Physician challenges in communicating bad news

Article *in* Journal of Behavioral Medicine · April 2009

DOI: 10.1007/s10865-009-9213-8 · Source: PubMed

2 authors, including:

John Ptacek
Bucknell University
75 PUBLICATIONS **5,083** CITATIONS

SEE PROFILE

J Behav Med (2009) 32:380–387
DOI 10.1007/s10865-009-9213-8

Physician challenges in communicating bad news

J. T. Ptacek · Elizabeth G. McIntosh

Received: October 18, 2007 / Accepted: March 9, 2009 / Published online: March 26, 2009

Abstract Communicating bad news is never easy and for physicians these interactions may be a significant source of stress. To examine the characteristics that make delivering of bad news stressful, two studies were conducted. In the first study, 37 physicians generated 192 responses describing the characteristics that influence how difficult it is to break bad news. After sorting the responses in terms of common themes, six categories were identified: Physician, Patient, Institutional, Illness, Relationship, and Mishap. In Study 2, 115 physicians rated the degree of stress associated with each factor. Using principle component and reliability analyses, empirical support was found for six categories. A higher-order factor analysis suggested the existence of one over-arching factor. Items in the Mishap category were rated on average as the most stressful. Stress scores were largely unrelated to years in practice, experience delivering bad news or training.

Keywords Bad news · Stress · Communication · Physicians

Introduction

The process of communicating bad news has received notable attention in the medical literature. Much of this interest is due to the fact that most researchers and practitioners recognize the potential importance of the process to both givers and receivers. Most published work in this area has focused on one of the following three topics: (1) making recommendations about how to deliver news, (2) exploring receiver preferences for getting bad news, or (3) reviewing training programs designed to enhance deliverer skills. Much less work has been done that aims to examine the physical or psychological effects of the processes on all parties involved. The goals of the present investigation were twofold. The first was to generate a list of characteristics of bad news transactions that make one encounter more or less stressful than another. The second was to identify the characteristics of bad news transactions that physicians perceived as being particularly problematic by obtaining stress ratings for those characteristics emerging from Study 1.

While the benefits associated with being a physician are numerous and most physicians report being highly satisfied with their career, the profession is nonetheless associated with notable stress, which is itself related to negative outcomes (McCue 1982; Mawardi 1979). Burnout, which is linked in part to long-term unrelenting stress, has been a frequent topic in the medical literature (e.g., Gundersen 2001; Williams 2002), though the empirically based literature is fairly sparse (Chopra et al. 2004). The empirical work that has been done indicates that high stress levels are correlated with lower job satisfaction and higher burnout (Ramirez et al. 1996; Graham et al. 1996). In addition, Bergman et al. (2003) report that a high percentage of physicians are dissatisfied with the amount of time they spend at work and have a difficult time relaxing.

While the literature suggests that part of what contributes to the stress experiences of physicians is their personality makeup (Williams 2002), the nature of their work and the physical and psychological setting in which they work also contribute to feelings of stress. The overall level

J. T. Ptacek (✉)
Bucknell University, Lewisburg, PA, USA
e-mail: ptacek@bucknell.edu

E. G. McIntosh
Whitman College, Walla Walla, WA, USA

of stress experienced by physicians and the specific factors that physicians report causing stress depends on many factors. Included among these are gender, ethnicity, clinical specialty, and the country in which the physician practices (Glymour et al. 2004; Travado et al. 2005). However, one seemingly normatively stressful aspect of the job is communicating with patients, particularly when the communication involves disclosing bad news (Doyle and O'Connell 1996; Fallowfield 1993; Girgis and Sanson-Fisher 1995; Orlander et al. 2002; Sarikaya et al. 2006). A study of pre-registration house officers revealed that over 96% of them had broken bad news to a patient or family member (Schildmann et al. 2005). Being blamed, feeling responsible for the situation, experiencing guilt for being unable to help, and being reminded of one's own mortality are but a few of the factors that have been suggested for why communicating bad news is difficult (Baile and Beale 2003; Buckman 1984; Taylor 1988).

