
The Correlates of Chaplains' Effectiveness in Meeting the Spiritual/Religious and Emotional Needs of Patients

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The study was designed to assess the degree to which two sets of measures about chaplains' visits with patients predicted patients' perceptions that their spiritual/religious needs and their emotional needs were met by the chaplain. The first set consisted of seven items about the chaplain's demeanor during the visit. The second set measured patient satisfaction with seven aspects of the chaplain's care, including specific interventions. Overall, the latter items were more highly correlated with, and were better predictors of patients' perceptions that the chaplain met both their spiritual/religious needs and their emotional needs than were the demeanor items. The findings indicate the usefulness of measuring the effectiveness of specific chaplain interventions. The authors discuss that effectiveness measures may be more useful than patient satisfaction measures for assessing pastoral care.

The quality assurance movement in healthcare traces its origins to the consumer movement of the 1970s, which was broadly intended to increase the accountability of all service providers (Ware et al., 1978). The idea that consumers had the right to complain about their healthcare inevitably led to the development of patient satisfaction scales through which they could express their satisfaction or dissatisfaction with the care they received (Guzman et al., 1988; Ware et al., 1978). Such scales became an integral part of the quality assurance programs of healthcare institutions (Vouri, 1987)

It had been said that patients lacked the technical knowledge to evaluate their healthcare (Vouri, 1987; Davies & Ware, 1988). However, Davies and Ware's 1988 review of research on the accuracy and validity of patient's evaluations of the technical aspects of care made a persuasive case for the value of patient satisfaction measures. So, arguments in favor of patient feedback about the quality of care soon overcame reservations about patients' ability to make accurate evaluations (Bell & Krivik, 2000; Davies & Ware, 1988; Strasser & Davis, 1991).

Though patient satisfaction has become widely accepted as an important measure of the quality of healthcare (Cleary & McNeil, 1988; Rosenthal & Shannon, 1997; Speight, 2005; Yellen et al., 2002), it still has its critics. Some say it is ill-defined (Speight, 2005), some believe it is more of a marketing than a medical measure of quality (Bowers & Kiefe, 2002; John, 1992), and others maintain that it does not measure healthcare quality at all (Thiedke, 2007). Whatever the case, since patient satisfaction is tied to patient expectations (Aharony & Strasser, 1993; John, 1992), it differs from patient reports based on objective characteristics of care (Aharony & Strasser, 1993; Cleary & McNeil, 1988; Davies & Ware, 1988). Bowers

and Kiefe (2002) believe patient satisfaction can be a useful measure of quality if viewed within the broader context of other dimensions of healthcare quality. Three dimensions of quality are generally recognized: the structure, process and outcome of services (Bowers & Kiefe, 2002; Rosenthal & Shannon, 1997). Structure includes the physical environment and the organization of services, such as the nurse to patient ratio. Process refers to the interventions or services the patient receives, which are intended to alter the patient's relationship with disease, i.e., outcomes. Bowers and Kiefe (2002) view patient satisfaction as a type of outcome, but one that is based on assessing the quality of the process of service delivery. It is the patient's perception of the quality of the process: i.e., the interventions/services provided. Others see patient satisfaction as a measure of both process and outcomes (e.g., Weaver et al., 1997).

Dr. Larry VandeCreek and his colleagues published several studies about the development of scales measuring patient satisfaction with pastoral care services. VandeCreek, Lyons and Devries (1995) tested a 43-item patient satisfaction scale, which was revised and shortened slightly by VandeCreek and Lyon (1997). The revised 40-item scale measures four aspects of chaplain ministry and patients' attitudes about chaplains: (1) "supportive ministry," which provides comfort and reassurance to patients; (2) a ministry that "helps patients cope;" (3) "acceptance of the chaplain's ministry," which mainly reflects negative attitudes about chaplains; and (4) "ministry to the patient's private concerns," that includes items about the chaplain's competence, communication skills, empathy, attentiveness, and sensitivity. Further research produced a 23-item patient satisfaction scale that focused on the first two aspects of ministry (VandeCreek, 2004). Key items from that scale were adapted for use in the present study.

While many hospitals provide chaplaincy services for patients and families, published studies on the effectiveness of these services are rare. VandeCreek and his associates (Gibbons et al., 1991; VandeCreek, 1991; VandeCreek & Connell, 1991) published some of what little research there is on the topic in a series of related articles on the attitudes of patients about the services they received from chaplains, social workers, and patient representatives. This research found that patients received more visits from chaplains, and they rated these visits as being more important to them than visits from social workers or patient representatives. Patients also reported that visits from chaplains met their expectations to a greater degree, and most said the chaplains met their spiritual needs.

