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RESEARCH BRIEF

Compassion Practices and HCAHPS: Does Rewarding and Supporting Workplace Compassion Influence Patient Perceptions?

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Objective. To examine the benefits of compassion practices on two indicators of patient perceptions of care quality—the Hospital Consumer Assessment of Healthcare Providers and systems (HCAHPS) overall hospital rating and likelihood of recommending.

Study Setting. Two hundred sixty-nine nonfederal acute care U.S. hospitals.

Study Design. Cross-sectional study.

Data Collection. Surveys collected from top-level hospital executives. Publicly reported HCAHPS data from October 2012 release.

Principal Findings. Compassion practices, a measure of the extent to which a hospital rewards compassionate acts and compassionately supports its employees (e.g., compassionate employee awards, pastoral care for employees), is significantly and positively associated with hospital ratings and likelihood of recommending.

Conclusions. Our findings illustrate the benefits for patients of specific and actionable organizational practices that provide and reinforce compassion.

Key Words. Compassion practices, management practices, HCAHPS, patient perceptions of care, quality of care

The Center for Medicare and Medicaid Services' (CMS) 2013 implementation of value-based purchasing (Federal Register 2011a) ties hospital reimbursement to quality metrics, including patient ratings of the care experience, specifically, the Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) ratings. This shift provides incentives to hospitals to emphasize care quality in general and patient perceptions of the care experience in particular (Federal Register 2011a). Although some studies show that structural factors (e.g., profit status, Jha et al. 2008), nurse staffing ratios (Kutney-Lee et al. 2009), and cultural competence (Weech-Maldonado et al.

2012) relate to HCAHPS, our understanding of how organizational practices can influence HCAHPS remains limited.

Organizational practices are more likely to influence HCAHPS when they elicit care that patients view as high quality—attentive and responsive to their individual preferences and needs (i.e., patient-centered care, Heskett et al. 1994; Kahn 2005; Rathert, Wyrwich, and Boren 2013). In other words, *compassionate* care that notices, feels, and responds to the suffering of others (von Dietze and Orb 2000; Lown, Rosen, and Marttila 2011) represents a specific form of patient-centeredness (Institute of Medicine 2001; Rathert, Wyrwich, and Boren 2013). Prior work theorizes and finds that organizational practices can foster compassion. These practices benefit organizations by enhancing the degree to which an organization and its employees notice, feel, and respond to workplace suffering (Dutton et al. 2006; Lilius et al. 2011). We build on this growing body of research to theorize how two organizational practices tailored to noticing, feeling, and responding to the multifaceted sources of suffering in an organization (i.e., caregivers, families, and patients) affect HCAHPS. Specifically, we explore how compassion practices—recognizing and rewarding compassionate acts by caregivers and compassionately supporting caregivers in coping with the stresses and traumas experienced at work creates a context whereby it is easier to effectively detect, feel, and respond to suffering.

Recognizing and rewarding compassionate acts makes caregivers more likely to establish a connection with their patients (Kahn 1998) and provide more holistic care that treats the whole person rather than just illness (Brody 1992; Cassell 2002). Rewarding compassionate acts also fosters empathic concern that enables caregivers to quickly notice when patients are “off” or “not themselves” (Lilius et al. 2011) and customize their treatment accordingly. By reinforcing more holistic and personalized care, compassion practices are likely to elicit satisfaction with the caregiving experience (Innis et al. 2004; Wolosin, Ayala, and Fulton 2012) and more favorable patient perceptions of care quality (Jha et al. 2008). For example, numerous hospitals utilize “Daisy Awards” that publicly recognize compassionate care in nursing (Daisy Foundation 2011).

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Practices that support caregivers can help manage the costs of compassion to caregivers (Hoffman 2008) like compassion fatigue or exhaustion resulting from absorbing others' suffering (Figley 1995). Without organizational mechanisms for managing such strain, burnout (Kahn 1993; Maslach and Goldberg 1998) and reduced productivity (Frost 2003) can result. Organizational practices can help caregivers cope with the demands of their work (Lilius et al. 2011) by creating outlets (e.g., pastoral care) and forums (e.g., meetings) to process their emotions and provide support (Kahn 2005). For example, Cleveland Clinic has "Code Lavender" teams that respond to employees in need of emotional and spiritual support resulting from work-related trauma (Gregoire 2013). Being supported in this way can increase psychological engagement (Kahn 1990) and connection to the organization (Lilius et al. 2008), making caregivers more likely to reciprocate and generalize compassionate behavior (Abendroth and Flannery 2006; Fowler and Christakis 2010) and provide high-quality care. Appendix SA2 provides additional examples from prior research and our own qualitative work regarding compassion practices.

