# Medscape Education Global

Focal Epilepsy: Virtual Patient Simulation Improves European Neurologists' Performance in Diagnosis and Management but Uncovers Inertia in Recognizing and Managing Breakthrough Nocturnal Seizures and Drug-Resistant Epilepsy

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## BACKGROUND

Diagnosing focal epilepsy is challenging due to heterogeneous presentation, limited patient awareness, and restricted access to diagnostic tools. Further, management is complicated by diverse

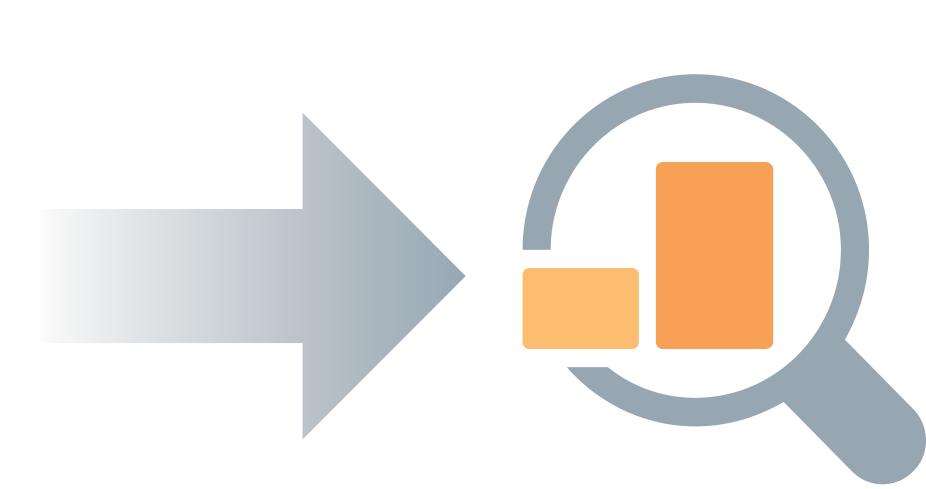


aetiologies and numerous therapies. Using a patient simulation of a young female with focal seizures, comorbid anxiety and depression with partial control on 2 prior monotherapies, we assessed neurologists' performance in diagnosing drug-resistant focal epilepsy and managing nocturnal breakthrough seizures with appropriate combination therapy.

## METHODS

This simulation assessed diagnosis, initial treatment choice, and adjustments after guidance in a young female with drugresistant focal epilepsy and comorbid anxiety/ depression, focusing on managing nocturnal breakthrough seizures with combination therapy.

