
BACKGROUND

It can be challenging for neurologists to select appropriate multiple sclerosis (MS) diagnostic investigations, distinguish severity, and make appropriate treatment choices including newer therapies. We used patient simulation, engaging neurologists in a practical learning experience to assess performance in making these choices.



METHODS

This CME-certified virtual patient simulation consisted of 2 patient cases presented in a platform allowing neurologists to conduct assessments and complete open-field entries, choosing from an extensive database of diagnostic and treatment options reflecting the scope and depth of actual practice. After each decision, learners received clinical guidance (CG) based on current evidence and faculty recommendations. Clinical decisions were compared pre- and post-CG using a 2-tailed paired t-test to determine P values (P < .05 is significant). Rationales for clinical decisions were collected in real time. Data were collected July-December 2022.



RESULTS

CASE 1: A 24-YEAR-OLD PATIENT WITH SYMPTOMS OF RELAPSING/REMITTING MS (RRMS) WITH MODERATE DISEASE ACTIVITY



JULIA R.
CASE SUMMARY

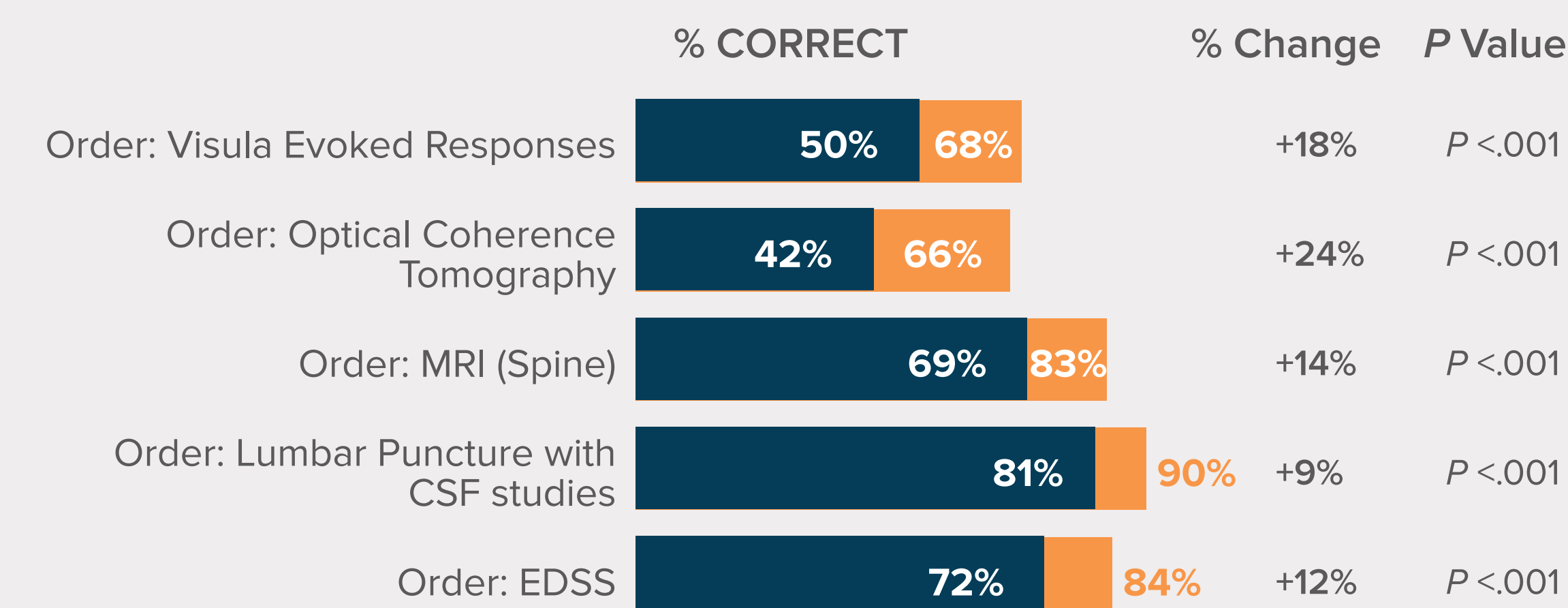
"I am worried because I couldn't see well out of my left eye again, and then this time my left leg felt weak as well."

