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The Trauma Center Organizational Culture Survey: development and conduction

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ABSTRACT

Background: The Trauma Center Organizational Culture Survey (TRACCS) instrument was developed to assess organizational culture of trauma centers enrolled in the American College of Surgeons Trauma Quality Program (ACS TQIP). The objective is to provide evidence on the psychometric properties of the factors of TRACCS and describe the current organizational culture of TQIP-enrolled trauma centers.

Methods: A cross-sectional study was conducted by surveying a sampling of employees at 174 TQIP-enrolled trauma centers. Data collection was preceded by multistep survey development. Psychometric properties were assessed by an exploratory factor analysis (construct validity) and the item-total correlations and Cronbach alpha were calculated (internal reliability). Statistical outcomes of the survey responses were measured by descriptive statistics and mixed effect models.

Results: The response rate for trauma center participation in the study was 78.7% ($n = 137$). The factor analysis resulted in 16 items clustered into three factors as described: opportunity, pride, and diversity, trauma center leadership, and employee respect and recognition. TRACCS was found to be highly reliable with a Cronbach alpha of 0.90 in addition to the three factors (0.91, 0.90, and 0.85). Considerable variability of TRACCS overall and factor score among hospitals was measured, with the largest interhospital deviations among trauma center leadership. More than 80% of the variability in the responses occurred within rather than between hospitals.

Conclusions: TRACCS was developed as a reliable tool for measuring trauma center organizational culture. Relationships between TQIP outcomes and measured organizational culture are under investigation. Trauma centers could apply TRACCS to better understand current organizational culture and how change tools can impact culture and subsequent patient and process outcomes.

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1. Introduction

Organizational culture has been defined as what is valued, dominant leadership styles, the language and symbols, the procedures and routines, and the definitions of success that make an organization unique [1]. Ravasi and Schultz [2] further characterized organizational culture as a system of shared mental assumptions that guide interpretation and action in organizations by defining appropriate behavior for various situations. The theory of organizational culture comes from a combination of organizational psychology, social psychology, and social anthropology. The term organizational culture was first seen in academic literature in an article by Pettigrew [3]. Over the last three decades, it has been studied extensively—particularly in the setting of business organizations. Organizational culture has been stated to affect the way people and groups interact with each other, with clients, and with stakeholders. Healthy organizational culture at a corporation or business is noted to increase productivity, growth, efficiency, and to reduce counterproductive behavior [4,5].

In recent years, tremendous focus has been placed on improving the quality of delivered health care. Interest in the role of organizational culture in health care is not new and approximately a dozen instruments have been designed to measure organizational culture in the health-care setting [6]. Healthy organizational culture in the health-care setting has been demonstrated to improve patient safety, health-care processes, and overall patient satisfaction post-discharge [7–9]. In addition, innovation [10,11], patient satisfaction [12,13], and employee job satisfaction [14–18] have all been noted to be influenced by organizational culture. Although these measures are related to process and structure, no direct relationship between organizational culture and patient outcomes (morbidity, mortality, and complication rates) has been demonstrated. Furthermore, organizational culture has never been measured in the setting of the trauma center.

Survey instruments designed to measure the health of an organization's culture are commercially available. However, there are currently no survey instruments designed specifically to understand organizational culture within a trauma center. The aim of this study was to develop and administer an organizational culture survey to evaluate trauma centers enrolled in the American College of Surgeons Trauma Quality Improvement Program (ACS TQIP). In this present study, we hypothesized that organizational culture can be measured using a validated survey and that organizational culture is variable among ACS-verified trauma centers. The establishment of an instrument measuring organizational culture will be significant for future studies evaluating the relationship of organizational culture to patient outcomes.

2. Methods

2.1. Study design

We developed a survey instrument and conducted a cross-sectional study of organizational culture across trauma centers participating in the ACS TQIP. This study was approved by the Scott & White Healthcare Institutional Review Board.

2.2. Survey development

The Trauma Center Organizational Culture Survey (TRACCS) was designed based on previously described characteristics of healthy organizational cultures. Those characteristics include: acceptance and appreciation for diversity, regard for and fair treatment of each employee, employee pride and enthusiasm for the organization, equal opportunity for each employee to realize their potential, strong communication pathways, strong leaders, ability to compete in the industry, lower than average turnover rates, and organizational investment in employee learning and training. To further confirm characteristics of high-performing trauma centers, we conducted detailed interviews and focus groups of key informants who had direct experience with the topic of interest, trauma center organizational culture [19]. Those individuals were trauma medical directors, trauma program managers, trauma registrars, and trauma center nursing staff selected from centers, outside primary study site, with high performance in TQIP analysis. Thirty-seven questions were crafted conceptually related to these nine areas (see Appendix). In further detail, the survey was constructed such that there were three to five questions designed to measure each of the nine content areas. This was to ensure consistent and thorough evaluation of each of those areas. Content validation was conducted using five content experts including physicians, psychologists, educators, and survey research in trauma, organizational culture, psychology, and survey development. These content experts were from different institutions across the country, including the primary study site. The survey was pilot tested at four TQIP-enrolled trauma centers via full distribution within those centers for further refinement before final survey administration. Due to the need to only change minor demographic items, the pilot centers were included in the final analysis. Survey items were scored on a five-point Likert-type scale scored 1 (strongly disagree) to 5 (strongly agree), indicating the extent of their disagreement or agreement to the current organizational culture of their trauma center. The final survey instrument administered consisted of 37 items, 6 demographic questions, and 1 institutional demographic identifier.

2.3. Data collection

TQIP centers were invited to participate in the study via an email to the institutional TQIP contact (usually the trauma program manager or medical director) that included an electronic SurveyMonkey (Palo Alto, CA, www.SurveyMonkey.com) link to the survey. The TRACCS instrument was sent electronically to all 174 participating TQIP centers as of January 2013. Participating centers were asked to distribute the survey as widely as possible to the following groups: trauma office personnel, administration, operating room nursing staff, intensive care unit nurses, trauma mid-level providers, emergency department [ED] nurses and physicians,