

Exploring Fidelity Assessment Across Treatment Settings: Implications for Intervention Development and Dissemination

Tanya A. Line¹, Joshua E. Mervis^{1,2}, Sheena Potretzke¹, Jennifer Wiseman¹, Julie Rohovit¹, & Piper Meyer-Kalos¹
Minnesota Center for Chemical and Mental Health¹, Department of Psychology²
University of Minnesota, Twin Cities

INTRODUCTION

- Fidelity to a treatment model during intervention development and implementation is critical in outcome research^{3,4} and fraught with inconsistencies in terminology and practice^{1,2}.
- The demand for empirically supported therapies (ESTs) facilitated the proliferation of fidelity measures used during the design and implementation to ensure interventions delivered as intended².
- Yet, literature examining the components of fidelity is sparse. Additional knowledge regarding fidelity and its measurement in clinical practice will have broad implications for the development, implementation, and assessment of ESTs.

METHODS

- In the present study, the term competency is used to describe individual practitioner fidelity to the E-IMR model. The terms competency and fidelity are used interchangeably.
- Minnesota Clinical Competency Scale for E-IMR for Co-occurring Disorders addresses four areas, 1) Therapeutic Relationship and E-IMR Structure, 2) Integrated Recovery Planning, 3) Teaching Strategies and 4) Substance Use Strategies.
- Competency scores from interventionists (N = 52) were calculated at three time points over 12 months during a pilot study of Enhanced Illness Management and Recovery (E-IMR)
- Competency evaluation: session observation, clinician interview, and documentation review.
- 3 trained raters achieving an acceptable level of inter-rater reliability (κ alpha $\alpha > .70$)
- Consultation included in-person visits and phone calls with each intervention site.

TREATMENT SETTINGS

- All agencies provided care for comorbid mental illness and substance use disorders and were located in metro and rural areas, in three types of treatment settings
- Outpatient (n = 16):** state licensed agencies providing services to individuals residing in independent housing and receiving services 1 to 5 days per week
- Inpatient (n = 20):** state licensed agencies providing intensive residential services from 30 to 90 days
- Community care (n = 16):** state licensed agencies providing services to individuals within the home or community. Practitioners usually travel to the individual rather than providing services in a clinic