DATA AND METHODS

Research Design and Sample

We used the American Hospital Association database to draw a random sample of 639 nonfederal acute care U.S. hospitals, and used a key informant approach (Huselid 1995; Guthrie 2001) to assess compassion practices. Specifically, we surveyed the VP of Human Resources and either the Chief Operating Officer or Chief Executive Officer for each hospital between January 2011 and March 2011. We used Dillman's (2000) tailored design method to increase survey response rates. Two hundred and sixty-nine out of 639 hospitals completed the survey with usable responses, a 42 percent response rate. We found no difference between early and late responders (Rogelberg and Stanton 2007), hospitals with one (116 hospitals) or multiple (153 hospitals) respondents. We compared respondents with nonrespondents on study variables and found (see Table 1) that respondents did not differ from nonrespondents in terms of organizational size, teaching status, MagnetTM status, staffing intensity, and other variables. However, higher performers on the HCAHPS measures and nonprofit hospitals were more likely to respond to the survey (Weech-Maldonado et al. 2012). To address this, we conducted weighted least squares regression (Rubin and Little 2002;

Table 1: Comparison of Respondents and Nonrespondents

	<i>Respondents</i>		<i>Non-Respondents</i>		<i>p-value</i>
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	
RUCA	2.43	2.15	2.35	2.19	.633
Magnet [†]	0.12	0.33	0.08	0.269	.062
Teaching [†]	0.13	0.33	0.11	0.318	.619
Size	253.04	186.16	249.28	193.03	.805
Religious [†]	0.13	0.34	0.11	0.314	.457
For-profit [†]	0.12	0.32	0.24	0.426	.000***
RN staffing [‡]	0.0028	0.001	0.0026	0.0009	.102
PN readmissions [§]	18.57	1.63	18.73	1.70	.241
HF readmissions [§]	24.74	1.86	25.00	2.12	.098
Hospital rating [¶]	67.88	7.08	66.25	7.79	.006**
Recommend [¶]	69.92	8.22	67.92	9.11	.003**
<i>N</i>	269		370		

[†]Denotes dichotomous variable; differences were tested using chi-squared tests.

[‡]RN staffing is the number of RN full-time equivalents per case mix adjusted patient day.

[§]PN readmissions is the pneumonia readmissions rate, HF readmissions is the heart failure readmissions rate.

[¶]Hospital rating is percentage of patients reporting a “top-box” score of 9 or 10. Recommend is the percentage of patients that would “definitely recommend” the hospital.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

RN, registered nurse; RUCC, rural-urban commuting code.

Halbesleben and Whitman 2013). Next we discuss our measures, then the analytical approach.

Measures

HCAHPS. Our dependent variables were derived from CMS’s October 2012 release of HCAHPS data. HCAHPS measures are derived from survey responses from a random sample of recently discharged patients regarding aspects of their hospital experience, including the two global measures used in this study as well as other specific aspects of care (e.g., the discharge process). We used data collected from individuals hospitalized between January 2011 and December 2011. Specifically, we utilized the two HCAHPS global measures (Jha et al. 2008)—overall rating of the hospital (i.e., released as the percentage of patients reporting a “top-box” score of 9 or 10 on a 0–10 scale) and the likelihood of recommending the hospital to a friend or family member (i.e., released as the percentage of patients reporting they would “definitely recommend” the hospital). Both measures were patient-mix adjusted to

control for demographic characteristics that affect how patients respond to them (Elliott et al. 2009). To normalize these proportional measures for our regression analysis, we transformed them using an arcsine-root transformation (Osborne 2002). The arcsine-root transformation is used when working with proportions and percentages. The proportion “p” can be made nearly “normal” if the square root of p is multiplied by the arcsine (Ott, Longnecker, and Ott 2001; Osborne 2002).