Julia is a 24-year-old woman who has a history optic neuritis, weakness in her left leg and foot, and 2 periventricular white matter lesions 18 months ago, with > 15 periventricular lesions and 2 enhancing lesions 3 months ago, and now also a demyelinating lesion typical of MS in the left lateral upper thoracic spinal cord.

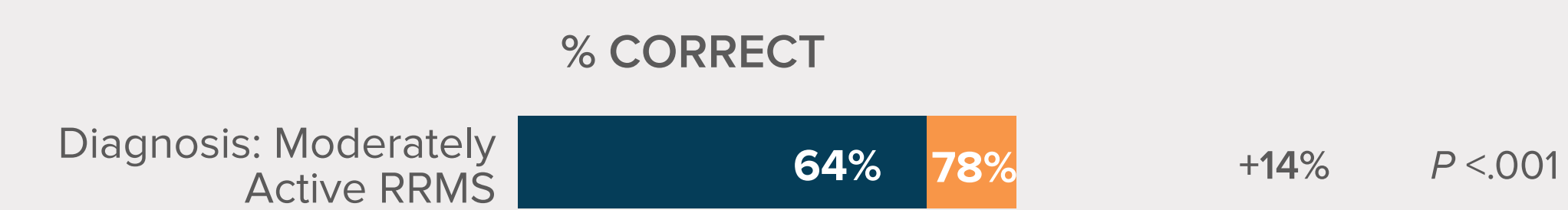
Age: 24 years Weight: 76.2 kg
Height: 171.0 cm Gender: Female
BMI: 26.1 Allergies: None

NEUROLOGISTS SIGNIFICANTLY IMPROVED THEIR PERFORMANCE IN SELECTING APPROPRIATE DIAGNOSTIC INVESTIGATIONS AND SELECTING MODERATELY ACTIVE RRMS AS A DIAGNOSIS

