

## INTRODUCTION

Acute repetitive seizures (ARS), also referred to as seizure clusters, represent episodes of increased seizure activity outside of a patient's usual pattern and are associated with substantial clinical burden, including risk for prolonged seizures, status epilepticus, injury, emergency department utilization, and premature death.

Despite the availability of FDA-approved out-of-hospital rescue therapies, rescue medications remain underutilized, and many patients lack individualized seizure action plans to support timely recognition and treatment. Nurse practitioners (NPs) across care settings play an important role in identifying patients at risk, reinforcing patient and caregiver education, and facilitating evidence-based management strategies.

This educational initiative was developed to address persistent educational gaps in ARS recognition, rescue therapy selection, and patient-centered care planning, an accredited on-demand educational activity featuring expert faculty and case-based learning was developed for nurse practitioner learners.

### Learning Objectives

- Determine the clinical burden of acute repetitive seizures (ARS) in patients with epilepsy.
- Compare the clinical trial evidence and FDA-approved indications of the currently available rescue therapies for ARS.
- Identify the key patient education teaching points for available ARS treatments.
- Develop an individualized ARS treatment plan that achieves cluster cessation based on patient-specific, disease-specific, and rescue therapy-specific factors.

## PROGRAM OVERVIEW

### Enduring On-Demand Activity

- Dates: Mar. 10, 2025 – Mar. 31, 2026
- Accreditation: 1.0 CE Credit
- Anticipated Completions: 3,900

### Follow-Up Survey

- Administered 60 days after activity completion to assess changes and barriers.



### Part 1: Video Presentation

Learners gain in-depth perspectives from expert faculty on ARS and how patient needs influence clinical decision-making.



### Part 2: Interactive Cases

Learners make clinical choices and receive feedback in interactive real-world scenarios created using Articulate Storyline®.

## METHODS

Learners completed pre- and post-activity knowledge, competence and evaluation questions aligned with learning objectives. A paired analysis was conducted using McNemar and Wilcoxon tests to assess changes ( $P \leq 0.05$ ). Software included Microsoft Excel (aggregating data) and IBM SPSS Statistics v31.0.0.0 (statistical analysis). Effect size quantified magnitude of change (0.10 = Small, 0.30 = Medium, 0.50 = Large). Demographics and intent-to-change responses were analyzed descriptively.

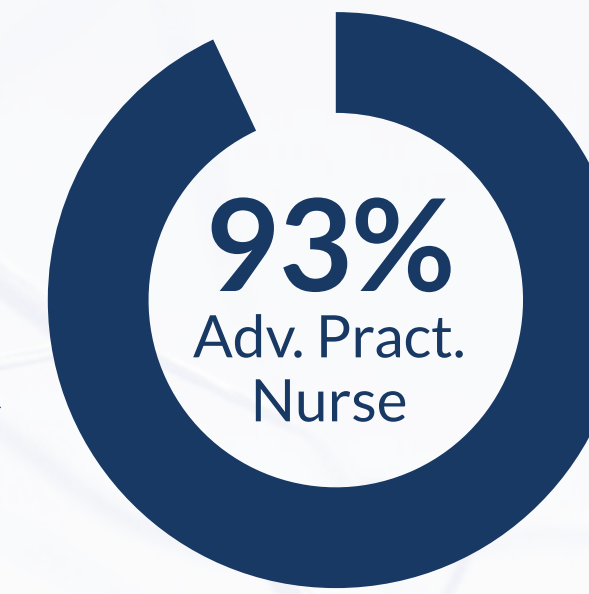
## RESULTS: ENDURING ON-DEMAND ACTIVITY

### Participation and Demographics

5,464  
Took Pretest

4,984  
Completions

128%  
of anticipated completions!

