

# The Effects of Behavioral Health Reform on Safety-Net Institutions: A Mixed-Method Assessment in a Rural State

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# Presentation Objectives

- Provide an example of NIMH research funding for a public sector “naturalistic” system change event
- Identify mixed-methods research as useful strategy for conducting implementation research
- Highlight value of research partnerships and collaborations
- Present research findings for a system change / workforce study

# Introduction

- New Mexico announced reforms that will impact all publicly-funded mental health (MH) and substance abuse (SA) services (October 2003)
- First state in the nation to place all MH & SA related services under the management of a single private for-profit company, referred to locally as the “statewide entity”
  - ValueOptions New Mexico (2005-2009)
  - OptumHealth New Mexico (2009-present)
- A primary reform goal was to decrease duplicative and costly paperwork requirements for safety-net institutions (SNIs)

# Introduction (Continued)

- Behavioral health SNIs tend to be fragile and susceptible to the effects of policy changes
- SNIs generally serve the socially disadvantaged, functioning as important providers for individuals with limited access to care
- Changing organizational dynamics due to the reform efforts are likely to shape the work environments of SNIs

# Introduction (Continued)

- Public sector managed care reforms may disproportionately impact SNIs operating in **rural** areas:
  - Fewer financial resources to fund services, due to:
    - Higher levels of unemployment and poverty
    - Lower levels of insurance
    - Higher overall service delivery costs
    - Less specialty behavioral health care; greater reliance on paraprofessionals and mid-level providers whom managed care companies may not credential and reimburse for services
  - The small number of agencies in rural areas also creates a delicate service delivery infrastructure that is sensitive to change

# State Setting

- New Mexico represents a challenging context in which to plan for and deliver behavioral health services:
  - Sparsely populated state, with an estimated 2,009,671 people currently spread across 121,356 square miles.
  - Recently ranked 43<sup>rd</sup> in personal income per capita, 5<sup>th</sup> in persons below the poverty level, and 5<sup>th</sup> in lack of health insurance.
  - Thirty-two counties of 33 are federally designated as Mental Health Professional Shortage Areas.
  - Alcohol- and drug-induced death rates per capita rank 1<sup>st</sup> and 2<sup>nd</sup>, respectively

# Components of NIMH Study

- Two sets of multi-method, multi-level ethnographic research studies including:
  - 1) Extensive study of SNI personnel and consumers within 6 counties (3 urban and 3 rural)
    - Qualitative and quantitative data collected via:
      - Administrative database reviews
      - Structured and unstructured interviews
      - Observations
  - 2) Statewide study consisting of ethnographic interviews with state policy makers and structured surveys with SNI directors

# Specific Research Questions

1. How has implementation of behavioral health reform in New Mexico impacted organizational dynamics and SNI personnel?
2. Have rural SNI personnel experienced this reform differently than urban SNI personnel?

# Behavioral Health SNI Sample

- 14 behavioral health SNIs, located in 3 rural counties and 3 counties that included metropolitan areas
  - Six community mental health centers
  - Three substance use treatment centers
  - Two programs for homeless adults with co-occurring disorders
  - Three group practices
- Purposive sample targeted employees specifically involved in service delivery for adults with SMI
  - Lead administrators
  - Service providers
  - Support staff

# Research Design–Data Collection

- As part of the larger study:
  - Assessed SNIs over a 4-year period beginning in April 2006 (prior to major changes in the service delivery system)
  - Conducted participant observation, semi-structured interviews, and quantitative surveys with employees in each SNI at:
    - 9 months (Time 1 or T1) after initial implementation
    - 18 months (Time 2 or T2)
    - 36 months (Time 3 or T3)
  - Supplemental qualitative research conducted after T3 to document transition issues related to new statewide entity

# Research Design–Mixed Methods

- According to the conventions recently articulated by Palinkas and colleagues (2011) our mixed-methods approach had:
  - A structure of “QUAL + quant”
  - A primary function of “Convergence”
  - A secondary function of “Expansion”

