A survey of Italian Physicians self-efficacy regarding communication skills and its correlation with a measure of "Burnout"

**CURRENT STATUS**: UNDER REVIEW

Health and Quality of Life Outcomes  • BMC

Andrea Messerotti  
Università degli Studi di Modena e Reggio Emilia

Federico Banchelli  
Università degli Studi di Modena e Reggio Emilia

Silvia Ferrari  
Università degli Studi di Modena e Reggio Emilia

Emiliano Barbieri  
Università degli Studi di Modena e Reggio Emilia  
**ORCiD**: 0000-0003-3148-6608

Francesca Bettelli  
Università degli Studi di Modena e Reggio Emilia

Elena Bandieri  
Azienda Unità Sanitaria Locale di Modena

Davide Giusti  
Università degli Studi di Modena e Reggio Emilia

Hillary Catellani  
Università degli Studi di Modena e Reggio Emilia

Eleonora Borelli  
Università degli Studi di Modena e Reggio Emilia

Elisabetta Colaci  
Università degli Studi di Modena e Reggio Emilia

Valeria Pioli  
Università degli Studi di Modena e Reggio Emilia

Monica Morselli  
Università degli Studi di Modena e Reggio Emilia

Fabio Forghieri
Universita degli Studi di Modena e Reggio Emilia
Gian Maria Galeazzi
Universita degli Studi di Modena e Reggio Emilia

Roberto Marasca
Universita degli Studi di Modena e Reggio Emilia

Sarah Bigi
Universita Cattolica del Sacro Cuore

Roberto D’Amico
Universita degli Studi di Modena e Reggio Emilia

Peter Martin
Deakin University Faculty of Health

Fabio Efficace
Northwestern University Feinberg School of Medicine

Mario Luppi
Universita degli Studi di Modena e Reggio Emilia

Leonardo Potenza leonardo.potenza@unimore.it
Corresponding Author
ORCiD: 0000-0002-2738-6105

DOI: 10.21203/rs.2.23481/v1

SUBJECT AREAS
Health Economics & Outcomes Research

KEYWORDS
Breaking serious news, attitudes, burnout, communication skills.
Abstract

Background: The majority of practising physicians experience burnout. One of the factors most frequently advocated to increase such risk is breaking bad news (BBN). Several reports, by showing alteration of physiological indices, have empirically suggested that BBN may stress physicians, ultimately contributing to burnout. However, the association between the way serious news is broken and burnout has not been explored yet. In this study we investigated the correlation between burnout and physicians' self-efficacy regarding communication to patients. Methods: A 23-item questionnaire exploring attitudes and practice regarding BBN and the Maslach Burnout Inventory test were administered to 379 physicians from two University Hospitals. Associations were assessed by means of logistic regression models. Results: 226 (60%) returned the questionnaires. 76% of physicians acquired communication skills by observing mentors or colleagues, 64% considered BBN as discussing a poor prognosis, 56% reported discussing prognosis as the most difficult task, 38% and 37% did not plan a BBN encounter and considered it stressful. The overall burnout rate was 59%. At the multivariable analysis considering BBN as discussing a poor prognosis and a stressful task were related to high level of burnout (OR 2.42, p=0.042; OR 3.56, p=0.005); whereas planning the encounter and mastering communication skills even by just by means of reading relevant literature were correlated to low level of burnout (OR=0.43, p=0.037; OR=0.19, p=0.034). Conclusions: Our study identifies some physicians' BBN attitudes and knowledge of conceptual frameworks which may influence the risk of burnout and support the notion that increasing knowledge about communication skills may protect clinicians from burnout.

Background

Burnout is a psychological work-related syndrome typically affecting the helping
professions, characterised by 3 core dimensions: physical and emotional exhaustion (PEE), cynicism and depersonalization (CD), and low personal accomplishment (PA). [1, 2] Recent studies have reported that more than 50% of medical doctors suffer from burnout. Such an epidemic negatively affects patient care, professionalism, physicians’ health and safety, and the viability of health-care systems. Numerous individual and work-related factors contribute to develop the burnout of clinicians. [3] One of the most frequently advocated stressor is breaking serious news (BBN). [2, 3]