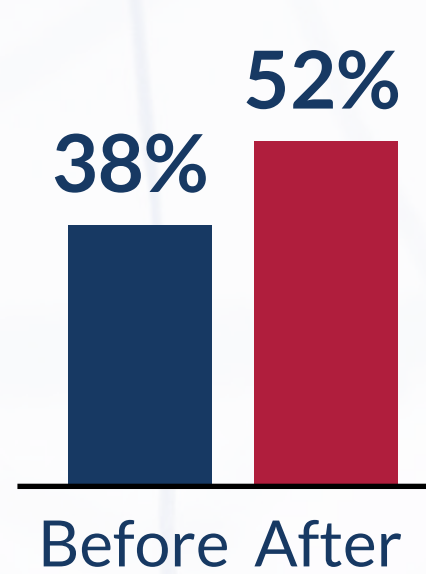


- Largest Setting: 39% practice in Primary Care.
- Time in Practice: 51% reported 6 years or longer

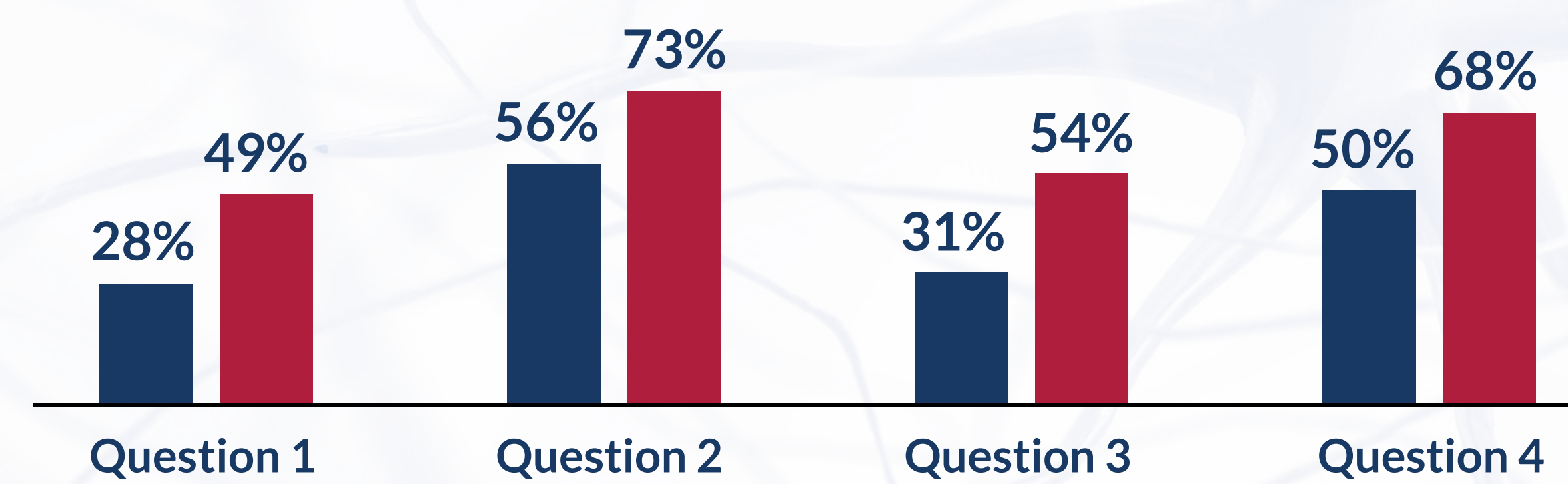
### Knowledge and Competence Gains

#### Change in Total Correct Answers

37%  
Increase  
Z = 28.517  
ES = 0.39  
(Moderate-to-Large)  
P < 0.001

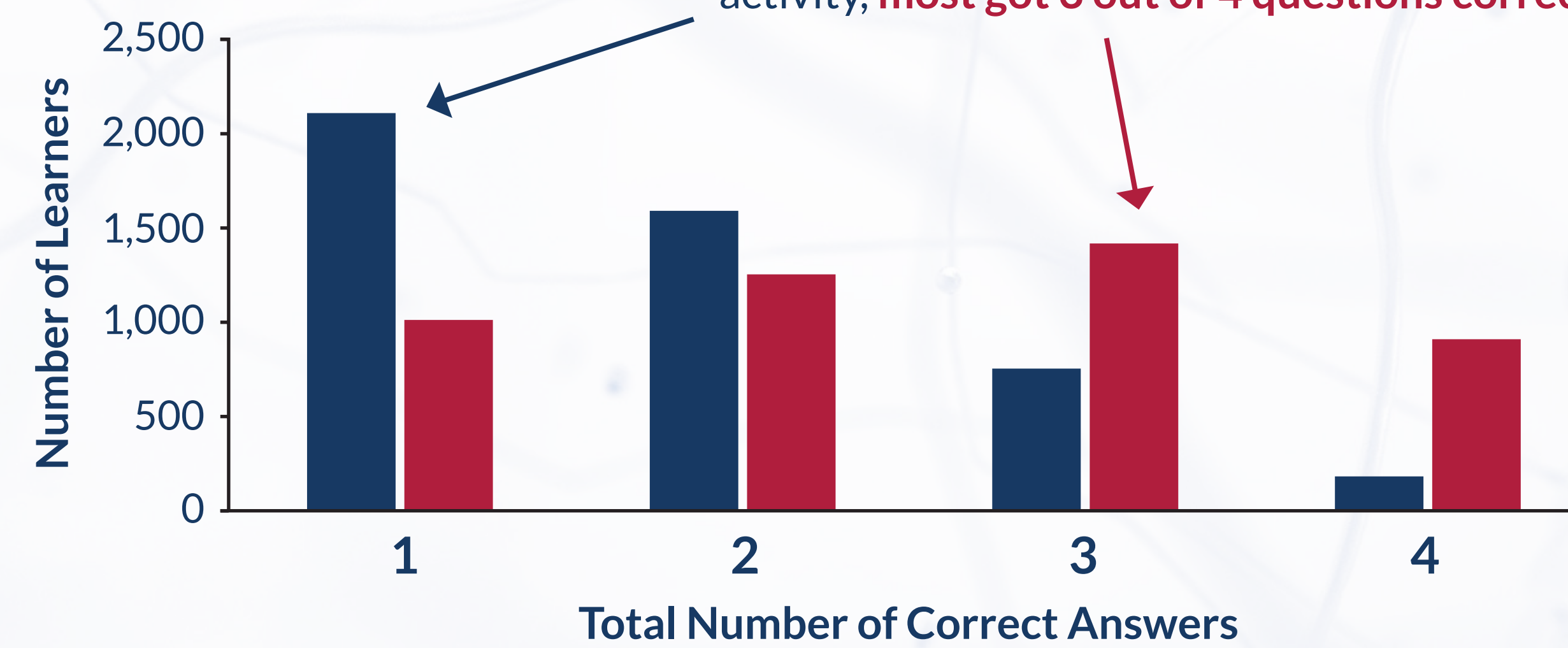


