

STRATEGIES OF EVIDENCE BASED DECISION MAKING*



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* Image Theory In Disseminating Evidence Based Practices. NIMH 1R34 MH070871-01-A2
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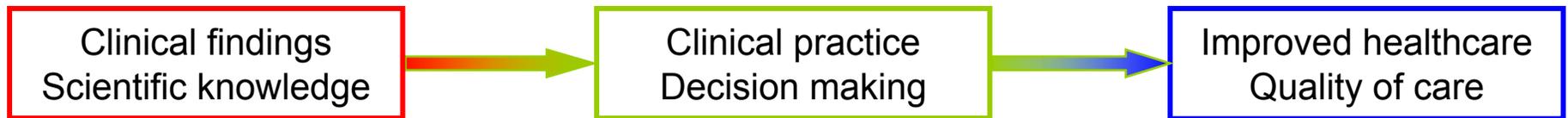
Implementation

“The scientific study of methods to promote
the systematic uptake of clinical research findings
into routine clinical practice, and hence
to reduce inappropriate care.”†

† Hutton JL, Eccles MP, Grimshaw JM. Ethical issues in implementation research: A discussion of the problems in achieving informed consent. *Implement Sci* 2008;3(52).

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(The Clinical Roundtable’s strategic model of ‘Translation 2’)‡

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‡ Sung NS, Crowley WF, Jr., Genel M, Salber P, Sandy L, Sherwood LM, et al. Central challenges facing the National Clinical Research Enterprise. *JAMA* 2003;289(10):1278-1287.

Benchmarks of implementation



- Scientific knowledge is formalized and systematically represented[†]
- Practice is application of general knowledge to specific cases[‡]
- Outcomes are assessed distinct from practice^{*}

[†] Eddy DM. Evidence-based medicine: A unified approach. *Health Aff (Millwood)* 2005;24(1):9-17.

[‡] Weiner SJ. Contextualizing medical decisions to individualize care: Lessons from the qualitative sciences. *J Gen Intern Med* 2004;19(3):281-5.

^{*} Fixsen DL, Naoom SF, Blase KA, Friedman RM, Wallace F. *Implementation Research: A Synthesis of the Literature*. 2005; http://nirn.fmhi.usf.edu/resources/publications/Monograph/pdf/Monograph_full.pdf

What is the state of the art?



Adm Policy Ment Health (2008) 35:1-2
DOI 10.1007/s10488-007-0161-8

BRIEF COMMUNICATION



Introduction: Advancing Implementation Research in Mental Health

David Chambers

Introduces five papers that “capture both the breadth of the field of implementation research and an accurate depiction of the state of the science in the area of mental health as developing.”

- These are interesting reviews and ideas. . .
- But, none of the papers describes practice at the point of service delivery or measures practice outcomes

Why is the state of the art missing ≥ 2 of the 3 benchmarks?



- Practice is treated as *transductive* (a pass-through), not discretionary
- As a result, outcomes are hard-wired, not adapted or tailored