Compassion Practices. We assessed compassion practices using five items (Cronbach’s alpha = 0.82) measured on a 1–7 Likert-type scale indicating the extent to which a practice was used in the hospital to reward compassion or compassionately support employees (see Appendix SA3). Items assessed the extent to which a hospital uses recognition programs to reward employees for acts of caring shown to patients, families, and other employees. Other items measured the use of formal compassionate caregiver/employee award programs, the extent to which the hospital provides pastoral care for employees, and facilitates support sessions for departments under duress. Exploratory factor analysis supported a one-factor solution as all five items loaded onto a single factor with all item loadings greater than 0.62.

To ensure that the compassion practices scale was meaningful at the hospital level, we conducted several tests to assess the appropriateness of aggregating individual responses to the hospital level. Specifically, we assessed between hospital differences using an ANOVA with hospital as the independent variable and compassion practices as the dependent variable ($F = 3.26$, $p < .001$). We examined within hospital homogeneity using two intraclass correlation measures: ICC(1), the proportion of variance explained by group (hospital) membership and ICC(2), the group mean reliability. ICC(1) was 0.62 and ICC(2) was 0.70. Taken together, these statistics indicate it is appropriate to aggregate individual survey responses to the hospital level (Wagner, Rau, and Lindemann 2010).

Control Variables. We controlled for several variables previously demonstrated to be associated with HCAHPS global ratings or patient satisfaction (Fleming 1981; Aiken et al. 1999; Young, Meterko, and Desai 2000; Jha et al. 2008; Lehrman et al. 2010) or potentially linked with compassion (White and Dandi 2009). Specifically, we controlled for hospital size (i.e., number of patient beds, Young, Meterko, and Desai 2000) and location (i.e., how rural a

hospital is) using a zip code approximation of the rural urban commuting code (RUCA) score (WWAMI Rural Health Research Center 2004). RUCAs are based on census tract characteristics, including population density, urbanization, and commuting patterns, to rate each hospital on a 1–10 scale (Doty et al. 2008; United States Department of Agriculture 2000). We included teaching status (1 if belonging to the Council of Teaching Hospitals, 0 otherwise, Fleming 1981), magnet status (1 if designated “magnet” by the American Nurses Credentialing Center, 0 otherwise, Aiken et al. 1999), staffing intensity (the number of full-time equivalent RNs per case mix adjusted patient days, Zhao et al. 2008), ownership status (1 if for-profit, 0 otherwise, Jha et al. 2008), religiously affiliated hospitals (1 for religiously affiliated, 0 otherwise, White and Dandi 2009), and the natural logarithm of the average of Medicare readmission rates for heart failure and pneumonia from CMS’s October 2012 release (Axon and Williams 2011).

Analysis

To account for any response bias, we used weighted least squares regression with the inverse of the HCAHPS score for each hospital as the weight (e.g., $1/\text{hospital rating}$ when hospital rating is the dependent variable). This is consistent with approaches that weight based on known population characteristics to make the sample more representative of the population (Rubin and Little 2002). In effect, it gives greater weight to groups with lower response rates, but in doing so it assumes those respondents are similar to their population (Halbesleben and Whitman 2013), an important limitation we revisit later. We use this measure to assign weights to each responding case to more heavily weight hospitals with lower scores. Weighting by HCAHPS global scores also corrects for the underrepresentation of for-profit hospitals because for-profit status is strongly associated with lower HCAHPS ratings (Jha et al. 2008; Lehrman et al. 2010). We also ran all models using a different weighting procedure (propensity score, i.e., the conditional probability of being included given the covariates) and unweighted. Across all specifications the results were substantively the same.