- Learners demonstrated statistically significant ( $P < 0.001$ ) increases in correct answers across 4 pre/post test questions.



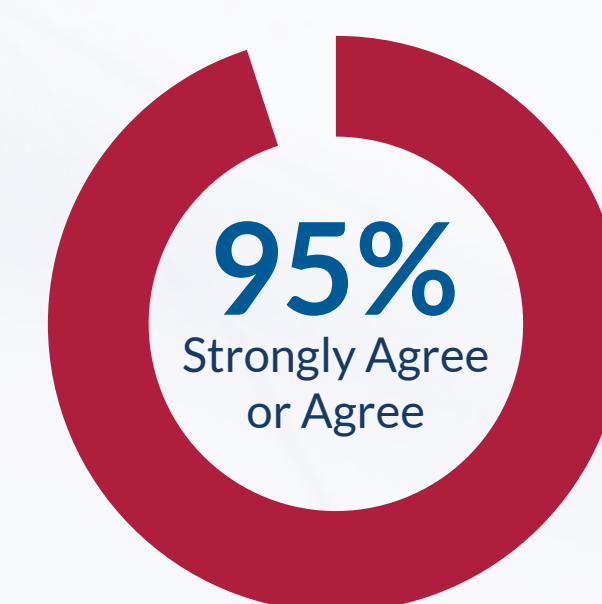
#### Change in Correct Answers per Learner

- Prior to the activity, most Learners got only 1 out of 4 questions correct, whereas after the activity, most got 3 out of 4 questions correct.