Choices Made in Selecting Diagnostic Investigations



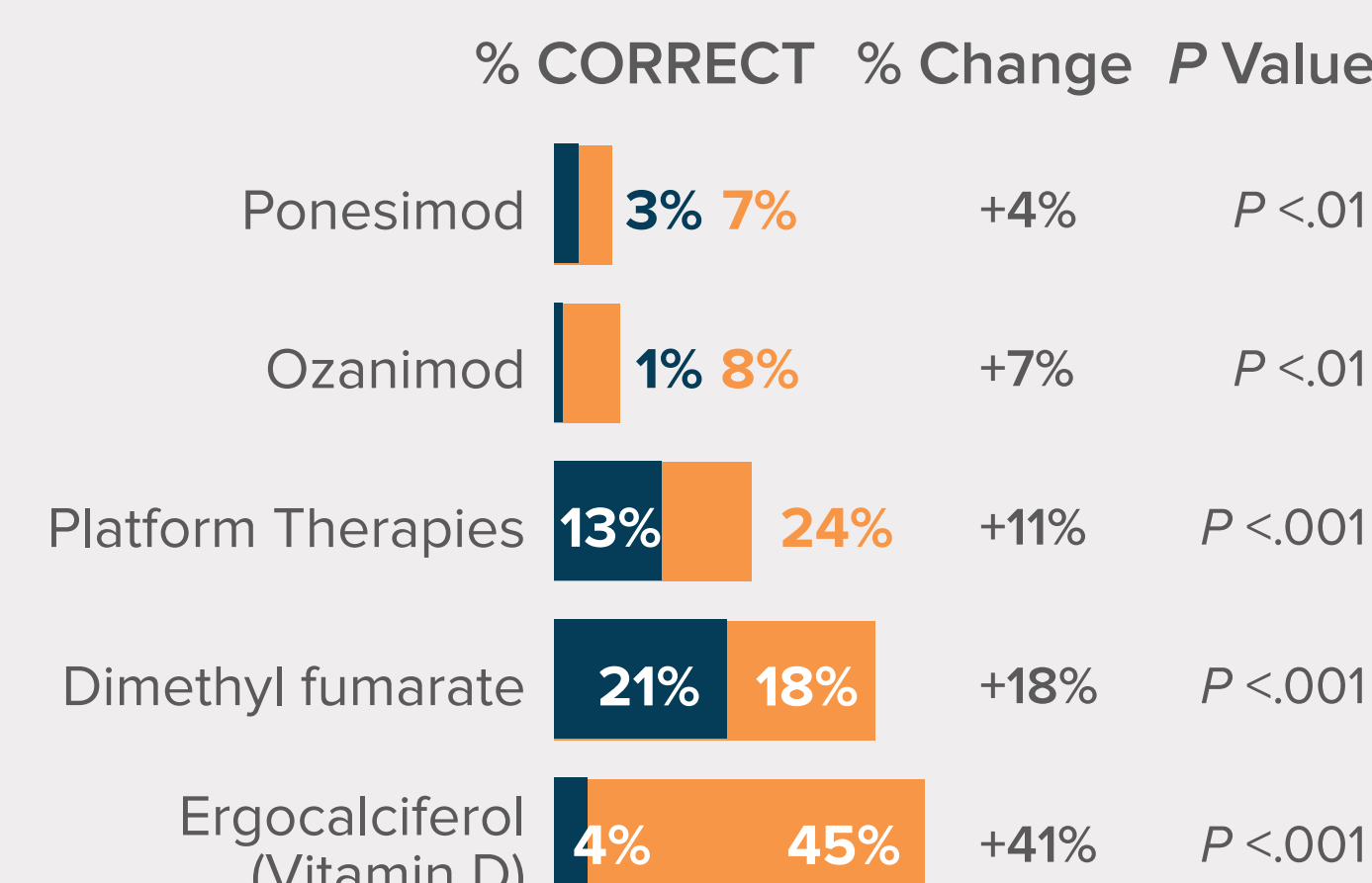
Choices Made in Selecting a Diagnosis



Neurologists (n = 145): ■ PRE ■ POST

NEUROLOGISTS SIGNIFICANTLY IMPROVED THEIR PERFORMANCE IN SELECTING APPROPRIATE TREATMENTS

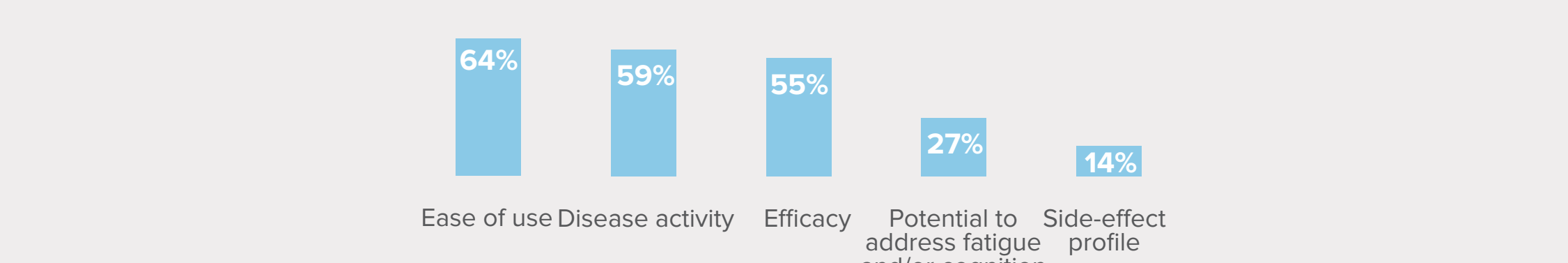
Choices Made in Selecting Treatments