In another study conducted about the same time, patients rated a visit from the hospital chaplain as being more important to them than a visit from the clergy of their own church, noting that the chaplain helped them to deal with both spiritual and emotional issues (Bryant, 1993). According to Press Ganey Associates, hospitalized patients consistently say that having their spiritual and emotional needs met is one of their top priorities. Related research by Press Ganey shows that patient satisfaction that these needs have been met is closely related to overall patient satisfaction (Clark, Drain & Malone, 2003). Unfortunately, the standard Press Ganey item that measures satisfaction in this area treats these quite distinct entities (emotional needs and spiritual needs) as being one and the same.

The present study asked hospitalized patients to rate the extent to which their spiritual needs and their emotional needs were met by a visit from a chaplain, with spiritual needs and emotional needs being treated as separate concepts. The survey was designed to assess not only the degree to which patients' needs were met, but, more importantly, to assess the degree to which "satisfaction" with several chaplain interventions contributed to patients' perceptions that their spiritual and/or emotional needs were met.

Methods

Setting and Participants

The study was conducted at a 150-bed hospital in New York City that specializes in orthopedic surgery. The typical patient length of stay is less than four days. Patients are given a Pastoral Care Request Form upon admission to the hospital which asks, among other things, whether they want a visit from a chaplain during their stay. A computerized list of patients who want a chaplain to visit them is forwarded to the Department of Pastoral Care each day. The chaplains mark the list after each visit to keep track of the patients who were visited.

The study was conducted in two phases in 2006 and 2007. During the first phase of the study the data were collected by an occasional volunteer who interviewed a convenience sample of patients within a day or two of their being visited by a chaplain. The resulting return rate was less than 50%. So, a research assistant familiar with the hospital was hired to perform the interviews during the second phase. The research assistant was a lay-person and professional interviewer who was directly hired by the research department of HealthCare Chaplaincy as an independent contractor solely for the purpose of conducting patient interviews for the study. The second phase was conducted during the last three weeks of May and the first three weeks of June 2007. A total of 483 chaplain visits were made during this time-frame, with 335 visits made to patients during the days the interviewer worked. The interviewer randomly selected and contacted 131 of these 335 patients, all but one of whom agreed to participate in the study.

In all, 120 patients participated in the first phase and 130 patients participated in the second phase of the study. Since no statistically significant difference was found between the means from the first and second phases on either of the two dependent variables, the two sets of data were combined for analysis.

The age of the sample ranged from 22 to 92, with the median being 67 years of age. Slightly less than two-thirds (64.5%) of the sample were women.

Measures

A one-page questionnaire was developed to collect four categories of information. The first section of the questionnaire contained two questions that formed the dependent variables in the regression analyses described below. The next two sections contained a series of questions about the chaplain's visit, which formed the independent variables in the regression analyses. The last part of the survey questionnaire collected data on patient's age and gender.

The very first question on the questionnaire was: How well did the chaplain meet your spiritual needs? The second question was: How well did the chaplain meet your emotional needs? The response categories were: Not at All, Slightly, Moderately, Very Well, and Does not Apply. The first four response categories were scored on a 0-3 scale. The last category was added based on initial pilot testing of the questionnaire. A response of Does not Apply was treated as missing data in the statistical analyses. Patients who said either question was not applicable were specifically asked if they meant they did not have spiritual/religious or emotional needs.

The other two sections of the survey asked patients questions about the chaplain's visit. One section consisted of seven items about the chaplain's demeanor, which were developed by the Department of Pastoral Care and the Department of Patient Care & Quality Management. These asked if the chaplain: (a) Introduced himself/herself to you? (b) Sat down when talking? (c) Spent enough time with you? (d) Seemed to care about you? (e) Followed up with more visits, if you wanted? (f) Provided privacy so you felt comfortable talking? (g) Left a calling card so you could reach him/her if you wanted? The other section consisted of seven patient satisfaction items adapted from VandeCreek (2004), beginning with the root: How satisfied were you with the chaplain's ability to: (a) Really listen to you? (b) Make your hospitalization easier? (c) Overcome your fears or concerns? (d) Make you feel comfortable? (e) Pray with you? (f) Help you tap your inner strength and resources? (g) Provide a referral for other help you needed? The response categories were: Not at All, Slightly, Moderately, Very Satisfied, and Does not Apply. Once again, the first four response categories were scored on a 0-3 scale, with a response of Does not Apply being treated as missing data. Patients who said any of these items were not applicable were specifically asked if they meant that they did not want or expect the chaplain to engage in these activities.