Ptacek and Eberhardt (1996) discussed the sources and timing of stress for both patients and physicians during bad news transactions. While the stress experienced by physicians was hypothesized to be less intense and occur somewhat before the stress felt by patients, these authors argued that physician stress might none-the-less be high and might take a toll given the repetitive nature of such transactions for some types of physicians. Ptacek et al. (2001) reported that physicians on average experienced moderate levels of stress during bad news transactions and that the stress typically extended beyond the transaction itself, for some lasting 3 or more days.

There are many barriers to communicating bad news well (Dosanjh et al. 2001), each of which, if experienced, might heighten the stress experienced by the giver. Part of what makes these transactions stressful is many physicians feel poorly trained in communication issues, including how to disclose bad news. The less well-trained physicians believe they are the more stress they report experiencing (Gillard et al. 1993; Morgan and Winter 1996). Responses from a large sample of surgeons (Sise et al. 2006) reveal that more than 93% of respondents believed that skill at communicating bad news was fairly or extremely important. Moreover, the vast majority (89.6%) of these surgeons believed that there is a need to receive training in these skills. Fallowfield et al. (2002) found that physicians report believing they perform less well when disclosing more objectively severe news (about palliative care) than when disclosing less severe news (regarding treatment). Despite the belief that communication training would be beneficial, research indicates that in some medical specialties such training does not typically occur (Hoffman et al. 2004).

Although there appears to be general agreement that delivering bad news can be stressful for physicians, the actual factors that make an interaction go better or worse have not been identified. In Study 1, a list of factors was generated and those factors were grouped into coherent clusters based upon specific aspects of the bad news transaction. In Study 2, a second group of physicians rated the items emerging from Study 1 in terms of how stressful the situations described by those items were.

Study 1

Method

Participants

Participants were 32 physicians sampled from a variety of institutions and representing several medical specialties (including family practice, internal medicine, and oncology). Two sources of physicians were used: alumni of Whitman College and acquaintances of the authors.

Materials and procedure

From their database, the Whitman College Alumni Office provided labels of the names and addresses of 273 people who were identified as doctors. While the vast majority of these people were alumni, a handful of them were parents of students currently enrolled at the college. Of this initial pool, 50 names were randomly selected to participate in Study 1. An additional 20 participants were drawn from a convenience sample of physicians associated with the Mary Greeley Medical Center in Ames, Iowa. A one-page survey was designed for use in this study. Physicians were first asked to recall two experiences they had giving bad news: one that had gone well and one that had been particularly difficult. Keeping these two events in mind, physicians were then asked to generate a list of up to seven characteristics that distinguished the two transactions. Specifically, they reported about the characteristics of the situation that made the difficult transaction difficult. Completed surveys were returned in an addressed, stamped envelope provided by the researchers.

Results

Of the 70 surveys mailed, 32 were completed and returned (a 46% response rate). The physicians generated a total of 192 responses, which after screening, were reduced to 94 unique statements. Only those responses that addressed the question, "What makes delivering bad news difficult/stressful?" were retained. Responses were screened out for several reasons. For example, responses were excluded if another physician had already mentioned the same characteristic, if they were positively worded (e.g., "It is easier

to break bad news when the patient is very old."), or if they were written in the form of advice (e.g., "Breaking bad news is best done at eye level of patient").

The authors then examined the responses looking for themes that distinguished some bad news situations from others. This effort suggested six clusters of items: physician, patient, illness, institution, medical mishaps (e.g., "Delivering bad news about death due to a misdiagnosis"), and the physician–patient relationship (e.g., "Delivering bad news to a patient/family that you are emotionally close to"). See Table 1 for a list of sorted statements.

A modified version of the survey was then given to seven PhD-level academic psychologists, with the instructions to place each of the 94 characteristics into one of the six categories described above. A definition of each category was provided (see Table 2) and the psychologists were instructed to use a "Don't know" rating for items that could not be placed into one of the provided categories either because the item was unclear or seemed as though it might fall into more than one category.