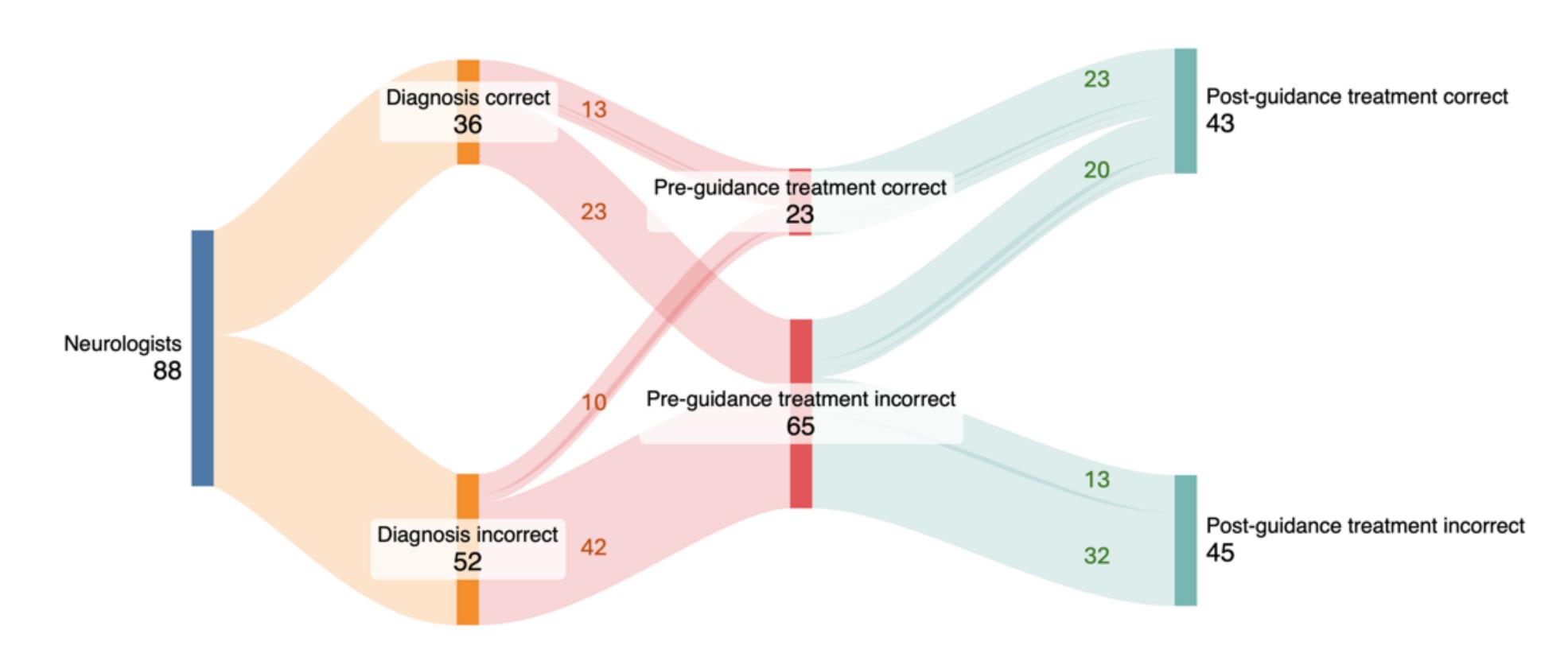




## RESULTS

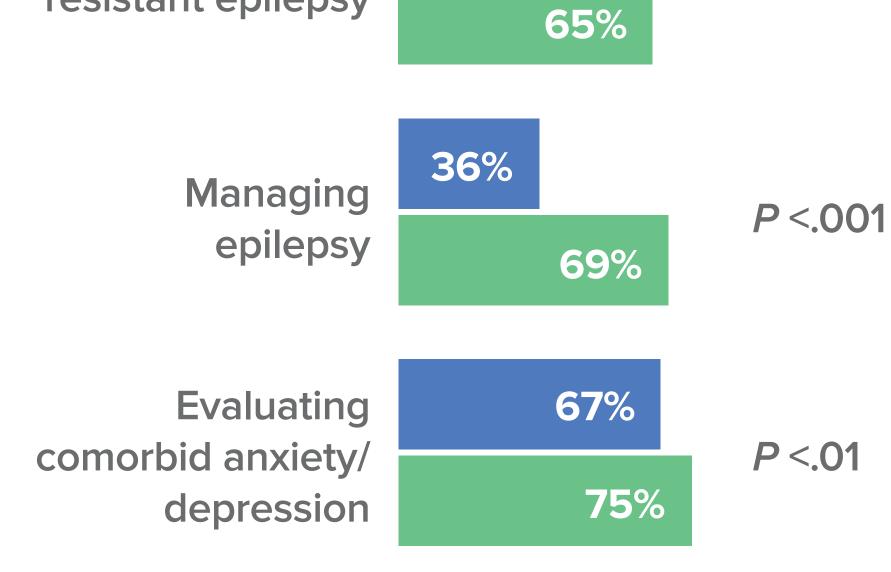
#### OVERALL

Case 1 simple breakdown showing flow of learners' decisions from diagnosis to treatment selection pre-guidance to treatment selection post-guidance (from first 88 participants).