# (n=325)

Variable	Rural Personnel (n=177)		Urban Personnel (n=148)	
Gender	%	n	%	n
Male	35.0	62	25.2	37
Female	65.0	115	74.8	110
Race/Ethnicity				
White	41.8	74	49.3	73
Hispanic	37.9	67	28.4	42
American Indian	16.9	30	19.6	29
Other	3.4	6	2.7	4
Education *				
< College Graduate	48.9	85	35.8	53
College Graduate	51.1	89	64.2	95
Employee Type				
Staff	20.9	37	12.2	18
Service Provider	58.2	103	63.5	94
Administrator	20.9	37	24.3	36
Age * (M / SD)	47.0 / 11.8	176	43.5 / 12.5	147

(1) Percentages are calculated from non-missing responses.

(2) \* Significant difference between groups ( $p < .05$ ).

# Methods: Qualitative Assessment

- Procedures
  - Semi-structured interviews that covered multiple domains
  - Observations (1600 hours) focused on service provision for adults with SMI and daily administrative operations
- Data analysis
  - Open coding via NVivo software
  - Focused coding via NVivo software
  - Triangulation of comprehensive site reports

# Methods: Quantitative Assessment

- Self-administered structured assessment, which was completed immediately prior to the semi-structured interview
  - Demographics
  - Organizational context, including personnel work attitudes
    - Job satisfaction (range 0-4, 10 items,  $\alpha=.87$ )
    - Organizational commitment (13 items;  $\alpha=.89$ )
- Data analysis
  - Multi-level regression to account for nested data structure
  - 2 models examined for each dependent variable
    - Rural county as an independent variable
    - Rural county as an interaction term with other variables
  - All analyses run using Xtmixed procedures (Stata 10.1)

# Findings: Qualitative

## Assessment

- At T1, approximately 9 months after reform implementation, SNI personnel reported several stressors in the workplace:
  - Time constraints
  - Paperwork burden
  - Demanding clients with complex needs
  - Provider shortages
- Reforms exacerbated by:
  - Reduced payment rates
  - New billing, reimbursement, and enrollment requirements
- SNI personnel received little technical assistance
- Additionally, rural SNIs typically lacked the technology needed to comply with new requirements

# Qualitative Assessment (Cont'd)

- Biggest struggles related to the information technology (IT) system developed to process both client enrollment and claims across multiple funding sources
  - Claims were denied with little or no explanation; typically attributed to a “glitch” in the system
  - In one (not uncommon) example, an SNI had an electronic file of 800 claims denied without reason; it took six employees working overtime to determine the cause—a number symbol used to indicate a client’s place of residence, e.g., Trailer #19
- Due to payment delays or the inability to bill, it was common for SNIs to absorb the costs of caring for low-income clients

# Qualitative Assessment (Cont'd)

- IT system problems began leveling off between T2 and T3
- However, new implementation challenges started to emerge
  - Hurried introduction of Comprehensive Community Support Services (CCSS) and simultaneous elimination of case management from benefits package
  - Transition to a new fee-for-service system, which increased administrative costs for SNIs that previously had received lump sum compensation
    - These increased costs were not offset by an intended reduction of duplicative reporting requirements in publicly-funded programs
    - Financial problems mounted for rural SNIs, which were more reliant on lump sum compensation than their urban counterparts

# Qualitative Assessment (Cont'd)

- Concerns of workers regarding the financial situation of their employers and job security first started surfacing in T1, and continued to linger throughout T2 and T3.
- These concerns were felt by:
  - Increased emphasis on productivity quotas
  - Less time devoted to collective activities to build camaraderie
  - Dwindling or non-existent cash reserves
  - Shorted workweeks and reduced salaries
  - Reduction in staff and programs
  - Decisions not to recruit new employees or to fill vacated positions

# Qualitative Assessment (Cont'd)

- In July 2009, the state government chose to contract with a new managed care company
- Because the existing IT system was considered “proprietary,” a new system had to be created from scratch
  - The replacement system was rife with problems since its inception, especially in the area of claims processing
  - Frustrating among SNI personnel and cash flow problems due to delays in claims processing mounted
- The new statewide entity failed to pay SNI and other providers throughout the state during its first four months of operation