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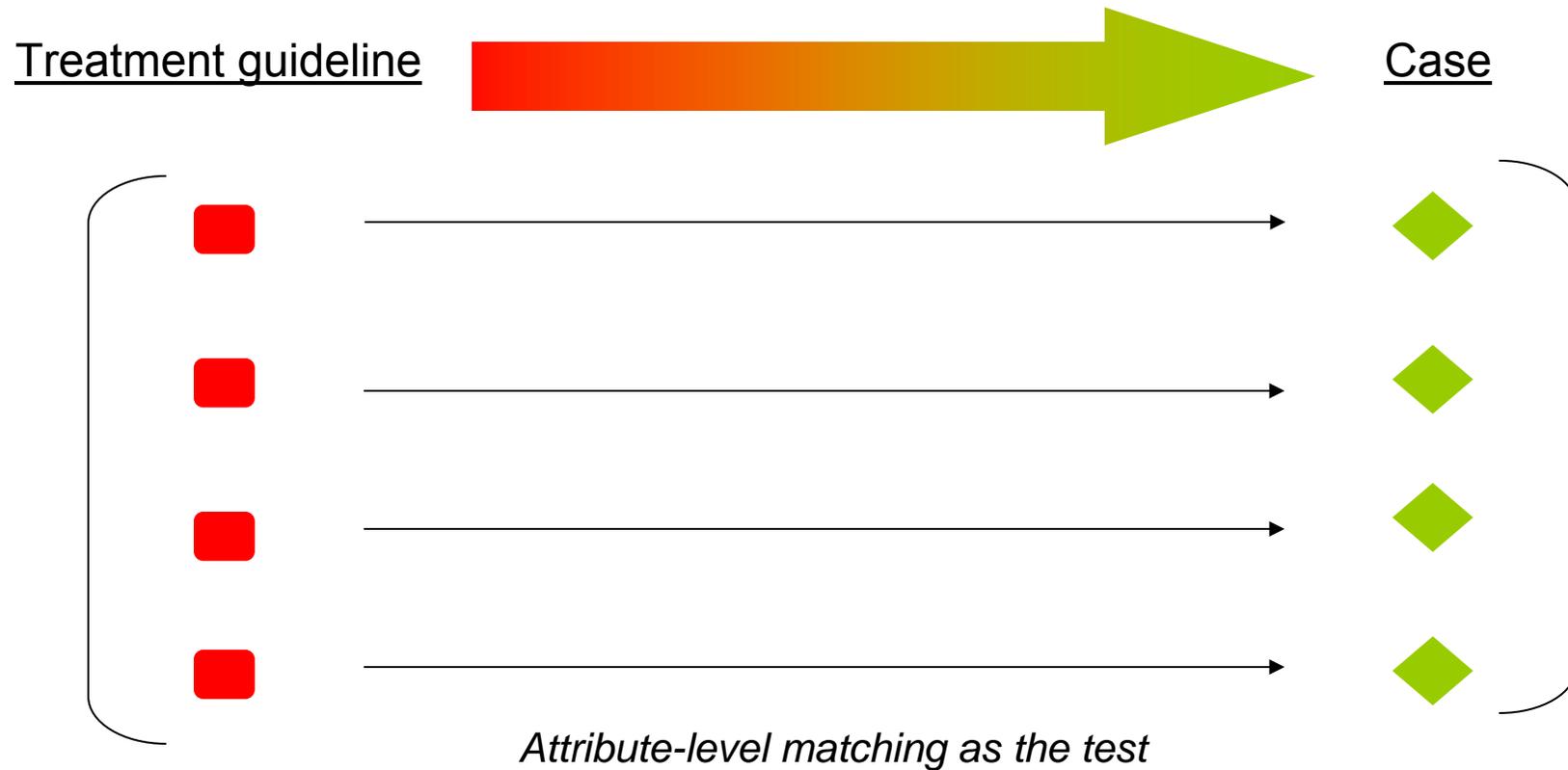


Practice is treated as *transductive* (a pass-through), not discretionary

- As a result, outcomes are hard-wired, not adapted or tailored

- ▶ There is no systematic link between science and discretionary practice
- ▶ We address this problem by:
 1. Developing a test of implementation for complex service delivery
 2. Examining the test empirically

Modeling a complex environment



Research questions:

1. Do practitioners incorporate the guideline even when they don't endorse it?
2. Do they incorporate the guideline consistently?

Clinical paradigm and guideline

 <p>PSYCHIATRIC SERVICES</p>	<h1>Prescribers' Nonadherence to Treatment Guidelines for Schizophrenia When Prescribing Neuroleptics</h1> <p>Michael J. Sernyak, M.D. David Dausey, M.Phil. Rani Desai, Ph.D. Robert Rosenheck, M.D.</p> <p>The Yale Psychiatry Sernyak Algorithm</p>
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Five step guideline:

- › Successive 12 week trials: 1) FGA, 2) FGA, 3) SGA, 4) SGA, 5) Clozapine
- › Uses the CGI to assess two factors: progress, current condition

Study results:

- › 5% (1/22) adherence rate, using a simple endorsement test: Did clinicians recommend an escalation when the guideline calls for it?
- › Limitations: retrospective chart review, no population parameters
- › Two principal factors identified: Lack of patient adherence, poor expected outcome

Study Method and Design

Current study:

- N = 21 Yale psychiatric residents, paid volunteers
- Fully crossed 2 x 2 x 2 x 4 design; 64 case vignettes, randomized
- GEE model to examine the matching test, MANOVA model to examine its consistency

<u>Attribute</u>		<u>Match</u>		<u>Mismatch</u>
Short term progress	—————→	Much worse	◆	Minimal improvement (too much?)
Current condition	—————→	Severely ill	◆	Moderately ill (too healthy?)
Adherence	—————→	High adherence	◆	Low adherence (too low?)
Expected progress	—————→	Good forecast	◆	Poor (risky, ineffective) forecast