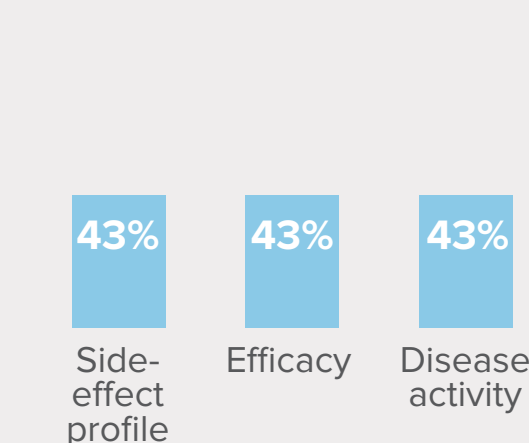
Neurologists (n = 145): ■ PRE ■ POST

Why Did Neurologists Make Specific Treatment Choices?

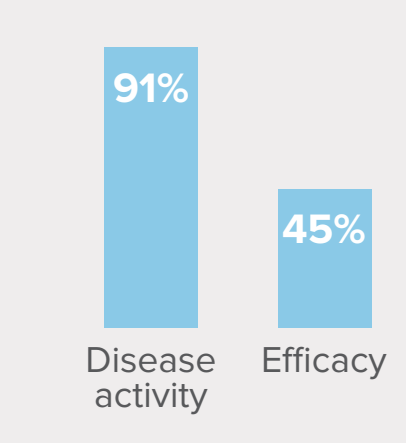
15% chose a novel S1P receptor modulator (ponesimod or ozanimod). Why?



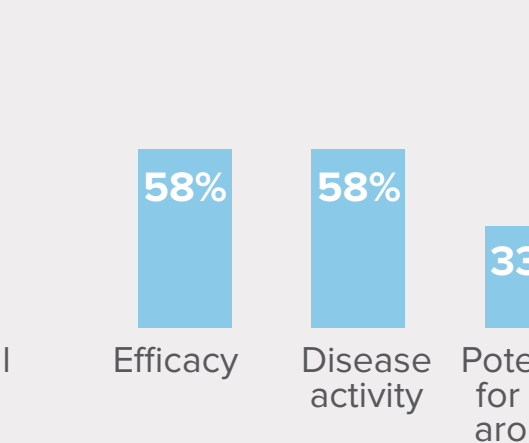
10% chose glatiramer acetate. Why?



7% chose interferon beta-1a. Why?