Statistical Analyses

Means and/or frequency counts were obtained for all the measures and their inter-correlations were examined, as described in the univariate and bivariate statistics sections of the results, respectively. Multiple-regression was performed to examine the degree to which the demeanor and satisfaction measures predicted patients' ratings that their spiritual/religious needs and emotional needs were met.

Results

Of the 250 patients surveyed, 10.8% said the first question was not applicable (How well did the chaplain meet your spiritual/religious needs?) and 22.4% said the second question was not applicable (How well did the chaplain meet your emotional needs?). More men (25.9%) than women (16.2%) said they did not have any emotional needs, but this difference was not statistically significant. Men (9.9%) were also slightly more likely than women (7.1%) to say they did not have any spiritual/religious needs. No age differences were found between those patients who did or did not have these needs.

Table 1. Mean (SD) and Median Patient Ratings of How Well Their Spiritual/Religious and Emotional Needs Were Met by the Chaplain

Need	Mean	S.D.	Median	N
Spiritual/Religious	2.77	0.55	3	223
Emotional	2.76	0.59	3	194

Univariate Statistics

Table 1 gives the mean and median ratings of how well chaplains met the spiritual/religious needs and emotional needs of patients. The ratings were highly skewed, in that most patients gave very positive responses. This is apparent by looking at the median ratings, which are both 3's on the 0 to 3 scales used for each measure. This indicates that 50% or more of respondents said the chaplain did very well in meeting their needs. The far right column of the table gives the total number of participants that were used in the calculations of the means. The sample sizes are different because of the number of patients who did not endorse the item: i.e., who said they did not have either need.

In all, 8 out of 10 patients said the chaplain did very well in meeting both their spiritual/religious and emotional needs. Another 14%-16% said the chaplain did moderately well in meeting these needs. Less than 2% (4 patients) said their needs were not met at all.

Table 2. Percentage Distribution of Patients' Responses on the Seven Demeanor Measures

Measure	Yes	No	N
Introduced himself/herself to the patient	99.6	0.4	238
Seemed to care about the patient	98.3	1.7	232
Spent enough time with the patient	95.8	4.2	237
Provided privacy so patient felt comfortable talking	93.2	6.8	205
Followed-up with more visits (if patient wanted)	71.9	28.1	217
Left a calling-card (if patient wanted)	49.5	50.5	228
Sat down while talking to the patient	27.9	72.1	233

Demeanor Measures.

Table 2 presents the percentage distributions for the seven chaplain demeanor measures, as reported by patients. The percentages are based on the number of patients saying yes or no on each item, with “not sure” and “does not apply” excluded from the figures presented in the table. The number of patients who gave yes or no responses for each item is given in the last column of the table.

Patients reported that chaplains introduced themselves during nearly all visits, and more than 98% of patients said the chaplain seemed to care about them. Close to 96% said the chaplain spent enough time with them and over 93% said the chaplain provided privacy so they felt comfortable talking. Chaplains were less likely to do follow-up visits or leave calling cards for patients who said they would have wanted them.

Table 3. Mean (S.D.) and Median Patient Responses on the Seven Satisfaction Measures

Measure	Mean	S.D.	Median	N
Really listen to patient	2.80	0.60	3	216
Make patient feel comfortable	2.81	0.58	3	237
Pray with patient	2.64	0.94	3	184
Make hospitalization easier	2.72	0.65	3	199
Tap inner strength/resources	2.62	0.79	3	138
Help overcome fears/concerns	2.55	0.81	3	80
Provide referral or other help	2.08	1.35	3	108

Satisfaction Measures.

The third table shows the degree to which patients were satisfied with the care chaplains provided. Once again, the responses are highly skewed, with the median response being 3 for all measures (on the 0 to 3 scales). In contrast, the number of patients that endorsed each item was quite varied. Most patients, for example, seemed to want and expect the chaplain to listen and make them feel comfortable. But few had a need for the chaplain to help them overcome their fears or to provide them with referrals, saying that these items did not apply to themselves. Overall, more than 85% of patients said they were very satisfied the chaplain listened to them, made them feel comfortable and prayed with them. Eight out of 10 were very satisfied that the chaplain made their hospitalization easier, and almost three-quarters were satisfied that the chaplain helped them tap their inner strengths and resources. The last two items in the table received ratings of very satisfied from less than 70% of patients.