The psychologist's responses were examined and those items were identified for which five or more psychologists agreed on the category. This five-or-more criterion was associated with a binomial probability for agreement on each item of less than .003 by chance alone. Fifty-six of the 94 items (60%) met the established rater agreement criterion. Of these, 18 items were identified as being associated with the patient and 15 items were associated with physician–patient relationships. Additionally, the categories of physician characteristics and medical mishaps were each associated with eight items. Finally, the illness category had five items and the institution category had two items. See Table 1 for a complete list of these 56 items displayed by the category into which each was sorted.[1]

Discussion

Delivering bad news is a complex interaction that can be difficult for any number of reasons, as demonstrated by the number and assortment of statements physicians generated. Given that physicians on average identified six factors that make delivering bad news particularly difficult, it is likely that a particular transaction becomes difficult or stressful because multiple things go wrong. Based on an examination of the list, six clusters of difficulties were identified.

The physician-generated data from this study provide insight into the types of things that can contribute to the stress associated with giving bad news, but it provides no information about whether some occurrences—or categories of occurrences—are generally more stressful than are

[1] Readers that are interested in a copy of all 94 items should contact the first author.

Table 1 Items emerging from the sorting task

Items
Physician factors
Delivering bad news when you don't understand your own personal response to the patient's/family's experience
Delivering bad news while feeling rushed
Delivering bad news to a patient close in age to your own children
Delivering bad news when you can identify with patient's age
Delivering bad news when you can identify with patient's social situation
Delivering bad news out of your field
Delivering bad news concerning an illness you have never addressed before
Delivering bad news when you are fatigued
Patient factors
Delivering bad news about a patient who is a child
Delivering bad news about a patient who is very old
Delivering bad news when the patient is young so that death is considered "tragic"
Delivering bad news directly to an adolescent
Delivering bad news to parents of child
Delivering bad news to a patient who you perceive poorly accepts his or her situation
Delivering bad news to a large family
Delivering bad news when patient/family is in denial
Delivering bad news to a patient who is not knowledgeable
Delivering bad news to a family of poor dynamics
Delivering bad news to an ill-prepared patient/family
Delivering bad news to an intoxicated family
Delivering bad news to a patient who has not planned for their death
Delivering bad news to a patient/family without religious beliefs
Delivering bad news to a very emotional patient/family
Delivering bad news to a patient/family who misinterprets
Delivering bad news when there are significant others affected by patient's illness
Delivering bad news to a patient with a weak support system
Institutional factors
Delivering bad news at year's end, which was not projected
Delivering bad news over the phone
Illness factors
Delivering bad news when there is little that can be done to change the course of the disease
Delivering bad news about a relapse
Delivering bad news about a treatable disease
Delivering bad news when there is little time expected until death
Delivering bad news about a disease-based complication
Relationship factors
Delivering bad news to a patient/family that you are emotionally close to
Delivering bad news to a family you have not previously met
Delivering bad news to a patient you do not know well
Delivering bad news to a patient you know well

Table 1 Continued

Items
Delivering bad news one on one
Delivering bad news when your involvement with the patient's care has been active
Delivering bad news when your involvement with the patient's care has been reactive
Delivering bad news to a patient you have been caring for a long time
Delivering bad news to a patient you have been caring for a short time
Delivering bad news to a family blaming others
Delivering bad news when you are not the patient's regular physician
Delivering bad news to a friend
Delivering bad news when your previous interactions with patient/family have been acrimonious
Delivering bad news that results in hostility from patient/family
Delivering bad news when you are not perceived as an advocate
Mishap factors
Delivering bad news when the patient is young so that death is considered "tragic"
Delivering bad news about death due to a late diagnosis
Delivering bad news about death due to a medical error
Delivering bad news about an adverse outcome of therapy
Delivering bad news about operative death of healthy patient
Delivering bad news about a complication that requires a return to the operating room
Delivering bad news when your care contributed to poor outcome
Delivering bad news about an obvious screw-up

Table 2 Categories and definitions provided for the PhD sorting task

Category	Definition
Physician	Characteristics of the doctor and his or her own life experiences such as age, race, gender, and stress that might make it more difficult to deliver the news
Patient	Characteristics of the patient and his or her own life experiences such as age, race, gender, and stress that might make it more difficult to deliver the news
Relationship	Aspects of the relationship between patient and physician
Illness	Specific characteristics of the illness that might change the delivery process or how difficult it is to deliver the news
Institutional	Environmental factors or hospital policies that might alter the delivery process
Medical mishaps	Accidents or oversights that contributed to the medical condition being discussed
Do not know	Use this designation if you cannot tell which cluster the item would fall in because the item is unclear or because it seems as though it might fall into more than one cluster

others. Given the small sample size it was also impractical to examine whether the statements that were sorted into the various clusters formed statistically meaningful groups. The goals of Study 2 were thus to obtain stress ratings for each of the statements and to conduct reliability analyses for each of the six clusters.