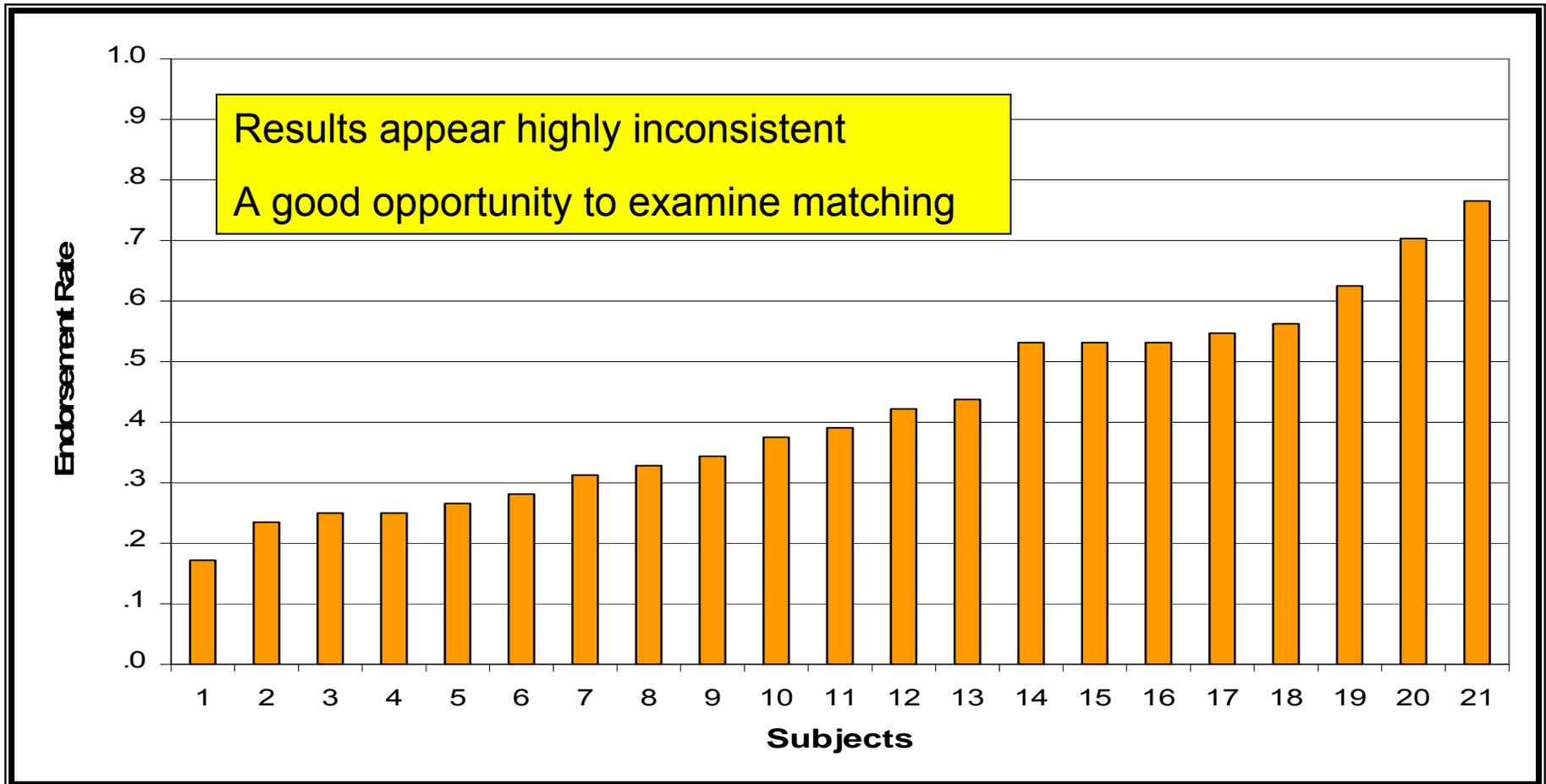
- *Matching test, a simple count: 0 – 4 (total of 5 mismatch points)*
- *Expecting a negative relationship between mismatches and endorsement rates*

