

The Impact of Resident Safety Culture on Quality Outcomes in Intellectual Disabilities: A Study of Tennessee Community Agencies

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Safety Culture In DIDS

This is the first known organizational culture study done in the field of intellectual disabilities or behavioral health, and it was a state-wide study

It is one of the first studies to assess safety culture in long term care using the AHRQ model, and one of the few studies in healthcare to assess the relationship between measures of safety culture and quality outcomes

It is an exploratory study using quantitative data to assess levels of organizational safety culture and determine if there are significant relationships between safety culture and quality outcomes

Hypotheses

Tennessee community service providers with higher levels of resident safety culture will score better on DIDS Quality Management Domains compared to agencies with lower levels of safety culture

There are significant differences in the number of protection from harm events for Tennessee community service providers that have lower levels of safety culture compared to agencies with higher levels

There were no pre-study conclusions about the impact of agency size, region or whether it was in an urban v rural area, but these variables were in the model

Methodology

Questionnaire given to 5081 staff from 75 community agencies: June/July 2009

Unit of analysis: TN community agencies providing residential services

Report cards for each agency completed and aggregate data tabulated

Simple correlation done to assess significant relationships between levels of safety dimensions and quality outcomes

Multiple Regression Analysis

Safety Culture Dimensions

- Overall Perception of Safety
- Feedback and communication about error
- Supervisor/Mgt Expectations and Actions
- Organizational Learning
- Managerial Support
- Training and Skills
- Compliance with Procedures
- Teamwork
- Handoffs
- Communication Openness
- Non-punitive Response to Mistakes
- Staffing

Tennessee Division of Intellectual Disabilities

DIDS Organization: Central Office and 3 Regional Offices

Annual Operating Budget: \$863 Million of a State budget of 28 Billion

3 State Developmental Centers: 500 residents

450 Private Contractors

100 Private Contractors of Residential Care: 6000 residents

Since 1994 has been under Federal Judicial Settlement Agreements and Court Decrees

2009 DIDS Annual Report

Study Time Frame

- Approval by Deputy Commissioner: January 2009
- Survey of available resources and data with DIDS Feb/March
- Review by Central Office Staff: March
- Outline of Project Presented to Agencies and RO Staff: April/May 2009
- Participating Agencies Identified: May
- Survey forms completed June-July
- Survey Data Collected and Analyzed/Sept 2009
- Agency reports given out in Nov/Dec
- On-going data analysis

Culture Survey Participants

- 75 Community Providers voluntarily participated
- 27 East Region; 30 Middle Region; 18 West Region
- 32 Urban and 43 Rural
- Agency participant range: 24 to 150 per agency
- 5081 Total Participants
- 84% of surveys returned: 70 to 100%
- 24% Managerial/Supervisors; 67% Direct Care; 9% Other
- 1854 Participants answered the open-ended question

Safety Culture Survey Results

Overall Average Score For All
Dimensions 72*

Dimension Ranges: 86 to 52

Overall: Mgt—76;

Direct Care—70;

Other—73

High: Overall Perception of
Safety/Feedback on Events

Low: Non-punitive
environment and
Communication Openness

Mgt/Supervisory more positive than direct care in 10 of 12 dimensions.
Exceptions: Training and Staffing

Biggest differential between Management/Supervisory and Direct Care
was in Communication Openness: 16 %

Overall results similar to model involving long term care by AHRQ

*Overall and Individual Dimensions range: 0-100

Composite Scores for Safety Dimensions

Dimension	DIDS Average	Range	Mgt	Direct Care	Other
Overall Perception of Safety	86	100-59	89	86	86
Feedback & Communication	86	100-67	89	84	90
Supervisor/Mgt Expectations	83	100-55	85	81	88
Org Learning	69	100-36	69	67	72
Management Support	67	100-34	75	63	68
Training/Skills	77	100-47	76	80	67

Composite Scores for Safety Dimensions

Dimension	DIDS Average	Range	Mgt	Direct Care	Other
Compliance W/Procedures	74	100-49	78	74	72
Teamwork	69	100-40	70	69	67
Handoffs	78	100-48	80	77	78
Communication Openness	54	100-23	65	49	61
Non-Punitive Response	52	95-24	61	47	56
Staffing	65	100-39	58	68	66

Safety Culture Survey Results

Most Positively Answered Questions

Residents are well cared for in this agency

Staff tell someone when they see a significant issue

My immediate supervisor follows up on safety issues

This agency is a safe place for residents

Safety Culture Survey Results

Most negatively answered questions

Staff are blamed when an event occurs

Staff opinions are ignored in this agency

We have enough staff to handle the workload

Staff are afraid to report their mistakes

AHRQ Long Term Care Safety Study

The first published study utilizing AHRQ's Long Term Patient Safety Survey found that their scores were much lower than the AHRQ model but they stated that their sample was small and the results might not be generalizable. The overall conclusion was that much more research needs to be done using a larger sample of long term care facilities. They also stated that some form of quality measure must be used to assess the impact of safety culture on quality.