Study 2

In Study 2 information was solicited from a larger group of physicians than was used in Study 1. Physicians rated how stressful they would find each of the 94 situations. They also provided information about years in practice, experiences communicating bad news, and training in bad news communication.

Method

Participants

One hundred and fifteen physicians, all Whitman alumni or parents of students attending Whitman College, participated. The majority of the physicians were white (91.3%) males (85.2%). The average age of the sample was 49 (SD = 9.67) and ranged from 26 years old and still in residency to 75 years old and retired. The physicians had a variety of specialties, with internal medicine (20%), family practice (16%), and surgery (13%) being most common. On average physicians reported delivering bad news once per month, with the modal response being 2–3 times per week. Over a quarter of the physicians reported having had some formal training in bad news communicating during (25.2%) or after medical school (27.0%).

Materials

The survey used in Study 2 was based on all 94 characteristics generated in Study 1. Physicians were asked to rate each characteristic in terms of how stressful they believed it to be. Statements were rated on a four-point Likert-type scale, ranging from 1 "not at all stressful" to 4 "extremely stressful." At the end of this list, space was provided for physicians to list factors they thought should also be included. For any statement physicians added to the list they were asked to provide a stress rating on the same 4-point scale.

Procedure

Participants were again drawn from a list provided by the Whitman College Alumni Office, excluding those physicians who were contacted in the first study. A packet including the five-page survey, a cover letter, and a self-addressed, stamped envelope, was mailed to each person on the list. Respondents were asked to return the survey

within 2 weeks. Of the 223 surveys mailed, 115 (52%) physicians responded, with several other surveys being returned because of incorrect addresses ($N = 5$) or because the recipients were clinical psychologists and not physicians ($N = 3$).

Results

Although physicians responded to all 94 items, our focus was on the 56 characteristics emerging from the previous study for which there was agreement about the cluster into which the item fit. Mean stress ratings for the items ranged from 2.26 to 3.84, with 17 characteristics (30.36%) associated with ratings of 3.00 or higher. Thus, physicians reported that all characteristics listed on the survey were at least somewhat stressful on average.

To begin, a principle components analysis was conducted using varimax rotation. A very strong un-rotated first factor emerged, which accounted for 38.58% of the total item variance and had an eigen value equaling 21.60. All but six characteristics had their highest factor loading on this first factor, which in all cases exceeded .43. In all, 13 factors with eigen values greater than 1.00 emerged. The rotated component matrix (converging after 71 iterations) failed to reveal an interpretable simple structure. We therefore relied on reliability analyses to further explore the validity of the grouping established in the previous study.

The results of a series six reliability analyses are displayed in Table 3. The average inter-item correlation within clusters was moderate (ranging from .33 to .46). With the exception of the Institutional factor, which had an alpha of .51, the scales formed by the characteristics had adequate internal consistency. The low alpha for the Institutional factor should be evaluated in light of the fact that it only included two items. These findings provided empirical support to the sorting done in the first study and justified the construction of summary scores for each cluster by computing the average statement stress ratings. We focused on the item average so that scores were placed on the same metric despite the fact that scores were based on different numbers of items (means and standard deviations are also displayed in Table 3).

The inter-correlations among the six clusters of scores (Table 4) revealed moderate to strong relationships, ranging from $r = .30$ to $r = .93$ (all rs were statistically significant at the $p < .001$ level). The average correlation equaled .67. These six scores were subjected to a higher-order principal components analysis, which resulted in a single factor accounting for 72.91% of the score variance. Thus, whereas internally consistent clusters emerged, the high intercorrelations among subscales also suggested the presence of one general stress factor.