# Quantitative Assessment

- Examined 2 measures of personnel work attitudes during implementation of the reforms:
  - Employee job satisfaction
  - Employee organizational commitment
- Used multi-level modeling approaches to account for nested data structure:
  - Multiple observations within person (T1 – T3)
  - Multiple persons within each SNI
- Assessed for rural / urban differences using two approaches:
  - Rural county as an independent variable
  - Rural county as an interaction term with each independent variable

# MLRM Results - Job Satisfaction<sup>a</sup>

Variable	Model 1		Model 2	
	$\beta^b$	95% CI <sup>b</sup>	$\beta$	95% CI
Rural	<b>-0.293**</b>	-0.483 -0.103	-0.463	-1.409 0.484
Age	<b>0.007*</b>	0.001 0.013	-0.007	-0.016 0.002
Rural x Age			<b>0.025***</b>	0.012 0.037
Provider	<b>-0.230**</b>	-0.372 -0.088	-0.041	-0.248 0.165
Rural x Provider			<b>-0.325*</b>	-0.607 -0.044
Time period	<b>-0.429*</b>	-0.817 -0.040	0.015	-0.518 0.547
Rural x Time period			<b>-0.827*</b>	-1.603 -0.514
Time period <sup>2</sup>	<b>0.087†</b>	-0.009 0.184	-0.021	-0.153 0.110
Rural x Time period <sup>2</sup>			<b>0.204*</b>	0.011 0.396
Intercept	2.957	2.466 3.448	3.054	2.390 3.718

† p<0.10; \* p<0.05; \*\*p<0.01; \*\*\*p<.001

<sup>a</sup> MLRM – Multi-Level Regression Model; all models control for gender, ethnicity (Caucasian compared to non-Caucasian), and education (college grad. compared to non-college grad.)

<sup>b</sup>  $\beta$ = coefficient; 95% CI = 95% Confidence Interval

# MLRM Results – Org. Commitment<sup>a</sup>

Variable	Model 3		Model 4	
	$\beta^b$	95% CI <sup>b</sup>	$\beta$	95% CI
Rural	<b>-0.232<sup>†</sup></b>	-0.495 0.314	-0.541	-1.487 0.406
Age	0.004	-0.002 0.010	<b>-0.008<sup>†</sup></b>	-0.017 0.001
Rural x Age			<b>0.022<sup>***</sup></b>	0.010 0.034
Provider	<b>-0.316<sup>***</sup></b>	-0.455 -0.178	<b>-0.177<sup>†</sup></b>	-0.379 0.026
Rural x Provider			<b>-0.234<sup>†</sup></b>	-0.511 0.043
Time period	<b>-0.524<sup>**</sup></b>	-0.911 -0.137	-0.160	-0.686 0.366
Rural x Time period			<b>-0.695<sup>†</sup></b>	-1.461 0.071
Time period <sup>2</sup>	<b>0.131<sup>**</sup></b>	0.036 0.227	0.034	-0.095 0.164
Rural x Time period <sup>2</sup>			<b>0.187<sup>†</sup></b>	-0.003 0.377
Intercept	3.271	2.772 3.771	3.462	2.798 4.127

† p<0.10; \* p<0.05; \*\*p<0.01; \*\*\*p<.001

<sup>a</sup> MLRM – Multi-Level Regression Model; all models control for gender, ethnicity (Caucasian compared to non-Caucasian), and education (college grad. compared to non-college grad.)

<sup>b</sup>  $\beta$ = coefficient; 95% CI = 95% Confidence Interval

# Key Quantitative Findings

- Rural and urban personnel job satisfaction and organizational commitment differed during reforms
  - Overall “negative” rural effect disappeared in the more nuanced rural interaction model
  - Rural **providers** have more “negative” work attitudes than other personnel
  - **Rural personnel had a curvilinear change** in work attitudes over time
    - Large “negative” drop from T1 to T2
    - Turned positive from T2 to T3
  - However, **older** rural personnel tended to have more “positive” work attitudes than older urban personnel
- The rural interaction models fit the data the best
- Multi-level models were appropriate (substantial ICCs at person and agency level)