Because these and the other measures were highly skewed we decided to adjust the normality of the distributions by performing square root transformations. However, since the pattern of statistical effects for the transformed data was only slightly different from that for the raw data, the analyses of the raw data are presented below.

Bivariate Statistics

The correlation between patients’ ratings of their spiritual/religious and emotional needs being met was .58 ($p < .001$). Since squaring the correlation coefficient yields the degree of variance shared by the two measures, the ratings can be said to have overlapped by roughly one third (33.6%).

Table 4. Inter-Correlations among the Seven Chaplain Demeanor Measures

Measure	2	3	4	5	6	7
1. Introduced himself	-.01	-.01	-.02	-.04	.07	-.11
2. Seemed to care		.52 [†]	.13	.15*	.07	.08
3. Spent enough time			.27 [†]	.23 [†]	.02	.07
4. Provided privacy				.29 [†]	.16*	.05
5. Followed-up					.20**	.15*
6. Left a calling-card						.07
7. Sat down						

* $p < .05$ ** $p < .01$ † $p < .001$

Inter-correlations of Demeanor Measures

Table 4 presents the inter-correlations among the seven chaplain demeanor measures that were listed in Table 2. The numbers at the top of each column correspond to the numbers for each row. Thus, the value of -.01 in column 2 is the correlation between “introduce himself” and “seemed to care.” The correlations between the chaplain introducing himself and the rest of the demeanor variables are given in the top row of columns 3-7. All of them are quite low, most likely because there was so little variation in this measure (i.e., it was performed during almost every visit).

Patients’ perceptions that the chaplain seemed to care about them were highly correlated with their perception that the chaplain had spent enough time with them ($r = .52$, in column 3) and to a lesser degree with chaplain follow-up ($r = .15$, in column 5). The perception that the chaplain spent enough time was moderately related to providing privacy and follow-up, both of which were correlated with each other ($r = .29$, in column 5). Follow-up was also related to leaving a calling-card and, to some extent ($r = .20$), sitting down while talking ($r = .15$).

Table 5. Inter-Correlations among the Seven Satisfaction Measures

Item	2	3	4	5	6	7
1. Really listen to patient	.52 [†]	.24**	.48 [†]	.43 [†]	.64 [†]	.44 [†]
2. Make comfortable		.41 [†]	.51 [†]	.42 [†]	.78 [†]	.20
3. Pray with patient			.15	.47 [†]	.53 [†]	.38 [†]
4. Make hospitalization easier				.54 [†]	.73 [†]	.39 [†]
5. Tap inner strengths					.77 [†]	.65 [†]
6. Help overcome fears						.54 [†]

7. Provide referrals

* $p < .05$ ** $p < .01$ † $p < .001$

Inter-correlations of Satisfaction Measures

Table 5 presents the inter-correlations among the satisfaction measures. Almost all the satisfaction measures were significantly correlated with one another. This was so despite the fact that many of the correlations are based on relatively few participants, since so many of them said various items did not apply to them. Helping to overcome one’s fears or concerns, for example, was only endorsed by 80 patients, but the inter-correlations with most of the other measures were particularly high, as seen in column 6 (r^2 s = .53 to .77). Providing referrals generally had small to moderate correlations with other items, yet its correlations with tapping inner strengths and resources ($r = .65$, in column 7) and overcoming fears or concerns ($r = .54$, in column 7) were fairly large.

Table 6. Correlations between How Well the Chaplains Met Patients’ Spiritual/Religious and Emotional Needs and Their Demeanor

Item	Spiritual or Religious	Emotional
Introduced himself/herself to the patient	-.03	-.03
Seemed to care about the patient	.38 [†]	.33 [†]
Spent enough time with the patient	.12 ⁺	.18*
Provided privacy so patient felt comfortable talking	.19**	.30 [†]
Followed-up with more visits (if patient wanted)	.17*	.30 [†]
Left a calling-card (if patient wanted)	.13 ⁺	.03
Sat down while talking to the patient	.06	.14 ⁺

⁺ $p < .07$ * $p < .05$ ** $p < .01$ † $p < .001$

Correlation of Demeanor Measures with Needs

Table 6 shows the correlations between how well the chaplain met patients’ spiritual/religious and emotional needs and the chaplain’s demeanor during the visit. Of the seven measures, only three were significantly correlated with patients’ ratings of how well the chaplain met their spiritual/religious needs. The three measures were: whether the chaplain seemed to care, provided privacy, and followed-up with more visits if the patient wanted them.