RESULTS

Table 2 contains the means, standard deviations, and correlations among the variables in our regression analyses. As expected, compassion practices

Table 2: Descriptive Statistics and Correlations

	Mean	SD	1	2	3	4	5	6	7	8	9	10	11	12
RUCA [†]	2.43	2.15												
Magnet [†]	0.12	0.33	-0.229**											
Teaching [†]	0.13	0.333	-0.244**	0.472**										
Size	253.04	186.16	-0.518**	0.459**	0.608**									
Religious [†]	0.13	0.337	-0.166**	-0.010	-0.014	0.129*								
For-profit [†]	0.12	0.320	-0.135*	-0.137*	-0.137*	-0.149*	-0.140*							
RN staffing [‡]	0.0027	0.001	0.041	-0.113	-0.176**	-0.221**	-0.105	0.082						
PN readmissions [§]	18.57	1.63	-0.082	0.007	0.146*	0.130*	-0.143*	0.100	-0.029					
HF readmissions [§]	24.74	1.86	0.003	-0.067	0.058	-0.023	-0.035	0.087	0.022	0.383**				
Hospital rating [¶]	67.50	6.83	-0.061	0.128*	0.086	0.078	0.166**	-0.299**	0.088	-0.211**	-0.136*			
Recommend [¶]	69.99	7.97	-0.258**	0.240**	0.220**	0.278**	0.170**	-0.300**	-0.005	-0.180**	-0.137*	0.890**		
Compassion practices	5.47	1.25	-0.366**	0.269**	0.171**	0.301**	0.023	-0.136*	0.025	-0.009	0.037	0.175**	0.282**	

Notes: N = 269.

[†]Dummy variable.

[‡]RN staffing is the number of RN full-time equivalents per case mix adjusted patient day.

[§]PN readmissions is the pneumonia readmissions rate, HF readmissions is the heart failure readmissions rate.

[¶]Hospital rating is percentage of patients reporting a “top-box” score of 9 or 10. Recommend is the percentage of patients that would “definitely recommend” the hospital.

**p < .01; *p < .05.

RN, registered nurse; RUCA, rural urban commuting code.

were positively correlated with both outcomes as were magnet, teaching, and large hospitals. In contrast, for-profit hospitals and higher readmissions rates were associated with lower levels of HCAHPS measures, and more rural hospitals were negatively related to the percentage of patients recommending the hospital. Regression results are reported in Table 3. Supporting our hypothesis, we find that compassion practices are positively related to top-box hospital ratings ($B = 0.128, p < .05$, Model 2) and the percentage of patients who would definitely recommend the hospital ($B = 0.141, p < .05$, Model 4). To ensure the robustness of our findings and that compassion practices were not merely a proxy for technical quality of care, we conducted several supplemental analyses. Specifically, we ran all models with a number of quality indicators from CMS, including acute myocardial infarction readmissions (reducing the sample size to 217 hospitals), hospital-acquired conditions (foreign object retained after surgery, air embolism, blood incompatibility, falls, vascular catheter-associated infection, and catheter-associated urinary tract infections), and 30-day risk-adjusted mortality for three conditions. In all regressions, compassion practices remained positively and significantly associated with HCAHPS ratings and likelihood to recommend.

DISCUSSION

This study finds that patient perceptions of care quality are associated with a set of concrete organizational practices—compassion practices. Researchers have recently called for reinvigorating compassion in care delivery (e.g., Lown, Rosen, and Marttila 2011), but, aside from suggestive case studies (Dutton et al. 2006; Lilius et al. 2011), previous research lacks an empirical foundation for whether compassion practices are associated with important organizational outcomes. We find that when a hospital explicitly rewards compassionate acts by its staff and supports its staff during tough times, it is associated with patients more highly rating the care experience and being more likely to recommend the hospital. The effects of compassion practices hold even after including a robust set of control variables that capture the technical quality of hospital care (e.g., hospital readmissions) and the quality of the organization (e.g., Magnet status). Compassion practices represent a clear set of managerial actions to enhance patient perceptions of care quality. Thus, these findings are both actionable and timely as the patient care experience in general, and HCAHPS scores in particular, become increasingly important to

Table 3: Weighted Least Squares Regression Analyses: Relationship between Compassion Practices and HCAHPS Global Measures