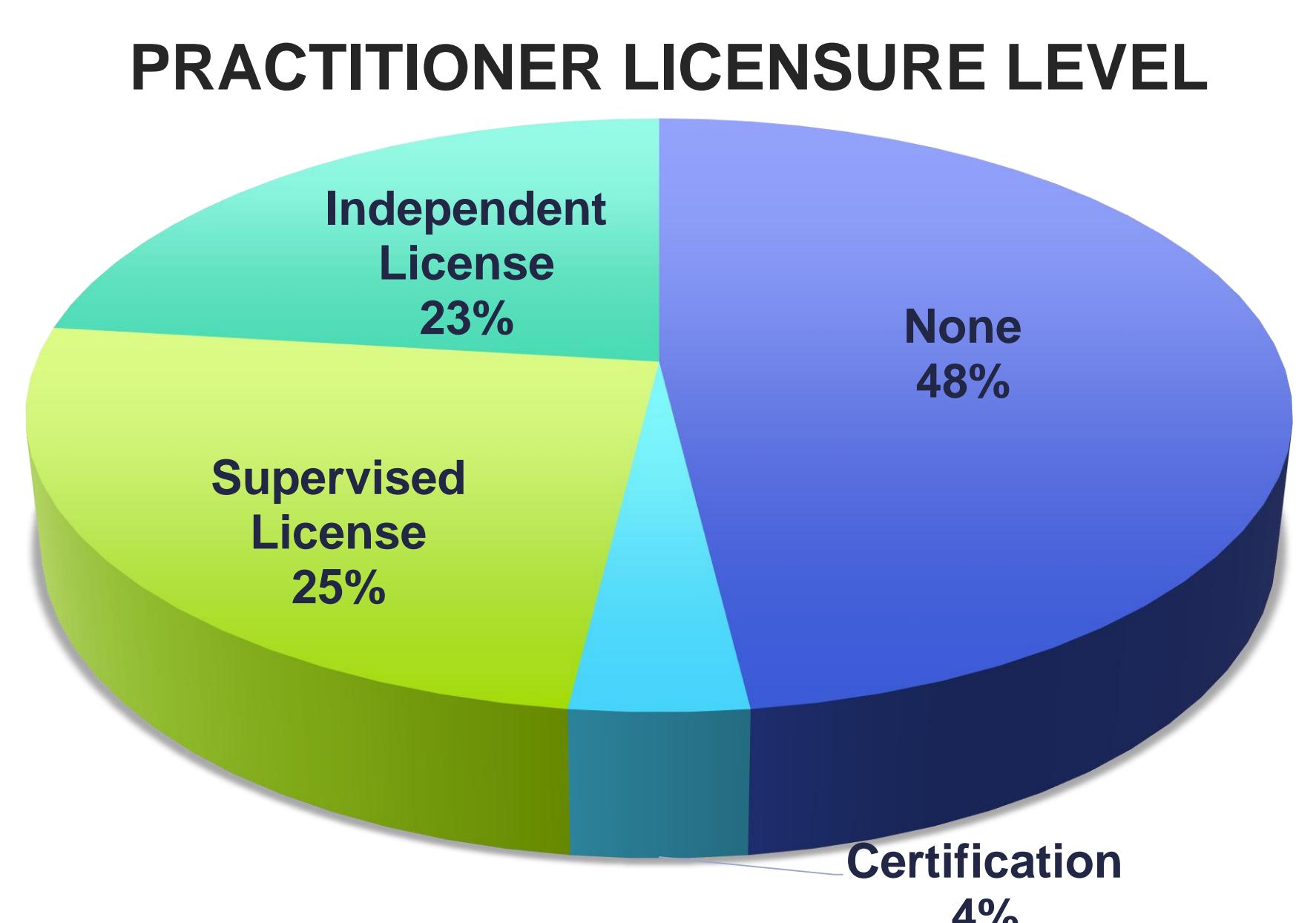


Table 1. Practitioner Demographics

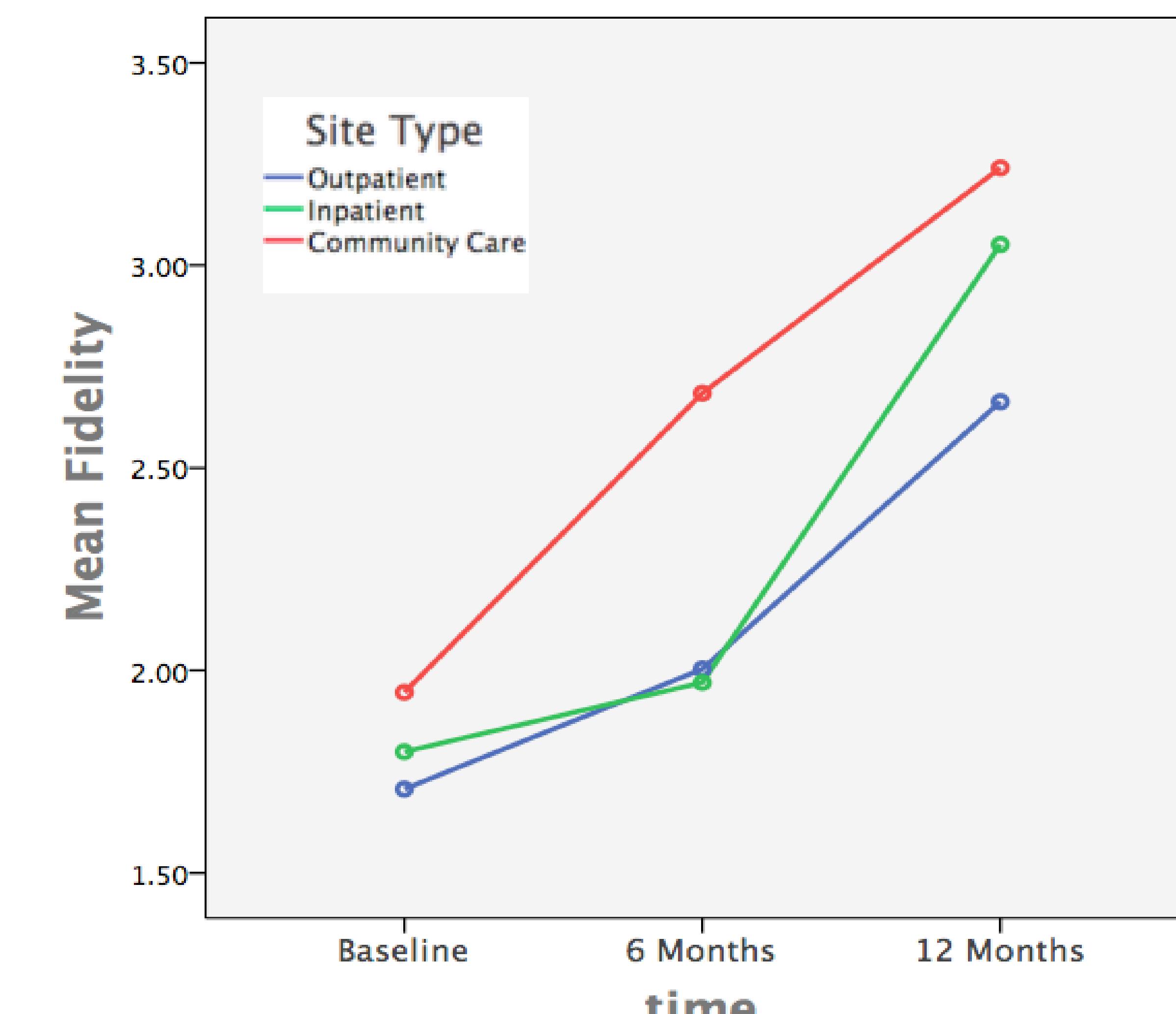
	Total	
Age	Mean	42.25
	SD	11.94
Sex	F	69%
	M	31%
Race	Black	14%
	Asian	12%
	Biracial	6%
	White	69%
Education	Some College	6%
	Associates	6%
	Bachelors	42%
	Masters	44%
	Doctoral	2%