A repeated-measures ANOVA was used to examine whether situations in some clusters were on average rated as more stressful than were situations in other clusters. The omnibus F test showed statistically significant differences among the categories, $F\ (5,\ 540) = 99.73$, $p < .001$. A series of pair-wise comparisons using Tukey's HSD test revealed that all but three comparisons resulted in statistically significant differences (critical difference = .13). Delivering bad news that involved some mishap ($M = 3.39$) was clearly the most stressful, whereas delivering bad news that involved illness-specific factors ($M = 2.52$) was the least stressful, though still above the midpoint on the stress scale.

Table 3 Descriptive statistics for the stress ratings for each cluster of items

Cluster	Items	Mean[a]	SD	Range	Average inter-item correlation	Alpha
Physician	8	2.77	.58	1.17–4.0	.45	.87
Patient	18	2.85	.53	1.07–4.0	.43	.93
Institutional	2	2.58	.69	1.00–4.0	.35	.51
Illness	5	2.52	.54	1.00–4.0	.46	.80
Mishap	8	3.39	.50	2.00–4.0	.33	.79
Relationship	15	2.92	.46	1.43–4.0	.40	.91

[a] The means listed are the item averages across all items on the scale

Table 4 Correlations among score on the six bad news clusters

Cluster	Phy	Pat	Ill	Ins	Rel	Mis
Physician	–	.83	.74	.65	.85	.53
Patient		–	.82	.62	.93	.63
Illness			–	.54	.81	.50
Institutional				–	.60	.30
Relationship					–	.65
Mishap						–

Note: All correlations are statistically significant at $p < .01$

A series of correlational analyses and independent group *t*-tests were conducted to explore whether any of the physician-specific characteristics related to the stress ratings. In only one case did sex, age, race, number of years in practice, how regularly the physician breaks bad news, or whether they received training during and/or after medical school significantly relate to the stress ratings. Specifically, the 29 physicians who reported having received training during medical school reported typically experiencing less stress associated with illness-related factors ($M = 2.32$) than did the 83 physicians who reported no such training ($M = 2.60$), t (113) = 2.33, $p < .05$. Though statistically significant, this was a small effect (eta^2 = .05).

Discussion

These studies were designed to (1) identify those characteristics that make delivering bad medical news difficult or stressful and (2) determine whether some characteristics were perceived as normatively more stressful than were others. With over 90 unique characteristics generated by physicians, the results suggest that there are many factors that may contribute to the stress experienced when giving bad news. The subsequent stress ratings made by a separate group of physicians also suggests that some sets of characteristics of bad news transactions may be associated with greater stress than are other sets. Despite individual differences in the stress ratings, these differences could not be accounted for by gender, medical specialty, years in practice, or frequency of delivering news.

To accomplish the first of the study's goals, physicians provided information on a semi-structured measure that asked them to generate up to seven characteristics that distinguish a transaction that went well from one that went poorly. Not only did the physicians generate a large number of responses, but by relying on experiences of people who routinely give medically related news, the resulting list of characteristics had high content validity. Indirect evidence for this content validity is the fact that very few physicians took the opportunity in Study 2 to add factors to the list the researchers provided.[2]

Examination of the physicians' responses revealed aspects of bad news transactions that could be grouped together in face valid clusters. Adequate agreement among PhD-level psychologists about the cluster a given characteristic fit was reached for 56 of the statements. The reliability of these groupings (in terms of internal consistency) was subsequently shown to be adequate in Study 2, with Cronbach's alphas exceeding .51 for all clusters. However, two principle component analyses also revealed a dominant underlying factor. First, using all items the first unrotated factor to emerge accounted for the lion's share of the item variance. Second, a higher order factor analysis of the subscale scores resulted in a single factor. Thus, the utility of considering different aspects of bad news transactions remains to be established. An additional step in this research would be to demonstrate that the stress arising from different aspects of these transactions predicted physician outcomes such as burnout or related to how well or poorly actual transactions go from the recipient's perspective.

However, taken together, the reliability, correlational, and mean differences analyses reveal that the bad news stress perceptions are related both to the nature of the situation and to the people making the responses. Some aspects of bad news situations were rated as being more stressful than were others, with illness-specific factors being least stressful and mishap factors being most stressful. There were, however, high intercorrelations among scores across the clusters; physicians who found one aspect of these situations particularly stressful tended to find other aspects of these situations stressful as well. As will be discussed more fully, educational efforts might fruitfully focus on enhancing coping responses to the most normatively stressful situations, with a special effort to assist those physicians who are most reactive to the situations they encounter.