Variable	Hospital Rating ^{†,‡} (1)	Hospital Rating ^{†,‡} (2)	Recommend ^{†,‡} (3)	Recommend ^{†,‡} (4)
RUCA	-0.042 (-0.567)	-0.013 (-0.170)	-0.150* (-2.111)	-0.119 (-1.653)
Magnet [§]	0.083 (1.259)	0.063 (0.949)	0.099 (1.551)	0.077 (1.209)
Teaching [§]	0.072 (1.028)	0.079 (1.137)	0.114 (1.702)	0.122 (1.833)
Size [¶]	-0.034 (-0.407)	-0.062 (-0.731)	0.082 (1.023)	0.051 (0.634)
Religious [§]	0.116 (1.953)	0.123* (2.09)	0.083 (1.464)	0.092 (1.617)
For-profit [§]	-0.255*** (-4.334)	-0.240*** (-4.087)	-0.230*** (-4.074)	-0.215*** (-3.810)
RN staffing	0.133* (2.263)	0.122* (2.071)	0.076 (1.350)	0.063 (1.118)
PN readmissions [¶]	-0.157* (-2.463)	-0.146* (-2.293)	-0.164** (-2.680)	-0.152* (-2.484)
HF readmissions [¶]	-0.069 (-1.118)	-0.082 (-1.323)	-0.068 (-1.146)	-0.083 (-1.392)
Compassion practices		0.128* (2.028)		0.141* (2.322)
F-statistic	5.987***	5.865***	8.705***	8.506***
Adjusted R ²	0.143	0.154	0.206	0.219
N	269	269	269	269

[†]Hospital rating is percentage of patients reporting a “top-box” score of 9 or 10. Recommend is the percentage of patients that would “definitely recommend” the hospital.

[‡]Standardized coefficient estimate with *t*-statistic in parentheses.

[§]Dummy variable.

[¶]Natural logarithm of the number of beds in the hospital, for pneumonia readmission rates (PN), and for heart failure rates (HF).

p* < .05; *p* < .01; ****p* < .001.

RN, registered nurse; RUCA, rural urban commuting code.

hospitals' fiscal health as a result of value-based purchasing (Federal Register 2011a).

The findings of our study should be taken in light of its limitations. First, the hospitals in our sample performed better on HCAHPS global measures than nonrespondents. We attempted to reduce the effects of any sample bias by using weighted-least squares regression (Rubin and Little 2002). Our results were robust whether or how we weighted our analyses (inverse of HCAHPS score, propensity score), and the absolute difference between HCAHPS scores of respondents and nonrespondents was small (1.65 and 2 for rating and recommend, respectively) and very close to the hospital population median (Federal Register 2011a,b). This suggests that sample bias is not a significant problem. However, future research should more adequately sample for-profit and lower performing hospitals to ensure the validity of our results.

Second, consistent with numerous leading studies of the effects of organizational (i.e., hospital-level) practices on organizational performance, we used a key informant design (surveying executives), which reveals the extent to which an organization prioritizes such practices. However, executive perceptions may differ from frontline experiences (Singer et al. 2009). As such, future research should examine frontline employee perceptions of compassion practices and how they influence their caregiving.

Third, although we used multiple data sources and our independent and dependent variables were temporally separated, our data are cross-sectional. Therefore, to demonstrate causal relationships between compassion practices and HCAHPS global ratings, future research will need to employ a longitudinal design. Lastly, we posited that rewarding compassionate acts and compassionately supporting employees should foster caregiving that is more responsive and customized to a patient's needs and preferences, and produce perceptions of higher quality care. Future research should directly measure and test these and other mechanisms.

Despite these limitations, our findings provide crucial evidence of how specific managerial interventions to enhance compassion, by recognizing it and providing it in the workplace, are associated with more positive patient perceptions of care and hospital quality. More specifically, practices that provide support for employees and recognize and reward employees when they exhibit compassion reinforce compassion as a critical aspect of the type of caregiving employers expect and patients deserve. In doing so, practices that attend to suffering in the workplace may also mitigate the costly effects of employee suffering (e.g., burnout, productivity loss) to individuals and the

organization. Our focus on compassion practices extends prior research emphasizing more general hospital characteristics (e.g., teaching or for-profit status) or expensive interventions (e.g., improving staffing ratios) as mechanisms for improving patient perceptions of care quality. Future research should build on this foundation to explore the range of outcomes influenced by compassion practices (e.g., employee outcomes like turnover), the mechanisms (e.g., caregiver responsiveness) through which compassion practices operate, and the level at which they have greatest impact (hospital or unit).

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SUPPORTING INFORMATION

Additional supporting information may be found in the online version of this article:

Appendix SA1: Author Matrix.

Appendix SA2: Correspondence between Compassion Practices and Survey Items.

Appendix SA3: Compassion Practices Scale.