7% chose interferon beta-1b. Why?



CASE 2: A 31-YEAR-OLD PATIENT WITH SYMPTOMS OF RRMS WITH MODERATE DISEASE ACTIVITY



PHILIP S.
CASE SUMMARY

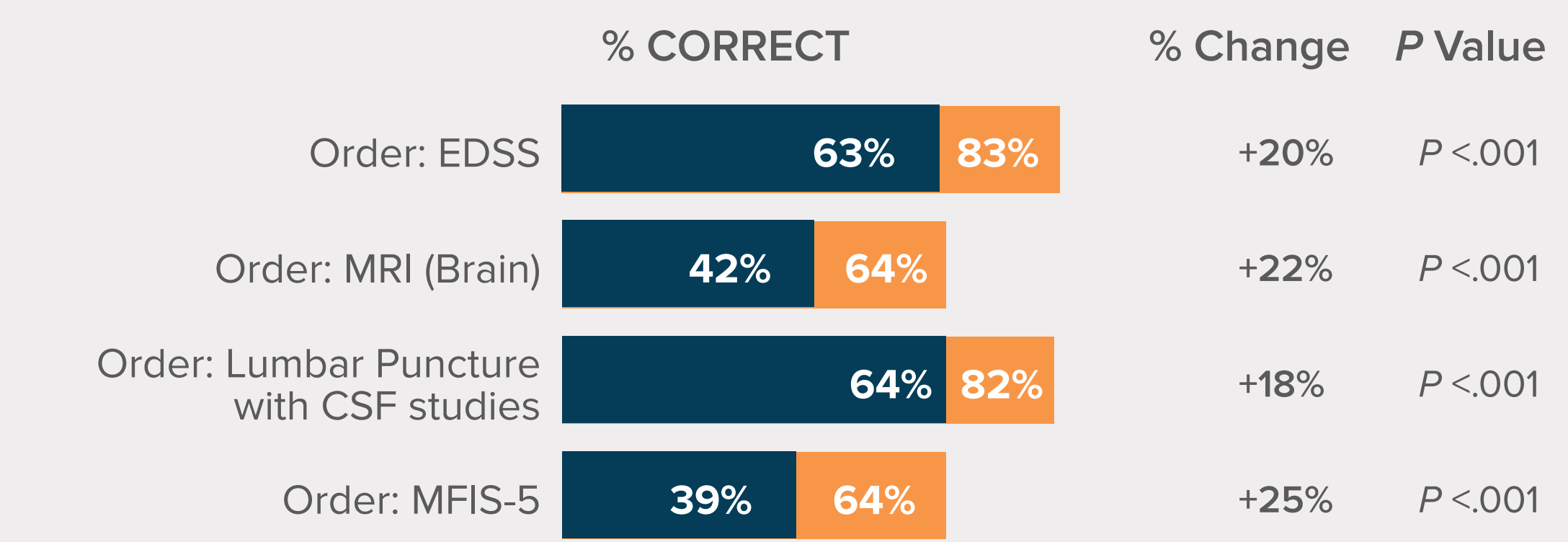
"I had a strange spell of numbness and urinary trouble a while back which passed, but now I'm experiencing some intermittent trouble in the bedroom."