post-guidance. Identifying drug-P <.001 resistant epilepsy **65**%

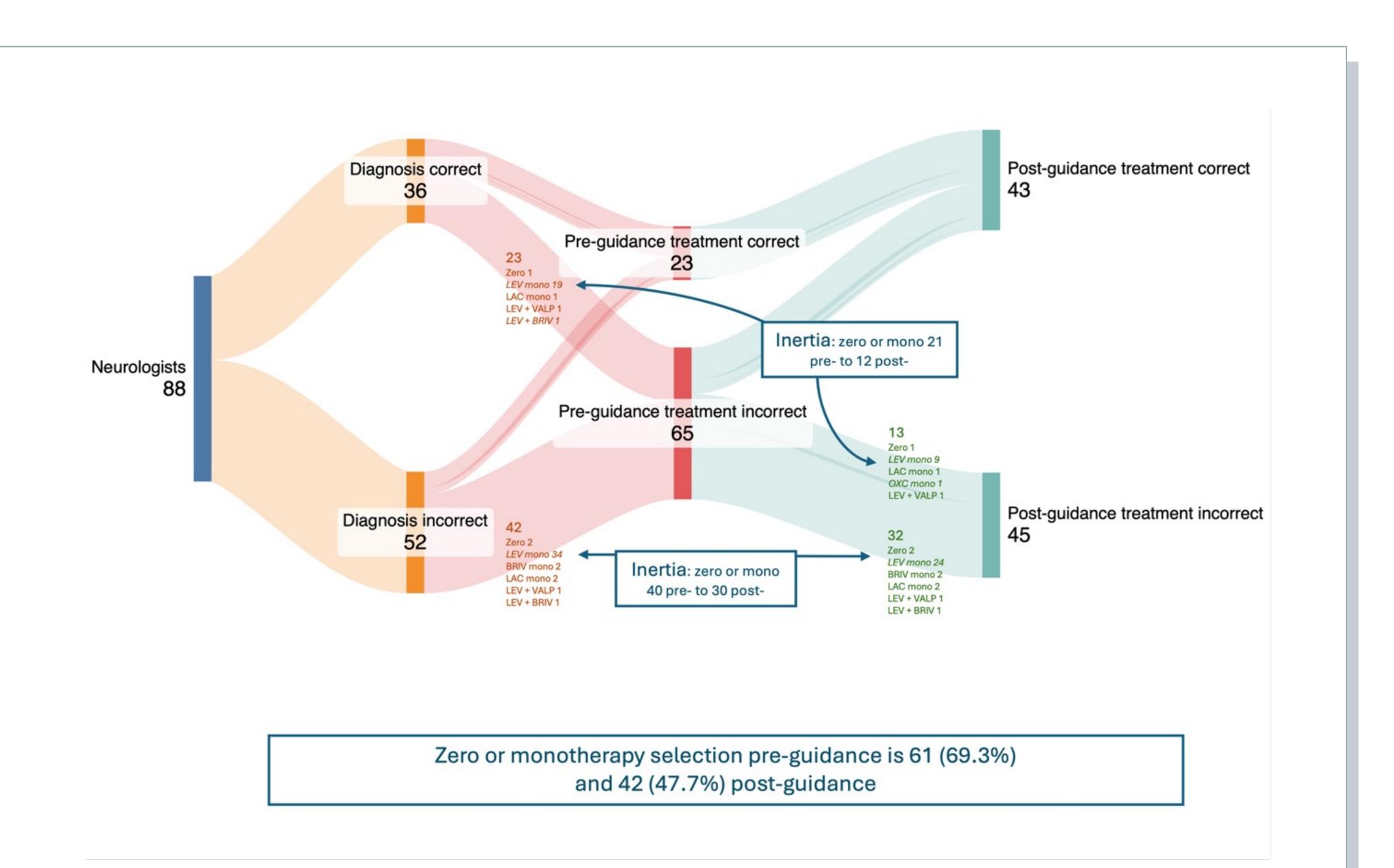
Significant improvements were seen



### INCORRECT TREATMENT CHOICES

Incorrect treatments from analysis of first 88 neurologists:

- 26.1% made an incorrect treatment choice despite getting diagnosis correct
- 47.7% made both an incorrect diagnosis and incorrect treatment choice pre-guidance – decreased to 36.3%
- Combined: incorrect therapy choice irrespective of diagnosis pre- was 73.8% decreasing to 51.1% postguidance
- By not changing therapies (maintaining LEV) the learners show inertia in their management
- Inertia was high pre- (69.3%) and post- (47.7%)