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RESULTS

Treatment Site Fidelity Across Time



ANALYSIS

- A repeated measures ANOVA compared the 3 treatment settings across time.
- Mauchly's test revealed a violation of the assumption of sphericity, $\chi^2 (2) = 0.006$, $p = 0.997$
- The Greenhouse-Geisser correction for degrees of freedom was used, ($E = 1.000$)
- There was a significant effect of time and site type on fidelity scores, $F(3.999, 55.987) = 6.141$, $p = < 0.001$, $n^2_p = 0.305$
- Pairwise comparison of community care and outpatient treatment sites was significant ($MD = \pm 0.499$, $SE = 0.154$), $p = 0.009$, comparison of the inpatient treatment site with the outpatient was non significant, as was the comparison of community care and inpatient treatment sites.

Table 2. RM-ANOVA of 3 site types at baseline, 6 months, and follow up.

Source	SS	df	MS	F	p	Partial Eta Squared
Time	20.153	2.000	10.078	186.644	<0.001	0.870
Time * Site Type	1.326	3.999	.332	6.141	<0.001	0.305
Error (time)	3.023	55.987	0.054			

Table 3. Pairwise Comparisons of Site Types

Site Type (I)	Site Type (J)	95% Confidence Interval for Difference ^b				
		Mean Diff. (I-J)	Std. Error	p ^b	Lower Bound	Upper Bound
Outpatient	Inpatient	-0.149	0.183	1.000	-0.616	0.318
	Comm. Care	-0.499	0.154	0.009	-0.891	-0.107
Inpatient	Outpatient	0.149	0.183	1.000	-0.318	0.616
	Comm. Care	-0.350	0.172	0.155	-0.788	0.089
Comm. Care	Outpatient	0.499	0.154	0.009	0.107	0.891
	Inpatient	0.350	0.172	0.155	-0.089	0.788

^b. Bonferroni adjustment

DISCUSSION

- Each of the treatment settings improved in fidelity over time.
- There was significant variability between groups in fidelity during the implementation.
- Community care settings achieved significantly better fidelity than Outpatient settings.
- These differences suggest that the type of setting in which E-IMR is implemented presents unique challenges that ought to be addressed in training and consultation.
- These findings have limitations that highlight the need for more work in fidelity science.
- Future studies would benefit from larger sample sizes and consideration of additional factors contributing to differences between sites.