Philip is a 31-year-old man who has a history of smoking, Lhermitte's sign, mild numbness from the pelvis up to the nipple line, and some urinary hesitancy about 18 months ago. An MRI at the time showed 1 spinal lesion and 2 non-enhancing cortical lesions. He now presents with erectile dysfunction, occasional migraines, and is fatigued. Three new T2 lesions and a new spinal lesion are recorded.

Age: 31 years Weight: 82 kg
Height: 185.0 cm Gender: Male
BMI: 24 Allergies: None

NEUROLOGISTS SIGNIFICANTLY IMPROVED THEIR PERFORMANCE IN SELECTING APPROPRIATE DIAGNOSTIC INVESTIGATIONS AND SELECTING MODERATELY ACTIVE RRMS AS A DIAGNOSIS

Choices Made in Selecting Diagnostic Investigations



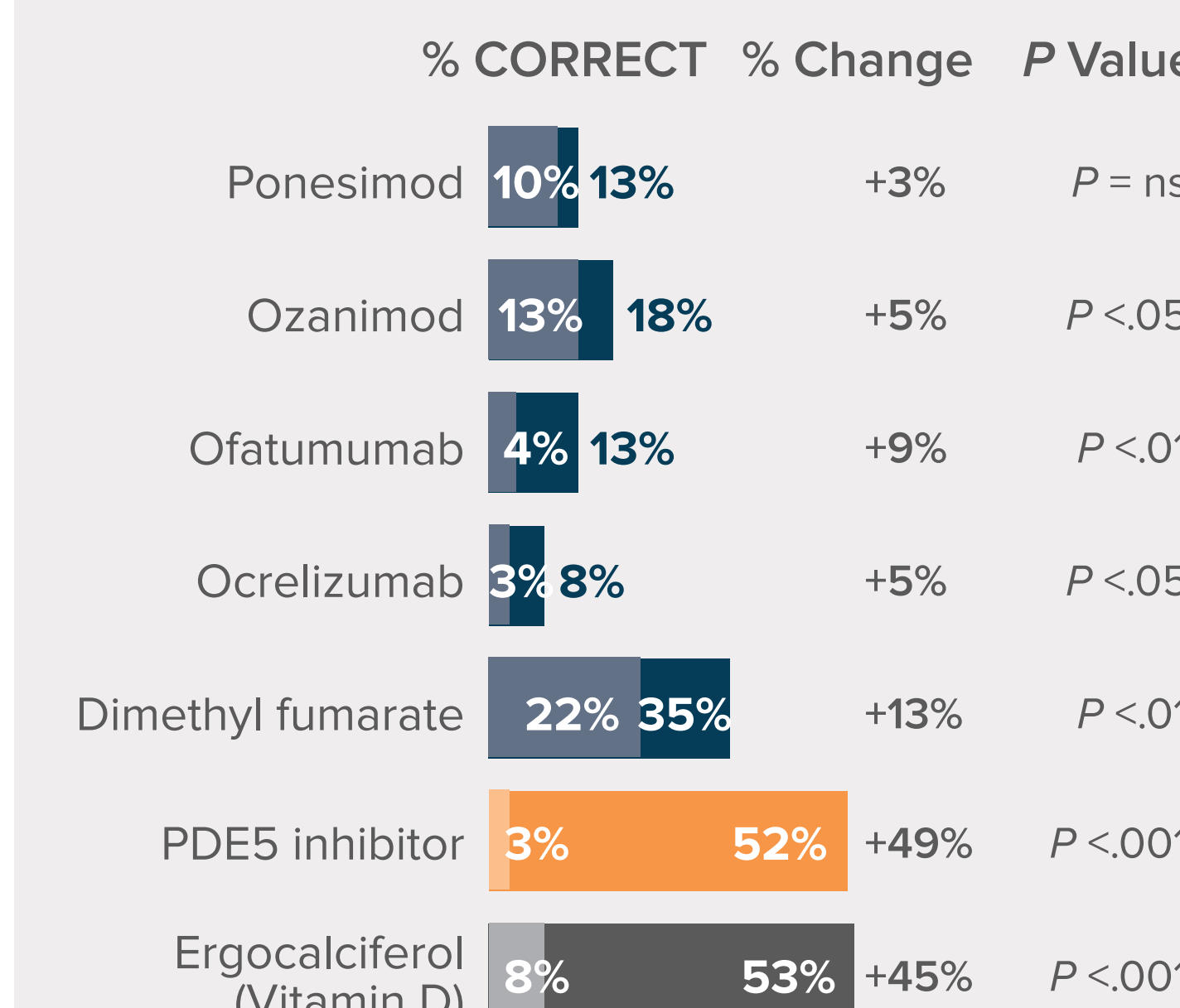
Choices Made in Selecting a Diagnosis



Neurologists (n = 72): ■ PRE ■ POST

NEUROLOGISTS SIGNIFICANTLY IMPROVED THEIR PERFORMANCE IN SELECTING APPROPRIATE TREATMENTS

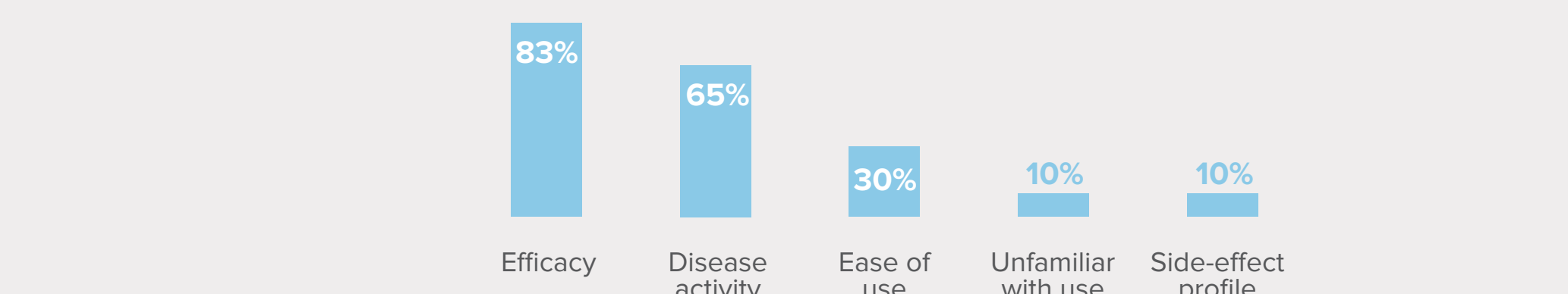
Choices Made in Selecting Treatments