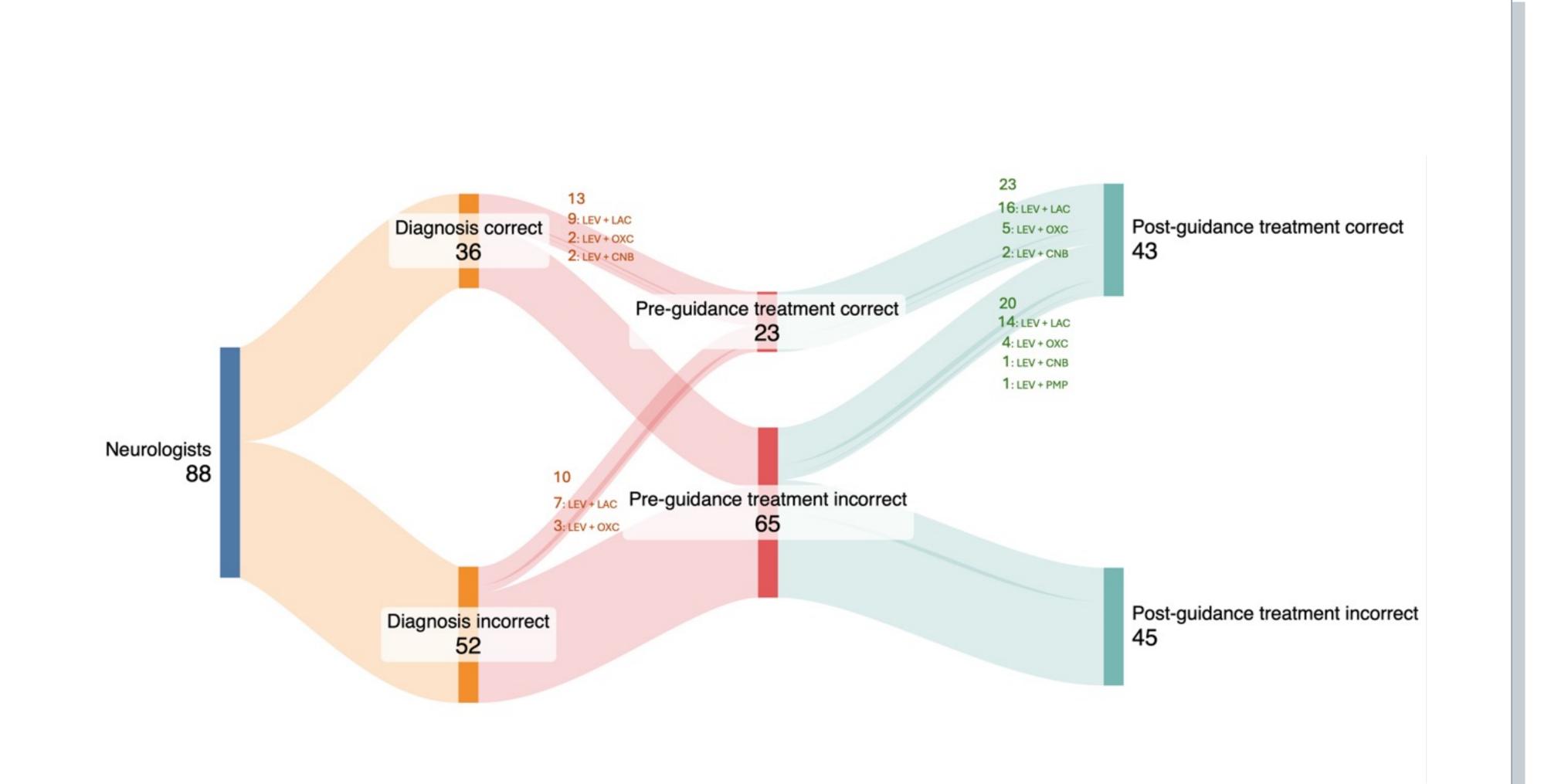


# CORRECT TREATMENT CHOICES

Case 1: Correct treatment choices from analysis of first 88 neurologists

**Correct treatments:** 

- 14.7% were 'correct & correct' pre-guidance
- 11.3% still made a correct treatment choice pre-guidance despite incorrect diagnosis – increased to 22.7% postguidance
- Combined: correct treatment choice irrespective of diagnosis pre-guidance was 26.1% increasing to 48.8% post-guidance



# RATIONALES FOR CHOICES MADE

Rationales for **incorrect** treatment choices\* included:

- Seizures were not severe enough to warrant a change in therapy (24%)
- Not recommended by guidelines (35%)
- Side effects with combination therapies (> 50%)

Neuros who made "incorrect treatment", post-guidance Skip combination antiseizure medication (ASM) therapy Combination therapy has more **53**% side effects Not recommended 35% by guidelines Seizures are mild 24% so no additional therapy needed

\* Learners could have selected up to two rationales per decision

# CONCLUSIONS

This study demonstrates the positive effect of an online educational virtual simulation on neurologists' performance in diagnosing and managing drug-resistant focal epilepsy, but deeper analyses uncovered high levels of inertia in recognizing and managing nocturnal seizures and drug-resistant epilepsy.







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