Stress and coping theory suggests that perceptions of stress are a function of appraisals both about the nature and meaning of the given situation and about the resources available to deal with the situation as construed (Lazarus and Folkman 1984). One important appraisal involves deciding what is at stake in the situation (termed primary appraisal). Bad news not only has implications for the patient, but in many situations, for the physician as well. Psychologically, having to deliver the news may suggest to the physician that he or she was powerless to make a positive difference (Buckman 1984). The bad news situation may "hit close to home," reminding physicians of their own mortality or of the possibility of a similar fate befalling a family member. If the patient and physician shared a long-standing or close relationship, the news may result in an end to that friendship. When bad news involves an obvious error physicians may question their competence or fear litigation.

A second appraisal involves an examination of the resources one has available to deal with the event (termed secondary appraisal). Physicians may find it more problematic to give bad news when they believe they are lacking the resources of time and adequate space. For instance, bad news is best delivered in a quiet, comfortable, private setting in which the news can be delivered face to face without interruptions (Ptacek and Eberhardt 1996).

[2] As one of the reviewers pointed out, the failure to provide additional examples of stress-producing bad news situations might also be accounted for by strain put on physicians to respond to such a large number of items.

Such spaces may not be readily available in a given institution. An additional potential resource that can be drawn upon is the knowledge that comes with having successfully delivered bad news in the past or believing, because of training, that one has the skills necessary to deliver the news well. High stress levels are most likely to occur when physicians believe the situation is threatening and also believe that they lack the resources to adequately deal with the event (Lazarus 1993).

The cluster of situations associated with the greatest stress perceptions involved mishaps. The average stress rating of items in this cluster exceeded 3.38 on the four-point scale. Such events were also identified by a sample of residents (Engel et al. 2006) as being particularly stressful. This resident sample is particularly important because these participants were still actively involved in educational processes, and it might thus be easier to provide coping skills training. More recently, medical errors were shown to be associated with increased anxiety, loss of confidence, and a reduction in job satisfaction (Waterman et al. 2007). Mishaps and errors can undermine a physician's sense of competence, arouse feelings of guilt, and may result in litigation. Research suggests that self-reported medical errors and physician distress relate to each other in reciprocal ways (West et al. 2006). Moreover, a failure to fully disclose the error may undermine the trust previously established between the patient and physician (Surbone et al. 2007). Not only may medical errors themselves relate to distress-specific outcomes in patients and physicians, but the present findings also indicate that *communicating* about those errors to patients and family is associated with stress.

The majority of physicians in this study received no formal training in how to communicate bad news, and it is unclear whether stress management was incorporated in the curriculum of those who did receive formal training. With one exception (illness-related characteristics of the situation), stress perceptions did not differ as a function of whether or not the formal training was received. Stress perceptions were also unrelated to years in practice or the frequency of giving such news. The years and frequency findings are consistent with the work of Cantwell and Ramirez (1997), which also suggest that these factors alone do not necessarily improve communication. Thus, while training may make people feel more confident that they can successfully deliver news (Schildmann et al. 2005) and may make them more effective in doing so (Back et al. 2007; Colletti et al. 2001), training may not actually reduce the stress of delivering the news. As Arnold and Koczwara (2006) note, "Perhaps, breaking bad news can never be easy—perhaps it should not be easy" (p. 5098).

Although the physicians in the present investigations represented a wide variety of medical specialties, the sample was homogeneous with respect to gender and ethnicity. Caucasians and males were over-represented. Additionally, participants had similar backgrounds where their undergraduate education was concerned. Inclusion of a larger number (and greater percentage) of females would have allowed for a more powerful examination of gender differences in bad-news related stress. Such an exploration might be particularly meaningful given a sizeable literature indicating that women typically report experiencing higher levels of stress than do men and may make use of different types of coping strategies (e.g., Matud 2004; Tamres et al. 2002). A larger sample would also allow for analyses to be conducted based on medical specialty, which could be enlightening because different specialties disclose different types of news at different rates. Additional work focused on demonstrating the reliability and validity of the various clusters would be useful. Most important would be efforts that explore the links between the stress appraisals associated with communicating bad news and physician and patient outcomes.

