



**2ND G-I-N CONFERENCE, WELLINGTON, NZ**

# **Do guidelines make a difference & how can you tell?**

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# **Do online evidence systems help experienced clinicians answer clinical questions?**

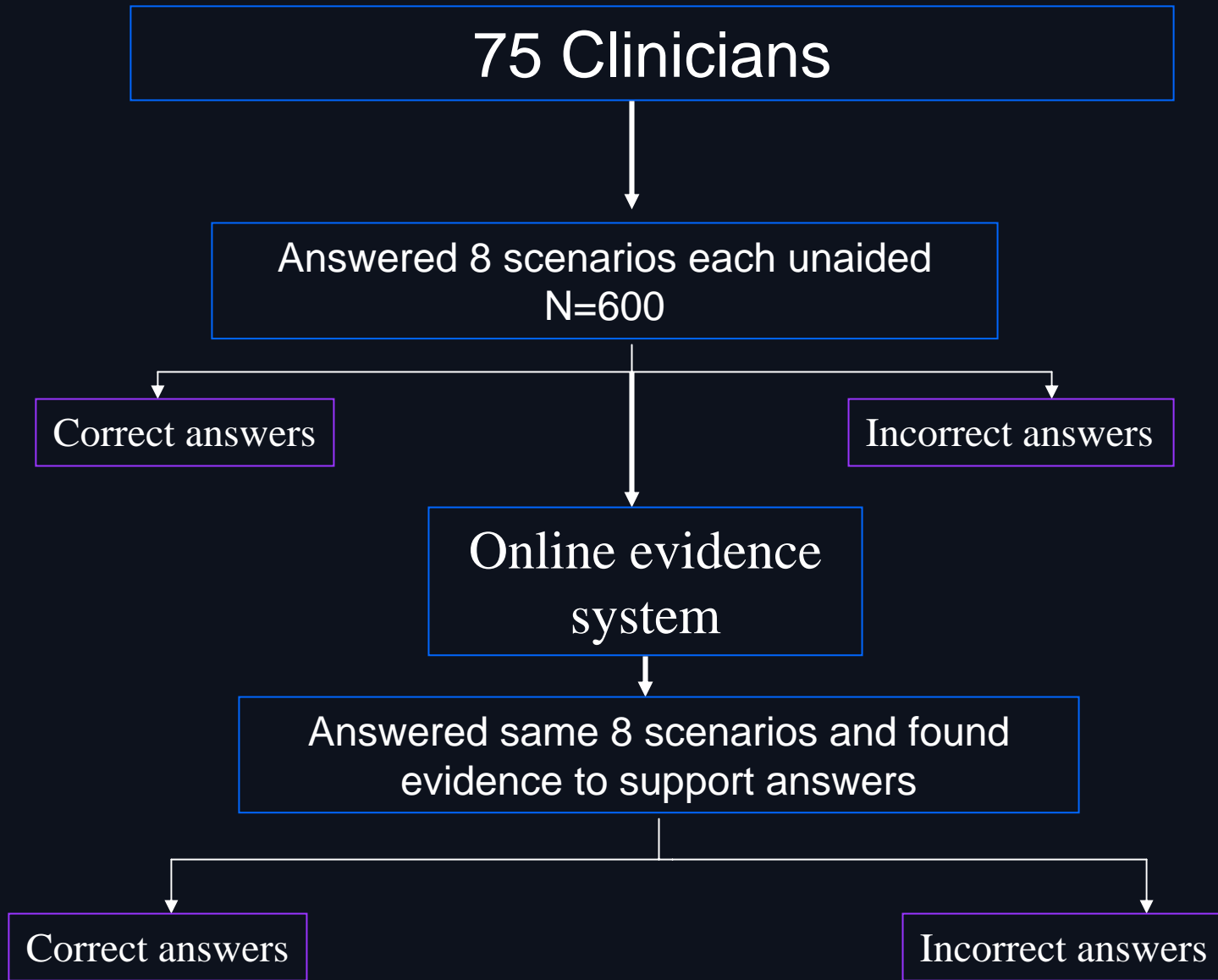
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# Background

- Introduction of online evidence systems such as Clinical Information Access Program
- Clinicians use these systems and report benefits to decision making and patient care
- Little empirical evidence about whether use of these systems improves clinicians' answers

# Questions

- Does use of an online evidence system improve clinicians' performance in answering clinical questions?
- Does performance differ across professional groups?
- How does use impact upon clinicians' confidence in their answers?



# Scenarios

*A mother brings her 15 month old son who has been seen three times in the past year for glue ear. She has heard that this can lead to learning and developmental problems and thinks her child may need surgery. His hearing is normal.*

*Does current evidence support the need for the insertion of tympanostomy tubes to avoid developmental problems in this child?*

Yes No Conflicting evidence Don't know

*How confident are you in your answer?*

Answers were available from the evidence retrieval system to correctly answer each scenario

# Results

- 21% improvement

- Pre-test            29% (95%CI 25.4-32.6)

- Post-test           50% (95%CI 46.0-54.0)

- Mean search time 6.1 minutes

(95%CI 4.5-7.7)

# Results

Scenario Responses		% (95% CI)
Pre-test	Post-test	
Wrong	Wrong	<b>40%</b> (35.4-43.6)
Wrong	Right	<b>33%</b> (29.1-36.9)
Right	Wrong	<b>7%</b> (4.9-9.1)
Right	Right	<b>20%</b> (17.1-23.9)
		100%



# Does performance differ professional group?

- Pre –test significant differences between doctors and nurses
- Post-test there was no significant difference between the groups

# Results

Number of correct answers (%)

	Hospital doctors	GPs	CNCs
Pre-online evidence use	35%	41%	17%
Post-online evidence use	50%	55%	46%
% Improvement	15%	14%	29%

## Percentage of scenarios in which clinicians were confident or very confident in the evidence found

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Response category	Very confident or confident
RR	79%
WR	63%
WW	59%
RW	38%
Total	64%

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# Confidence

- General level of over confidence in answers both pre and post
- When doctors were incorrect they were significantly more confident in their answers than CNCs
- Most difficult to judge evidence when their initial answer was incorrect or did not know

# Implications for Changing Practice

- Use of an online evidence system improves answers to clinical questions
- Most beneficial to those without content knowledge
  - Benefit of access to summarised sources

# Barriers to the effective use of online evidence retrieval systems

- Challenges of evidence appraisal and clinicians knowing when found the right answer
- Many clinicians reported confidence in evidence which supported an incorrect answer.
  - How might evidence be presented to reduce incorrect application
  - Evaluation of retrieval systems

## References:

Westbrook JI, Gosling AS, Coiera EW. The impact of an online evidence system on confidence in decision making in a controlled setting. *Medical Decision Making*. (in press)

Westbrook JI, Gosling AE, Coiera EW (2004) Do clinicians use online evidence to support patient care? A study of 55,000 clinicians. *Journal of the American Medical Informatics Association*, 11(2):113-120.

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