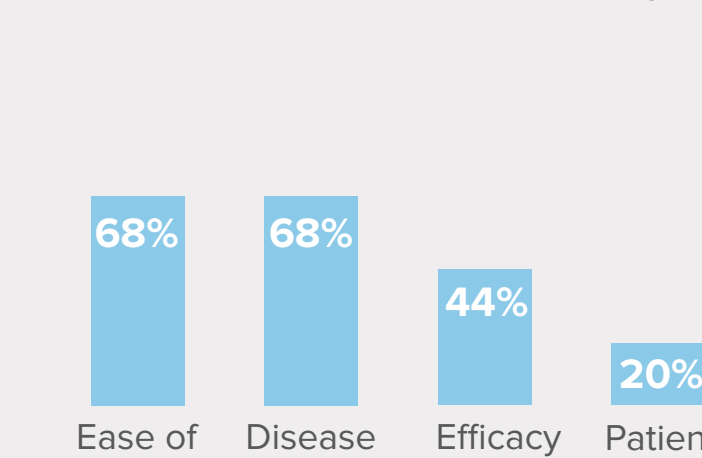
Neurologists (n = 72): ■ PRE ■ POST FOR ED: ■ PRE ■ POST FOR MS: ■ PRE ■ POST

Why Did Neurologists Make Specific Treatment Choices?

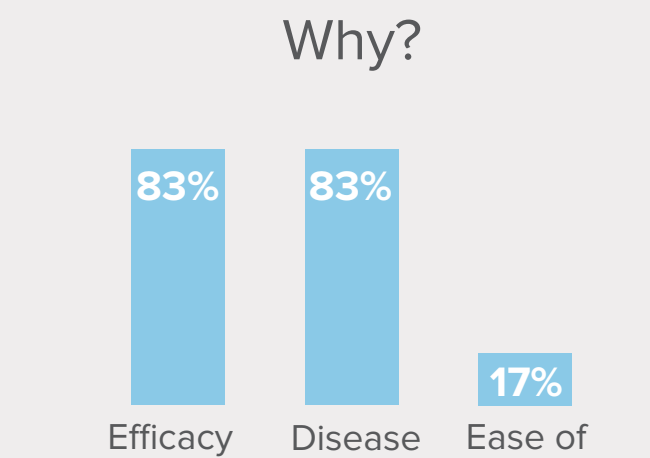
31% chose a novel S1P receptor modulator (ponesimod or ozanimod). Why?



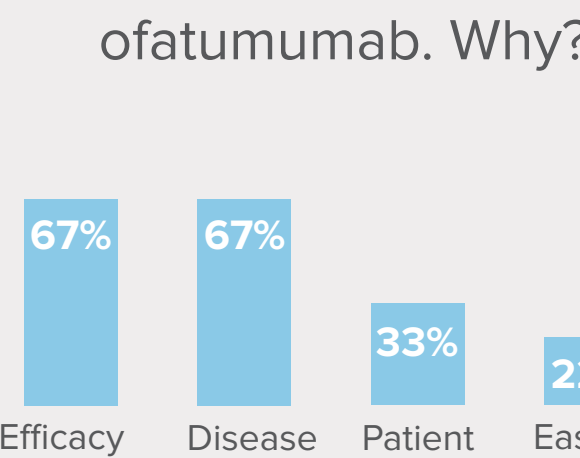
35% chose DMF. Why?



8% chose ocrelizumab. Why?



13% chose ofatumumab. Why?



CONCLUSIONS

These results demonstrate the success of immersive, online simulation education in improving performance in selecting appropriate investigations, diagnosis, and treatments for MS according to patient characteristics.

ACKNOWLEDGEMENTS

The related CPD activity was supported by Janssen (Johnson & Johnson).

REFERENCE

Duddy ME, Paul F. Multiple Sclerosis: Making Profound Treatment Decisions Early in the Patient Journey. Launched July 2022. Data as of January 2023. www.medscape.org/viewarticle/967283

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