These same measures also were significantly correlated with patients’ ratings of how well the chaplain met their emotional needs. In addition to these three measures, whether patients felt the chaplain spent enough time with them was significantly correlated with their belief that their emotional needs had been met. Spending enough time approached significance with spiritual/religious needs, as did leaving a calling card. The only other correlation that approached significance was sitting down while talking.

Table 7. Correlations between How Well the Chaplains Met Patients' Spiritual/Religious and Emotional Needs and Patients' Satisfaction with Various Aspects of Chaplains' Care

Item	Spiritual or Religious	Emotional
Really listen to patient	.34 [†]	.39 [†]
Make patient feel comfortable	.22**	.27 [†]
Pray with patient	.24**	.34 [†]
Make hospitalization easier	.24**	.40 [†]
Tap inner strength/resources	.54 [†]	.69 [†]
Help overcome fears/concerns	.53 [†]	.65 [†]
Provide referral or other help	.25*	.39 [†]

* $p < .05$ ** $p < .01$ † $p < .001$

Correlation of Satisfaction Measures with Needs

Table 7 shows the correlations between how well the chaplain met patients' spiritual/religious and emotional needs and patient satisfaction with the chaplain's care. If one compares Table 7 with Table 6 it becomes clear these seven measures had a greater impact on how well chaplains met the spiritual/religious and emotional needs of patients than the seven demeanor measures did. Satisfaction with the chaplain's help tapping inner strengths and resources, and overcoming fears or concerns had the highest correlations with how well patients' spiritual/religious needs were met, even though relatively few patients thought these items applied to them.

Patient satisfaction with these pastoral care activities was even more strongly associated with how well they said the chaplain met their emotion needs than their spiritual/religious needs. All seven measures listed in Table 7 had higher correlations with patients' ratings of how well their emotional needs were met than how well their spiritual/religious needs were met. Once again, helping patients to tap their inner strengths and resources and to overcome their fears or concerns had the highest correlations with meeting patients' needs. Really listening to patients, making their hospitalization easier, and providing them with referrals had very similar correlations (r 's = .39 or .40) with meeting patient's emotional needs.

Multivariate Statistics

Two sets of regression models were conducted. The first set tested the degree to which the demeanor measures predicted patients' ratings of how well the chaplain met their spiritual/religious needs and their emotional needs. Two regressions were performed; one for each need. The six demeanor measures that were statistically significant or approached statistical significance ($p < .07$) with either need in the bivariate analyses were included in the regression models (see Table 8). The second set of regression models tested the satisfaction measures with spiritual/religious needs and emotional needs as the dependent variables (see Table 9). These analyses were more problematic because of the missing data, which resulted from the fact that many patients said several of the items did not apply to them.

Table 8. Standardized Beta (β) Values from Regression Models on Demeanor Measures and Patients' Ratings of How Well Their Spiritual/Religious and Emotional Needs Were Met

Measure	Spiritual or Religious	Emotional
Seemed to care about the patient	.54 [†]	.48 [†]
Spent enough time with the patient	-.11	-.19 ⁺
Provided privacy so patient felt comfortable talking	.19	.18*
Followed-up with more visits (if patient wanted)	.07	.16 ⁺
Left a calling-card (if patient wanted)	.09	-.02
Sat down while talking to the patient	-.01	.12

⁺ $p < .10$ * $p < .05$ ** $p < .01$ † $p < .001$

Demeanor Regression Models

The regression models for the demeanor measures are presented in Table 8. The standardized beta (β) values from each model are presented for each variable in the table. A β is similar to Pearson's correlation coefficient (r) in that it indicates the direction and strength of the relationship between two variables (Cohen, Cohen, West & Aiken, 2003). Unlike Pearson's r , however, β indicates the unique effects of each independent variable on the dependent variable with the effects of the other independent variables removed.

Thus, although six of the seven demeanor variables were statistically or marginally significant with either dependent variable in Table 6, very few of them were statistically significant when the overlaps among them were mathematically adjusted in Table 8. Indeed, the first model found that only one demeanor measure was a significant predictor of patient's ratings of how well spiritual/religious needs were met: i.e., that the chaplain seemed to care about the patient ($\beta = .54$). By itself, the perception that the chaplain seemed to care accounted for 14.6% of the variance in patients' ratings. As seen in Table 8, some predictors (such as spending enough time and sitting down) take on negative values when included in the model with caring, even though they had positive values in the bivariate analyses (i.e., correlations).