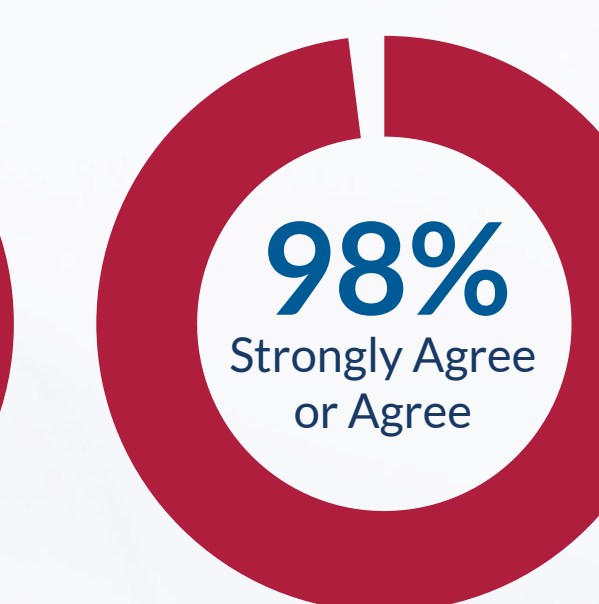


### Learner Satisfaction

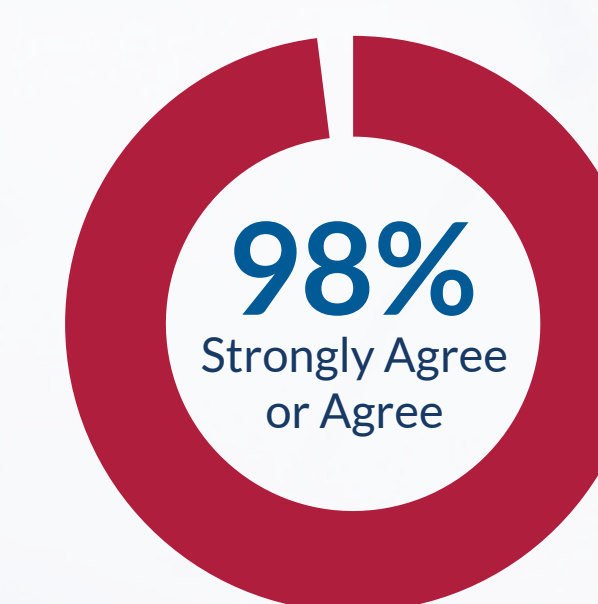
Speakers Were Knowledgeable



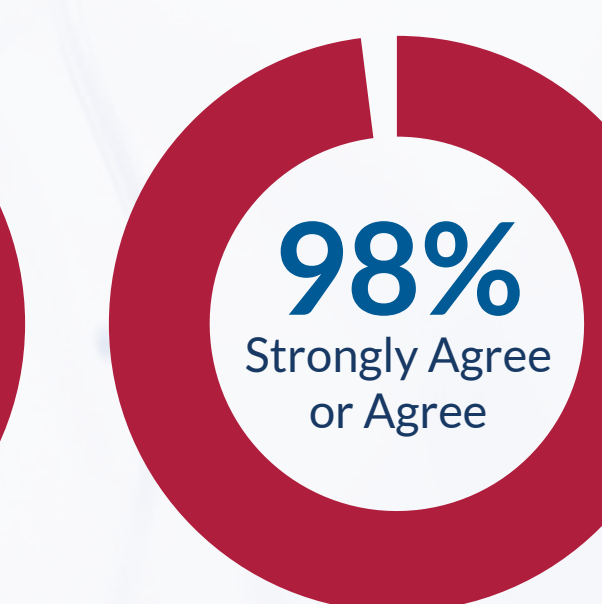
Learning Objectives Were Met



Content Was Fair and Balanced



Content Was Free of Commercial Bias

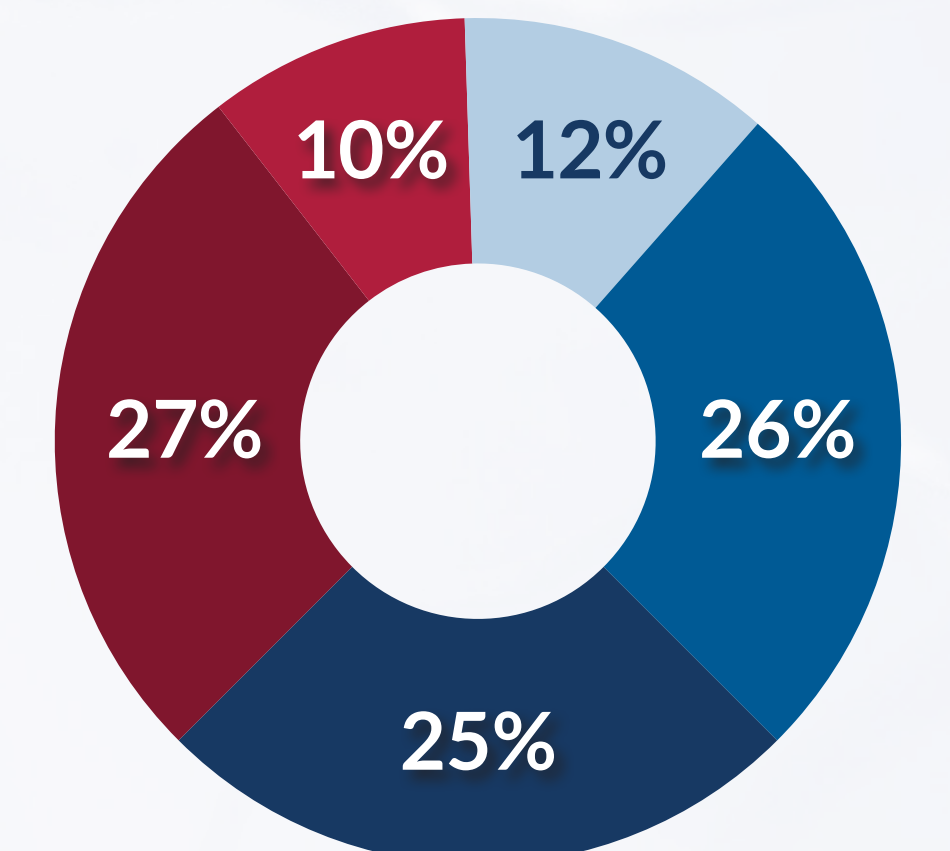


### Seizure Action Plans

- On the pretest, nearly 2 out of every 3 Learners (63%) who see patients with ARS reported either not or rarely using SAPs in their practice or not being familiar with using SAPs.
- After the activity, 91% of Learners reported they would at least consider routinely incorporating SAPs individualized to the patient into their routine practice.