# Mixed-Method Results Summary 1

Approach	Qualitative	Quantitative
<b>Question</b>	<i>How has implementation of the reform impacted organizational dynamics and SNI personnel?</i>	
<b>Answer</b>	Semi-structured interviews and observations indicate that SNI personnel faced increased stress related to persistent IT system problems, burdensome processes to enroll clients, procure authorizations, and submit claims, and heightened concerns over agency stability and job security due to financial problems experienced by SNIs under the reform.	Quantitative assessments provide evidence of initial declines in job satisfaction and organizational commitment among SNI personnel as the reforms were implemented.  However, decreases in the measures of job satisfaction and organizational commitment diminished over time.

# Mixed-Method Results Summary 2

Approach	Qualitative	Quantitative
<b>Question</b>	<i>Have rural SNI personnel experienced the reform differently from urban SNI personnel?</i>	
<b>Answer</b>	Yes: Rural SNI personnel experienced greater problems under the reform, largely owing to limited workforce capacity and technological infrastructure, as well as the lack of prior experience with managed care.	Yes: Rural SNI personnel appear to have experienced significant initial declines in job satisfaction and organizational commitment, whereas urban personnel demonstrated little change.

# Discussion

- Our mixed-method approach, “QUAL + quant,” largely demonstrated **convergence** between the two sets of data collected for this study
- Qualitative data pointed to several sources of increased stress for SNI personnel:
  - Persistent IT system problems
  - Burdensome processes to enroll clients, procure authorizations, and submit claims
  - Heightened concerns over agency stability and job security

# Discussion

- Quantitative data suggested rural staff tended to report worsening conditions between T1 and T2, but some improvements in work attitudes between T2 and T3
  - This finding could be the result of resilience among SNI providers or adaptation to the new conditions
  - However, the transition to a new statewide entity was not captured in the quantitative work
  - This second shift may have undermined staff resilience and adaptation

# Discussion

- Direct **service providers** in rural SNIs may have experienced particular stresses as they reported more negative assessments than other staff
- In our qualitative work, providers complained vociferously about the increased administrative burden under the reform, as it diverted time and attention away from client care in understaffed SNIs
- The risk and reality of SNIs reducing services or going out of business also emerged
  - 1 urban and 1 rural SNI in our study closed between T1 and T3
  - Another rural SNI closed soon after T3

# Discussion

- Findings call into question system-level implementation processes (or lack thereof) and the reform's overall capacity to streamline requirements and to reduce administrative burden and costs for SNIs
- Contracting with a single corporate entity led to increased centralization and cost-containment via rigid spending and reimbursement rules, but did not reduce bureaucracy for SNIs
- 
- Need to augment **support for rural** SNIs that experience poor organizational climate and those that lack fiscal reserves, to help them successfully weather further transitions related to reform

# Limitations

- This particular work focused on a subset of adult-serving SNIs affected by reform:
  - It does not document the experiences and perceptions of independent practitioners and primary care providers or child and adolescent specialists
  - It does not assess the perspectives of government officials or statewide entity personnel, or other key shareholders, such as service users and their families
  - It does not investigate SNI issues in relation to other reform goals (e.g., promotion of culturally competent, recovery-oriented services, evidence-based treatment, and development of community-based systems of care.
  - Such perspectives/issues are considered in separate publications by the research team

# Conclusion

- Behavioral health reform in New Mexico represented an ambitious undertaking in which the specific challenges faced by SNIs were not fully considered
- This managed care reform exerted significant pressure on the rural and urban safety net
  - It adversely impacted the work environments of direct service agencies providing the bulk of care to adults with SMI
  - Rural SNIs and their staff appeared particularly vulnerable
- The types of challenges faced by the SNIs could be averted in future reform through greater attention to:
  - Local contextual conditions, workforce, and infrastructure
  - Recurring problems of escalating administrative costs under managed care

# References

- Palinkas, L., Aarons, G., Horwitz, S., Chamberlain, P., Hurlburt, M., & Landsverk, J. (2011). Mixed method designs in implementation research, *Administration and Policy in Mental Health*, 38:44–53

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