The regression model for emotional needs likewise found that the perception of a caring chaplain was strongly related to patients' ratings of how well chaplains met patients' needs ($\beta = .48$). Providing privacy was significantly related to patients' ratings of how well their emotional needs were met, and follow-up was marginally significant. Spending enough time with patients was also marginally significant, but in the opposite direction of what would be expected given the results of the bivariate analyses. When only the two statistically significant satisfaction measures are retained in the model (caring and privacy) they account for 17.9% of the variation in patient ratings.

Satisfaction Regression Models

The regression models for predicting how well patients' spiritual/religious and emotional needs were met based on the seven satisfaction measures were restricted by the fact that relatively few patients endorsed

the “inner strength/resources” item (n = 138) and even fewer endorsed the “overcome fears/concerns” item (n = 80). Both items were highly correlated with one another in the bivariate analyses presented in Table 5, with $r = .77$. Such a high correlation means that the two items shared nearly 60% of the variance in common. Since such a high level of multicollinearity would preclude including both variables in the regression models (Cohen, Cohen, West & Aiken, (2003), little is lost by excluding the latter from the analyses. Hence, the two regression analyses were conducted with six dependent variables, all of which were significantly correlated with patients’ ratings about their spiritual/religious and emotional needs being met. Stratmann and his colleagues (1994) note that multicollinearity is a common problem in interpreting patient satisfaction scores using regression analyses.

Table 9. Standardized Beta (β) Values from Regression Models on Satisfaction Measures and Patients’ Ratings of How Well Their Spiritual/Religious and Emotional Needs Were Met

Measure	Spiritual or Religious	Emotional
Really listen to patient	.16 [†]	.28 [†]
Make patient feel comfortable	.24**	.01
Pray with patient	.19*	.31 [†]
Make hospitalization easier	-.03	.07
Tap inner strength/resources	.38 [†]	.47 [†]
Provide referral or other help	-.06	-.08

[†] $p < .10$ * $p < .05$ ** $p < .01$ † $p < .001$

The results from the regression models of patient satisfaction on spiritual/religious and emotional needs are presented in Table 9. Patient satisfaction that the chaplain helped them to tap their in inner strengths and resources showed the strongest association with patients’ ratings that their spiritual/religious needs had been met. Patient satisfaction with the chaplains’ praying with them and comforting them also were significantly related to meeting patients’ spiritual and religious needs. Really listening to patients was only marginally related. When only the three statistically significant satisfaction measures are retained in the model it accounts for 15.2% of the variance in patients’ ratings about how well their needs were met

The results of the regression model predicting how well patients’ emotional needs were met based on their satisfaction scores were similar to some extent. Here too, tapping patients’ inner strengths and resources and praying with patients were significantly related to patients’ ratings of how well their needs were met. Really listening to patients, which had been marginally significant in the spiritual/religious needs model, was statistically significant in the emotional needs model. On the other hand, making patients feel comfortable, which was statistically significant in the spiritual/religious needs model, was not significant in the present model. The three significant measures in the model accounted for 36.4% of the variation in patients’ ratings of how well their emotional needs were met.

Discussion

Although patients’ spiritual needs and emotional needs are widely treated as if they are one and the same (Clark et al., 2003), the present study suggests that patients see them as being different. Not all patients the chaplains visited said they had spiritual/religious needs or emotional needs, but more than 80% of those that

did said the chaplain did very well in meeting these needs. The capacity of chaplains to meet one need was directly related to their capacity to meet the other in that patients' ratings of how well each need was met were positively correlated. Since the degree of overlap between the two sets of ratings was roughly one-third, the two sets of needs appear to be related but distinct.

Haas (1999) emphasized the need for research on those aspects of care that patient's value and think are important. The present study represents a first attempt to do that with respect to pastoral care, in that it was specifically designed to measure the degree to which different aspects of chaplains' behaviors and attitudes contributed to patients' perceptions that their emotional and spiritual/religious needs were met by the chaplain. Patients' ratings of the chaplain's demeanor and their satisfaction with the chaplain's care were both correlated, to varying degrees, with their ratings of the chaplain's effectiveness. Four of the demeanor measures were significantly related to patients' perceptions that their emotional needs had been met: that the chaplain (a) spent enough time with the patient (b) seemed to care, (c) provided privacy and (d) followed up with the patient. The last three also were significantly related to patients' perceptions that the spiritual/religious needs had been met. All seven of the satisfaction measures were significantly related to patients' perceptions that their spiritual/religious and emotional needs had been met.