Castle et al., December 2009

Safety Culture Comparative Data

Dimension	TN DIDS	AHRQ Nursing Homes	AHRQ Hospitals	TN Hospitals
Overall Safety Perception	86	87	64	69
Feedback	86	85	63	68
Mgt Expectations	83	81	75	80
Org Learning	69	76	71	77
Mgt Support	67	72	70	78
Training/Skills	77	72	NA	NA

Safety Culture Comparative Data

Dimension	TN DIDS	AHRQ Nursing Homes	AHRQ Hospitals	TN Hospitals
Compliance	74	67	NA	NA
Teamwork	69	67	57	64
Handoffs	78	63	44	49
Openness	54	58	62	67
Non-Punitive	52	55	44	50
Staffing	65	48	52	55

Summary of Comparative Data

- AHRQ recommends that a 5% differential in comparative scores be used to measure significant differences
- TN DIDS scores are more in line with the nursing home scores than acute care as the difference is 5% or less in 8 of the 12 dimensions
- In comparing TN DIDS dimension scores to the AHRQ hospital scores the difference is equal to or less than 5% in only 2 of the 10 dimensions
- In comparing TN DIDS dimension scores to the TN Hospital study the difference is equal to or less than 5% in 3 of the 10 dimensions

TN DIDS Quality Management Domains

- Total Quality Management Score
- Individual Planning and Implementation
- Safety and Security
- Rights, Respect and Dignity
- Health
- Choice and Decision Making
- Relationships and Community Membership
- Opportunities for Work
- Provider Capabilities and Qualifications
- Administrative Authority and Accountability

Quality Management Domain Scoring

Each Quality Domain is scored on an annual survey and given a rating of 1-6

The Domain scores are added together with a range of 1-54

Each Agency also receives a categorical score based on the total domain score

Significant Correlations

- There were significant statistical correlations between the safety dimensions and the Total Quality Management scores and 8 of the 9 quality domains
- There were significant statistical correlations between size of an agency and safety culture levels but no significant correlation between size and quality management scores
- There were significant correlations between size and reported protection from harm occurrences but DIDS does not maintain a data base that can tabulate this is an objective rate measure
- There were no statistical correlations between regions and urban v rural

Statistical Analysis

- The data show there are numerous significant relationships between the various measures of the safety dimensions and the quality management outcomes. The exception was for Quality Domain 6 which involves a resident and their family in decision making. It is logical that the safety culture levels of agency staff may not have an impact on this domain.
- The inter-correlation correlation between the safety dimensions was high and it appears that each of the 12 dimensions were measuring much of the same thing. In the multiple regression analyses, once one of the safety dimensions entered the equation, the other dimensions did not explain enough of the remaining variability to be useful

Research Limitations

- Lack of qualitative data to provide insight into quantitative data
- Small number of agencies in study
- The breakout of staff job categories was limited
- No involvement of residents or families

Conclusions

- Organizations in the field of intellectual disabilities may have a distinct level of organizational safety culture that is similar in pattern to other organizations in long term care
- The field of long term care may have a distinct level of organizational safety culture that differs from acute care and other fields of healthcare
- There are significant correlations between safety culture levels and quality outcomes although a direct causal relationship may be impossible to identify
- In order to affect organizational outcomes, more research will be required utilizing qualitative data.
- Studies will be required that focus on specific safety culture dimensions and outcomes
- A full regression study of different grouping of the safety dimensions may lead to more significant statistical analyses

Safety Culture Study Applications

Provide all agencies with report cards and comparative data

Significant Grant Funds for Future Research is pending final approval

Establishment of a DIDS multi-dimensional group to develop a work plan: Individual Agencies; Regional Office Support; DIDS Policies/Procedures; Education/Training

Possible use by creative managers as human resource tools

Potential Accreditation Tool: Commission for the Accreditation of Rehabilitation Facilities/Joint Commission applications

AHRQ Consideration for Behavioral Health Safety Culture Survey Tool

Future Research

- Case Studies for qualitative data for additional insight into safety culture levels
- Studies to link specific culture measures with specific outcomes
- Additional statistical models to explain data especially utilizing a larger sample

Postscript

Leadership in the Field

Three state Divisions working with Intellectual Disabilities turned down offers to do the study in Developmental Center settings

TN DIDS: Change of Deputy Commissioner March 2010

The project and follow-up action was stopped in spite of several pending grants

A Special Thank You!

- Dr Joann Sorra and the staff of Westat
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