References

Arnold, S. J., & Koczwara, B. (2006). Breaking bad news: Learning through experience. *Journal of Clinical Oncology, 24*, 5098–5100. doi:10.1200/JCO.2006.08.6355.

Back, A. L., Arnold, R. M., Baile, W. F., Fryer-Edwards, K. A., Alexander, S. C., Barley, G. E., et al. (2007). Efficacy of communication skills training for giving bad news and discussing transitions to palliative care. *Archives of Internal Medicine, 167*, 453–460. doi:10.1001/archinte.167.5.453.

Baile, W. F., & Beale, E. A. (2003). Giving bad news to cancer patients: Matching process and content. *Journal of Clinical Oncology, 21*((Suppl)), 49s–51s. doi:10.1200/JCO.2003.01.169.

Bergman, B., Ahmed, F., & Stewart, D. E. (2003). Physician health, stress and gender at a university hospital. *Journal of Psychosomatic Research, 54*, 171–178. doi:10.1016/S0022-3999(02)00484-1.

Buckman, R. (1984). Breaking bad news: Why is it still so difficult? *British Medical Journal, 288*, 1597–1599.

Cantwell, B. M., & Ramirez, A. J. (1997). Doctor–patient communication: A study of junior house officers. *Medical Education, 31*, 17–21. doi:10.1111/j.1365-2923.1997.tb00037.x.

Chopra, S. S., Sotile, W. M., & Sotile, M. O. (2004). Physician burnout. *Journal of the American Medical Association, 4*, 633. doi:10.1001/jama.291.5.633.

Colletti, L., Gruppen, L., Barclay, M., & Stern, D. (2001). Teaching students to break bad news. *American Journal of Surgery, 182*, 20–23. doi:10.1016/S0002-9610(01)00651-1.

Dosanjh, S., Barnes, J., & Bhandari, M. (2001). Barriers to breaking bad news among medical and surgical residents. *Medical Education, 35*, 197–205. doi:10.1046/j.1365-2923.2001.00766.x.

Doyle, D., & O'Connell, S. (1996). Breaking bad news: Starting palliative care. *Journal of the Royal Society of Medicine, 89*, 590–591.

Engel, K. G., Rosenthal, M., & Sutcliffe, K. M. (2006). Residents' responses to medical error: Coping, learning, and change. *Academic Medicine, 81*, 86–93. doi:10.1097/00001888-200601000-00021.

Fallowfield, L. J. (1993). Giving sad and bad news. *Lancet, 20*, 476–478. doi:10.1016/0140-6736(93)90219-7.

Fallowfield, L. J., Jenkins, V. A., & Beveridge, H. A. (2002). Truth may hurt but deceit hurts more: Communication in palliative care. *Palliative Medicine, 16*, 297–303. doi:10.1191/0269216302pm575oa.

Gillard, J. H., Dent, T. H., Aarons, E. J., Smyth-Pigott, P. J., & Nicholls, M. W. (1993). Preregistration house officers in eight English regions: Survey of quality of training. *British Medical Journal, 307*, 1180–1184.

Girgis, A., & Sanson-Fisher, R. W. (1995). Breaking bad news: Consensus guidelines for medical practitioners. *Journal of Clinical Oncology, 13*, 2449–2456.

Glymour, M. M., Saha, S., & Bigby, J. (2004). Physician race and ethnicity, professional satisfaction, and work-related stress: Results from the Physician Worklife Study. *Journal of the National Medical Association, 96*, 1283–1294.

Graham, J., Ramirez, A. J., Cull, A., Finlay, I., Hoy, A., & Richards, M. A. (1996). Job stress and satisfaction among palliative physicians. *Palliative Medicine, 10*, 185–194.

Gundersen, L. (2001). Physician burnout. *Annals of Internal Medicine, 135*, 145–148.

Hoffman, M., Ferri, J., Sison, C., Roter, D., Schapira, L., & Baile, W. (2004). Teaching communication skills: An AACE survey of oncology training programs. *Journal of Cancer Education, 19*, 220–224. doi:10.1207/s15430154jce1904_8.

Lazarus, R. S. (1993). Coping theory and research: Past, present, and future. *Psychosomatic Medicine, 55*, 234–247.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York: Springer.