However, when the demeanor measures were tested as predictors only caring (i.e., the chaplain seemed to care) had a statistically significant relationship with patients' perceptions that the chaplain had met their spiritual/religious needs. Caring and providing privacy were both significant predictors of patients' perceptions that their emotional needs had been met. This finding dovetails with studies examining the mutative factors in psychotherapy. For instance, in their landmark handbook, Orlinsky and Howard (1981) summarize the many outcome studies provide evidence that the nature of the caring bond between therapist and patient is the one over-riding factor most strongly predicting a positive patient outcome.

Four of the satisfaction measures predicted patients' perceptions that the chaplain met their spiritual/religious needs and/or their emotional needs. The predictors for meeting emotional needs were: (a) really listening to patients, (b) praying with them, and (c) tapping their inner strength and resources. The predictors for meeting spiritual/religious needs were: (a) making patients feel comfortable, (b) praying with them, and (c) tapping their inner strength and resources. Really listening also made a marginally significant contribution to patients' perception that their spiritual/religious needs were met.

The findings present strong evidence that patients consider specific aspects of pastoral care as being important for meeting their spiritual/religious and emotional needs. Having found what some of these are, however, is less than half the story, since the satisfaction measures that were statistically significant in the models accounted for less than half of the variance in patients' ratings of how well their needs were met. The next logical step is to see what other variables contribute to patients' perceptions that their needs were met, while keeping those measures that were significant predictors in the model. One might look at other interventions chaplains perform or some other aspect of care. Personal characteristics of the patients might also be examined, including those that have been found to affect patient satisfaction, in general, such as age, gender, etc. (Aharony & Strasser, 1993; Gary & Shannon, 1997). Other variables that have been found to influence satisfaction with pastoral care are religious affiliation (Gibbons et al., 1991; 1991; VandeCreek & Connell, 1991) and religious practice (VandeCreek, 2004), so it would be worthwhile to further examine these and other religious variables in relation to spiritual/religious and emotional needs.

A number of limitations of the study should be mentioned. Patients' responses to most of the survey items were highly skewed, in that most patients tended to rate all the items very positively, which is quite common in patient satisfaction and related kinds of surveys (Yellen et al., 2002; Gary & Shannon, 1997; Haas, 1999). Skewness away from normality can be a concern when conducting statistical tests that assume the data are normally distributed (Gary & Shannon, 1997). We made a mathematical correction for skewness, but the analyses of the adjusted scores yielded essentially the same results as the analyses of the adjusted scores so we presented the findings for the raw, unadjusted data.

Some might see it as problematic that the chaplains knew patients would be asked to rate their performance in these areas. Given this knowledge, they may have paid more attention than usual to the

behaviors being judged. We do not see this as serious a limitation, however, because we were less interested in the behaviors themselves, then in the extent to which each behavior contributed to patients' perceptions that their needs were met. No one could know until the data were analyzed what behaviors would be good predictors. Moreover, quality improvement research commonly employs similar procedures in which staff members are aware that certain behaviors and practices are being monitored. Indeed, the purpose of such research is often to see how specific changes in staff practices enhance positive outcomes. Although this was not the case here, our study is similar to most quality improvement studies in that they are basically exploratory in nature. Hence, they do not employ "blind" or "double-blind" methods like those used in randomized control trials, which are designed to be confirmatory: i.e., to confirm or reject specific hypotheses.

Stratmann et al. (1994) suggest that the type of response bias (or skew) we observed can be avoided by using scales with fewer points, so they recommend using a 2-point scale for the independent variables in regression analysis, reserving multiple-point scales for the dependent variables. The present findings would seem to undercut the suggestion that 2-point scales reduce such bias. The two relatively subjective items about the chaplain's demeanor (shown in Table 2), were both highly skewed (i.e., did the chaplain seem to care about you and did the chaplain spend enough time with you) much more so than some of the patient satisfaction measures which were scored on a 4-point scale. Perhaps, more points could reduce skewness, provided that the points were better defined and/or more refined.

This brings us to the question of the wording of the response categories, which is very important since it can affect response bias. As in many studies, the patients in our sample were strongly inclined to say they were "very satisfied" with the chaplain's interventions, the highest point on the 4-point (0 to 3) scale we used.

But would they be equally inclined to say they were "completely satisfied" if that was the highest point on the scale? We think not. Aharony and Strasser (1993) cite research showing that scales using labels like excellent and poor rather than "very satisfied" and "very dissatisfied" produce greater variation and less skew.