BBN, such as discussing diagnosis, disclosing a poor prognosis or discussing the transition to palliative care with patients and their families, is a core communication task in medicine. [4] The way BBN is conveyed may seriously affect patients and families. [5] However, BBN have consequences also for physicians, who may experience strong emotions and distress. By harnessing simulation methodologies and measuring physiological indices, such as heart rate and sweating indices, several studies have empirically demonstrated that BBN may provoke fear, anxiety, discomfort and burden of responsibility in physicians. All these causes of distress may ultimately lead to burnout, with detrimental consequences on clinical effectiveness. [6–8] Nonetheless, the association between the way serious news are broken and burnout has not yet been explored. [9]

To that end, we have sought to determine the correlation between the frameworks and professional development opportunities physicians utilise regarding healthcare communication (HC) and how that relates to a metric linked with burnout.

Methods

Aim of the study

We have sought to determine the correlation between the frameworks and professional
development opportunities physicians utilise regarding healthcare communication (HC) and how that relates to a metric linked with burnout.

**Characteristics of the study**

The study is a prospective observational study enrolling physicians working in two tertiary care hospitals (AOU-Policlinico di Modena and AOU-Ospedale Civile di Baggiovara) in Modena, Italy. The study was approved by the local Ethical Committee (CE protocol n° 244/16). An informed consent was obtained from physicians participating to the study.

**Participation was voluntary and no incentive was offered.**

**Study Population**

The physicians enrolled into the study were 379. Of them, 226 (60%) completed the survey [Figure 1A - physicians' characteristics and responses at the questionnaires (figure provided at the end of the manuscript)]. A complete description of the sample is provided in Table 1 (see below).

| Table 1. Characteristics of Physicians |
|---------------------------------------|
| Physicians enrolled                    | 379 |
| Physicians returning the questionnarie | 226 (60) |
| Specialty                             |     |
| Internal Medicine area                | 107 (47) |
| Haematology/Oncology area             | 74 (33) |
| Surgical area                         | 44 (20) |
| Unspecified                           | 1 |
| Gender                                |     |
| Male                                  | 100 (49) |
| Female                                | 116 (51) |
| Professional Role                     |     |
| Resident                              | 103 (46) |
| Consultant                            | 114 (50) |
| Not specified                         | 9 (4) |
| Years from graduation                 |     |
| ≤ 3                                   | 55 (24) |
| > 3 and ≤ 6                           | 45 (20) |
| > 6 and ≤ 16                          | 60 (26) |
| > 16                                  | 62 (28) |
| Not specified                         | 4 (2) |

Internal medicine area includes Internal Medicine, Pneumology, Infectivology, Emergency Medicine, Nefrology, Gastroenterology and Endocrinology; Haematology/Oncology area includes Haematology and Oncology; Surgical Area includes Otorhinolaryngology, Plastic Surgery, General Surgery, Thoracic Surgery and Orthopaedics

**Survey Instruments**

**Clinician-perceived Communication Skills Questionnaire**
No validated instruments for measuring clinicians' communication skills have been developed. Thus, five of the authors, including clinicians and psychiatrists, developed a 23-item questionnaire for assessing physicians' perceptions of their communication skills (CS) knowledge and self-rating of HC, based on the state-of-the-art literature about patient-physician communication. [4, 10, 11] The questionnaire was strictly confidential and anonymous. The following steps and key aspects of a clinician-patient encounter were investigated: 1) plan the encounter, 2) BBN, 3) discussing prognosis, 4) shared decision making process, 5) tracking and responding to emotions, 6) communication skill training (CST), 7) self-evaluation about communication skills. 16 out of 23 items were multiple choice and 7 had only one possible answer.

**Burnout Questionnaire**

Burnout was measured using the validated Italian version of the Maslach Burnout Inventory - Human Services Survey (MBI-HSS), 22-items. [1, 12] The standard scoring for health care workers was used. Burnout syndrome was considered present if at least one of the three dimensions was severely abnormal, according to criteria proposed by Grunfeld et al. [12]