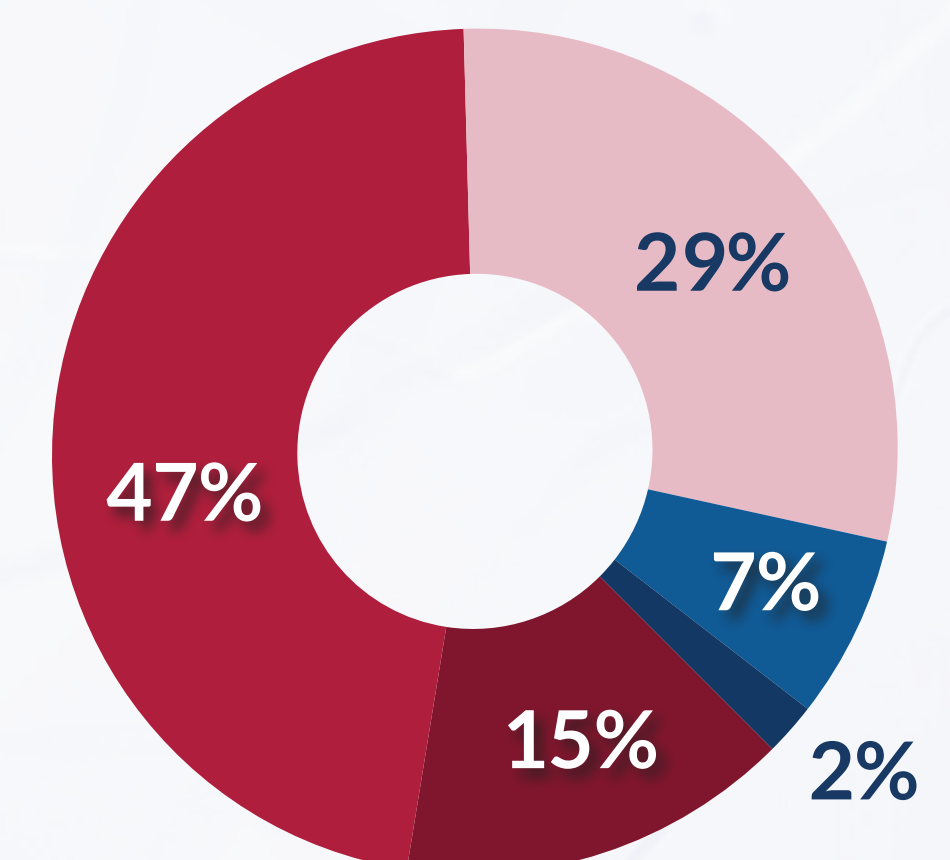
Do you routinely incorporate individualized seizure action plans (SAPs) into your clinical practice for patients with acute repetitive seizures (ARS) or seizure clusters? (N=3711\*)

- Yes, I routinely create and update SAPs for all my patients with ARS or seizure clusters.
- I create SAPs for some patients with ARS or seizure clusters, but not consistently for all.
- I rarely create SAPs for patients with ARS or seizure clusters.
- No, I do not currently use SAPs in my clinical practice for patients with ARS or seizure clusters.
- I am not familiar with using SAPs for patients with ARS or seizure clusters.



Following this educational activity, how likely are you to routinely incorporate a seizure action plan individualized to the patient into your routine clinical practice for patients with ARS? (N=3445\*)

- Currently Do
- Highly Likely
- Maybe
- Unlikely
- Highly Unlikely



\*Learners who selected "N/A I do not see patients/does not apply to my practice setting/patient population" were excluded.

## RESULTS: FOLLOW-UP SURVEY

- 68% of Learners (N=28) reported either continuing to use SAPs or implementing this change since completing the activity, with another 11% still intending to make this change.
- In the prior 60 days, learners reported prescribing or recommending FDA-approved rescue therapies, with diazepam nasal spray most frequently cited.
- Follow-up comments reflected more in-depth patient/caregiver education, greater caregiver involvement, and increased emphasis on trigger recognition and seizure tracking.

## CONCLUSION AND REFERENCES

This educational initiative demonstrated that targeted, practice-focused education can meaningfully improve NP knowledge and intended management of ARS. Learners showed statistically significant gains across assessed outcomes, reported strong satisfaction with the program, and identified actionable changes such as increased use of rescue therapies, SAPs, and patient counseling strategies. Follow-up findings suggest early translation of learning into practice, including greater emphasis on caregiver education and individualized management planning. Persistent challenges in ARS recognition, timely treatment, and rescue therapy utilization support the need for continued education to further optimize patient outcomes.

References: Bauman K, Devinsky O. Front Neurol. 2021;12:636045; Penovich PE et al. Neurologist. 2017;22(6):207-214; Misra SN et al. Neurol Ther. 2024;13(1):221-231.

Total Patients per Month Impacted by This Educational Activity: **20,262**