Study results

(Old) Endorsement test

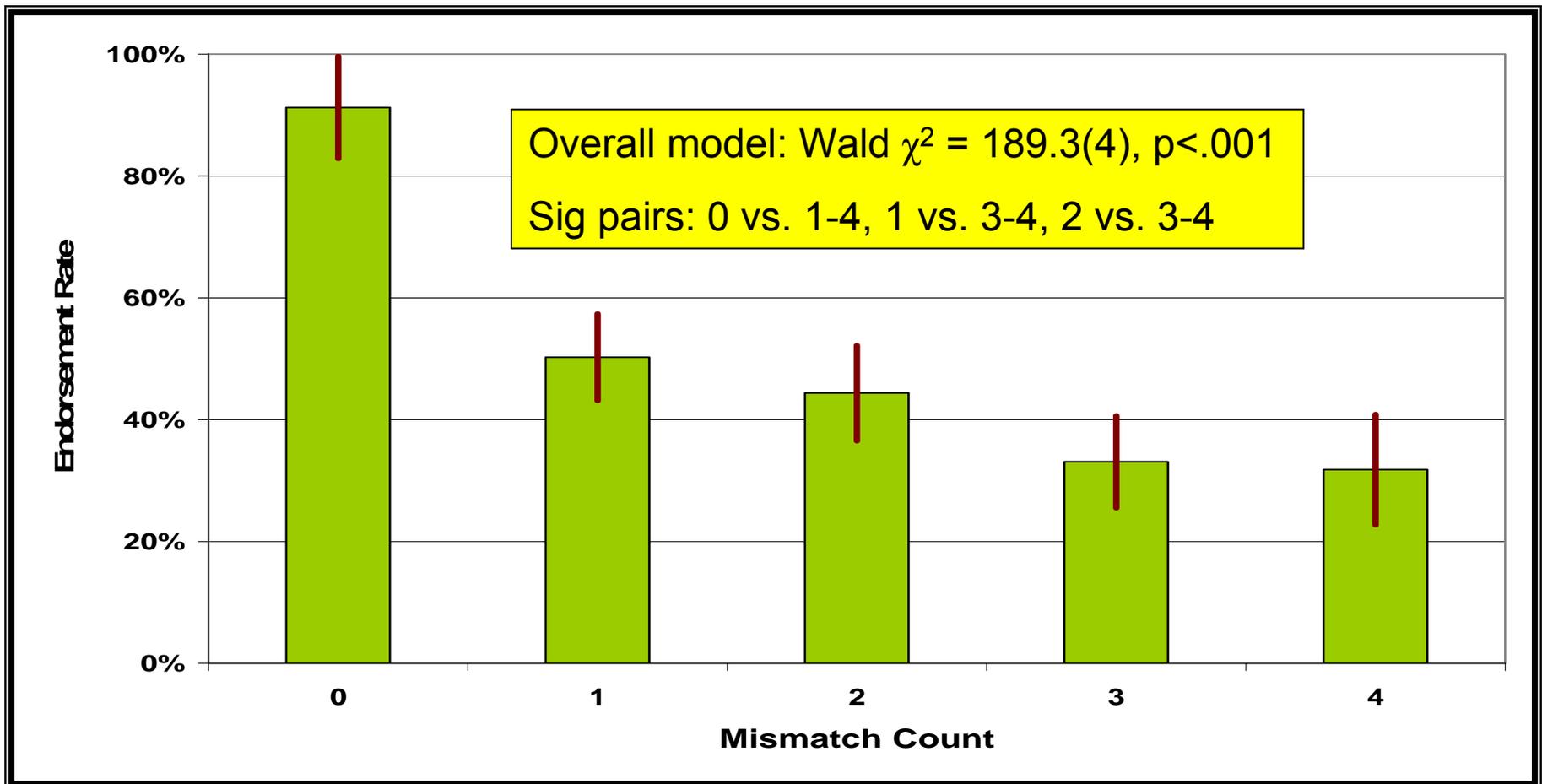
Endorsement rate: 42% ($\pm 16\%$) overall

Consistency: Ranges from 17% – 77%



Study results

	(Old) Endorsement test	(New) Matching test
Endorsement rate:	42% ($\pm 16\%$) overall	Ranges from 32% – 91% (GEE, AR-1)
Consistency:	Ranges from 17% – 77%	65% of variance (MANOVA linear contrast)



The bottom line

Conclusions

- ✓ Provisionally, we have developed a means of testing the incorporation of systematic knowledge into practice
- ✓ Clinicians can incorporate guidelines even when they fail to endorse them
- ✓ Their decisions tend to be conservative—they are looking for an ideal match

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Why do clinicians fail to endorse EBPs?

- ✓ **In some instances, it's because they are *implementing* them!**

Limitations and Publications

Limitations

1. Participants were trainees, limited number from one training program
2. A strictly clinical paradigm, not shared or distributed
3. An untested non evidence-based guideline, developed to change behavior
4. Study used vignettes rather than actual cases

Publications

- › One publication, *Implementation Science*
- › One paper in press, *Psychiatric Services*
- › Two papers under review, one in preparation
- › Stage two data analysis underway, using an accepted guideline

An agenda: Building a solid base for implementation



Develop better guidelines:

- For clinical and collaborative tasks
- Test for organizational fit
- Test for suitability as decision aids

Tailor outcomes to:

- Needs of consumers
- Specific disorders
- Treatment effectiveness

Improve treatment decisions:

- Use current, appropriate, models
 - Target consistency of decisions
- Compare strategies against targets