Hass (1999) notes it is uncommon to include the option of "don't know" or "not applicable" in satisfaction surveys. Hence, patients are forced to make an evaluation of something even if they may not think it is appropriate to do so. Giving participants a "does not apply" option in the present study was problematic for the statistical analyses because it produced a considerable amount of missing values for some of the items. Yet, it may have increased the validity of the findings by eliminating those patients who did not have an opinion about a particular item, or did not have the expectation that the chaplain should do a particular thing. Since expectations are thought to play an important role in patient satisfaction (e.g., Bowers et al., 2002; John, 1992), it may be wise to make those expectations explicit. We tried to do that in the present study by asking participants who said something "did not apply" to them, whether they meant that they did not expect the chaplain to do what was being asked. Nevertheless, it might be better to ask about patients' expectations first. One might ask: Did you expect the chaplain to meet your emotion needs? Then ask the extent to which the chaplain met them. Likewise, one might ask: Did you expect the chaplain to pray with you? Then ask how helpful the chaplains' prayers were.

One may ask whether the wording of the questions used to measure chaplain effectiveness make them any different than global measures of satisfaction. We believe it does in that the wording specifically focuses on the degree to which spiritual/religious needs and emotional needs were met. For clinical purposes, however, it would be better to unpack what patients' emotional and spiritual/religious needs are, and to assess the degree to which each specific need was met. VandeCreek and his associates, for example, asked patients about three specific needs: the need for support and counseling, prayer, and sacraments (Gibbons et al., 1991; VandeCreek, 1991; VandeCreek & Connell, 1991). Other religious needs should certainly be explored, with the recognition that differences in religious upbringing no doubt give rise to different religious and spiritual needs.

A useful approach might be to ask patients to rate the degree to which each need was met on a 0 to 10 scale, with 0 meaning the need was not met at all, and 10 meaning it was completely met. Zero to ten scales are fairly common in medical research on pain (e.g., Jensen et al., 1999; Kim & Buschmann, 2006; Manworren & Hynan, 2003) and psychological distress (Dabrowski et al. 2007; Hoffman et al., 2004;

Jacobsen et al., 2005), and we have used them successfully to have hospital administrators rate the importance of various kinds of chaplain functions in their hospitals (Flannelly et al., 2005).

As is typical in studies on patient satisfaction, some of our items (two in particular) were strongly correlated with each other, raising the issue of multicollinearity (Stratmann et al., 1994). In our case the solution was simple; we eliminated one of the items from the regression analyses. This solution was obvious because the item had a lot of missing values. But eliminating items is not something one typically wants to do, apart from scale development. A better solution would be to perform factor analyses on the items of a scale and use the factor scores as composite measures of the independent variables in the regression analyses (Thompson, 2004).

Though the sample size is reasonable for these types of studies, a larger sample size would obviously be better, especially in light of the many patients who said several items did not apply to them. The sample itself is somewhat unique in that it was drawn from a fairly unique healthcare setting, i.e., a hospital that specializes in orthopedic surgery. While no surgery is routine, few patients in the hospital are facing life-threatening illnesses, so their concerns tend to focus on future quality-of-life issues. This probably accounts for why relatively few participants in the study expected the chaplain to help them overcome their fears and concerns or to help them to tap their inner strength and resources. For those who expected such help, however, providing it was clearly very important in meeting their needs.

We believe the present paper offers two insights into understanding the effectiveness of chaplains' clinical practice. The first is a way to measure effectiveness. Specifically, that effectiveness can and should be measured in terms of the degree to which chaplains meet patients' needs. This is not a novel idea, but we know of only a few studies that have used it. This may not be the only way to measure effectiveness, but we believe it is a rational and meaningful way of doing so. The second is a way to measure what chaplain interventions contribute to effective pastoral care from the patient's perspective. As we examine more specific needs of patients, over time, we hopefully will be able to discern what interventions best meet those needs.

Finally, because we adapted items from Vandecreek's (2004) patient satisfaction scale, we naturally cast the response categories in terms of satisfaction. At least some of these same items, however, might be measured on a dimension other than satisfaction, which would avoid the kinds of the problems that have been raised about patient satisfaction scales in the introduction. For example, one could simply and justifiably cast some of the questions in terms of helpfulness. To what degree: (a) Did the chaplain's prayers help you? (b) Did the chaplain help you tap your inner strengths and resources? (c) Did the chaplain help make your hospitalization easier? Posed in this format, the individual items become subjective measures of effectiveness, in and of themselves. And, to the degree that they do measure effectiveness, they come closer to medical than marketing standards of quality.

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