Matud, M. P. (2004). Gender differences in stress and coping styles. *Personality and Individual Differences, 37*, 1401–1415. doi:10.1016/j.paid.2004.01.010.

Mawardi, B. H. (1979). Satisfactions, dissatisfactions, and causes of stress in medical practice. *Journal of the American Medical Association, 241*, 1483–1486. doi:10.1001/jama.241.14.1483.

McCue, J. D. (1982). The effects of stress on physicians and their medical practice. *The New England Journal of Medicine, 306*, 458–463.

Morgan, E. R., & Winter, R. J. (1996). Teaching communication skills. An essential part of residency training. *Archives of Pediatrics and Adolescent Medicine, 150*, 638–642.

Orlander, J. D., Fincke, B. G., Hermanns, D., & Johnson, G. A. (2002). Medical residents' first clearly remembered experiences of giving bad news. *Journal of General Internal Medicine, 17*, 825–831. doi:10.1046/j.1525-1497.2002.10915.x.

Ptacek, J. T., & Eberhardt, T. L. (1996). Breaking bad news: A review of the literature. *Journal of the American Medical Association, 276*, 496–502. doi:10.1001/jama.276.6.496.

Ptacek, J. T., Ptacek, J. J., & Ellison, N. M. (2001). "I'm sorry to tell you…" physicians' reports of breaking bad news. *Journal of Behavioral Medicine, 24*, 205–217. doi:10.1023/A:1010766732373.

Ramirez, A. J., Graham, J., Richards, M. A., Cull, A., & Gregory, W. M. (1996). Mental health of hospital consultants: The effects of stress and satisfaction at work. *Lancet, 16*, 724–728. doi:10.1016/S0140-6736(96)90077-X.

Sarikaya, O., Civaner, M., & Kalaca, S. (2006). The anxieties of medical students related to clinical training. *International Journal of Clinical Practice, 60*, 1414–1418. doi:10.1111/j.1742-1241.2006.00869.x.

Schildmann, J., Cushing, A., Doyal, L., & Vollmann, J. (2005). Breaking bad news: Experiences, views, and difficulties of pre-registration house officers. *Palliative Medicine, 19*, 93–98. doi:10.1191/0269216305pm996oa.

Sise, M. J., Sise, C. B., Sack, D. I., & Goerhing, M. (2006). Surgeons' attitudes about communication with patients and their families. *Current Surgery, 63*, 213–218. doi:10.1016/j.cursur.2005.08.007.

Surbone, A., Rowe, M., & Gallagher, T. H. (2007). Confronting medical errors in oncology and disclosing them to cancer patients. *Journal of Clinical Oncology, 25*, 1463–1467. doi:10.1200/JCO.2006.09.9218.

Tamres, L. K., Janicki, D., & Helgeson, V. S. (2002). Sex differences in coping behavior: A meta-analytic review and an examination of relative coping. *Personality and Social Psychology Review, 6*, 2–30. doi:10.1207/S15327957PSPR0601_1.

Taylor, K. M. (1988). "Telling bad news": Physicians and the disclosures of undesirable information. *Sociology of Health & Illness, 10*, 109–132.

Travado, L., Grassi, L., Gil, F., Ventura, C., & Martins, C. (2005). Physician-patient communication among Southern European cancer physicians: The influence of psychosocial orientation and burnout. *Psycho-Oncology, 14*, 661–670. doi:10.1002/pon.890.

Waterman, A. D., Garbutt, J., Hazel, E., Dunagan, W. C., Levinson, W., Fraser, V. J., et al. (2007). The emotional impact of medical errors on practicing physicians in the United States and Canada. *Joint Commission Journal on Quality and Patient Safety/Joint Commission Resources, 33*(8), 467–476.

West, C. P., Huschka, M. M., Novotny, P. J., Sloan, J. A., Kolars, J. C., Habermann, T. M., et al. (2006). Association of perceived medical errors with resident distress and empathy: A prospective longitudinal study. *Journal of the American Medical Association, 296*, 1071–1078. doi:10.1001/jama.296.9.1071.

Williams, B. (2002). Physician stress and burnout. *Tennessee Medicine, 95*, 445–451.