**Statistical Analysis**

Descriptive statistics of the study sample were calculated; mean and standard deviation were used for continuous variables, whereas absolute and percentage frequencies were used for categorical variables. Results were expressed in terms of odds ratios (OR) with 95% confidence interval (95% CI) and associated p-values, comparing each modality with the reference modality. Association between our observed covariates and the presence of burnout was assessed by means of logistic regression models. First, a single-item analysis was performed, where the dependent variable was the presence of burnout and the
independent variables were all the separate answers to the same item of MBI-HSS. The single-item analysis was carried out for all the 22 items of MBI-HSS. Finally, a multivariable analysis was also performed considering the presence of burnout as the dependent variable and 12 items of the communication skills questionnaire at authors’ choice and being a resident or a consultant as the independent variables. The 12 items, for a total of 34 covariates, were the following: 1, 2, 4, 7, 9, 10, 13, 14, 16, 17, 19, 20. These items were chosen because, in authors' opinion, they summarize the most important aspects of a clinician-patient encounter. Goodness-of-fit of our multivariable model was measured by means of the c-statistic (i.e. area under the ROC curve). Data were analysed by means of the R 3.4.3 software (The R Foundation for Statistical Computing, Wien).

Results

Communication Skills Questionnaire

A full report of the results is included in Table 2 (table provided at the end of the manuscript).

Among the most notable answers, there were the following: in the “plan the encounter” section, 139 physicians (62%) considered important to have a plan before BBN encounter. However, only 86 (38%) admitted preparing one, while 87 (39%) reported not to have a plan for the encounter, providing lack of time (N = 76, 34%) and the idea that planning may not be necessary (N = 58, 26%) as the main causes.

When asked about “definition of BBN”, 145 (64%) and 120 (53%) physicians answered that BBN means discussing a poor prognosis or talking about the end of disease-modifying treatment, respectively. Discussing prognosis and transition to palliative care were considered to be the most difficult tasks of BBN by 125 (56%) and 87 (39%) physicians.
168 (75%) of interviewees described BBN as emotionally engaging and 83 (37%) stressful. The most difficult part of BBN was balancing hope with honesty for 162 (75%) physician. 59 (26%) reported this was dealing with patients’ emotions.

As to "discussing prognosis", 139 (62%) physicians would be in favour of informing both patients and families about prognosis, mainly because they believe it promotes patients’ coping skills and empowerment. Nevertheless, 125 (56%) physicians acknowledged that they disclose prognosis only by talking about the rates for cure and response of treatment options.

When asked about "sharing decision making", 167 physicians (74%) revealed they do not usually ask patients how much information they want to know before BBN, mainly because they think that it is already felt by patients as worrisome, and patients may get scared simply by such question [84 (37%)]. As to discussing treatment options, 157 (70%) physicians just recommended the best treatment, in their opinion for the patients, while 89 (40%) attempted to share the decision making. Only 81 (36%) declared to check the patients understanding at the end of every visit.

Regarding to "tracking and responding to emotions", 164 (73%) physicians thought fear to be the most common emotion showed by patients. Overall, 145 (64%) reported to address patients' emotions with empathic responses.

The vast majority of respondent (170, 76%) based their HC professional development by observing colleagues and/or relied on experience. Only 15 (7%) and 14 (6%) physicians, respectively, reported attended CS training courses or receiving this training in Medical Schools. 14 (6%) relied on learning CS from textbooks or the scientific literature. 188 (84%) physicians considered themselves to be at least fair at BBN and 130 (61%) to be empathic and professional, while 45 (21%) acknowledged themselves to be unskilled for the task. Three quarters of the sample admitted not having an evidence based
approach and that a strategy to BBN would be helpful in their clinical practice.

Burnout

211 (93%) out of 226 questionnaires were fully evaluable for analysis. 124 (59%), physicians reached clinical significance of burnout in at least one of the 3 dimensions. In details, 66 (53%) out of 124 in 1 dimension; 46 (37%) in 2 dimensions and 12 (10%) in all 3 dimensions. Burnout levels of junior doctor, while they are acquiring specialization, were higher than those of consultants in a statistically significant manner (60 (65%) out of 99 vs 57 (52%) out of 109; OR 1.75; 95% CI 1.00 to 3.04; p = 0.049) [Figure 1B - Burnout rates in consultants and residents and according to their branch of medical practice; dark grey segments represent physician with burnout in at least one dominion, light grey segments represent physicians without burnout (figure provided at the end of the manuscript)].

Associations between physicians' communication skills and burnout

Single-item analysis

In our single-item analysis, the following variables were related to high levels of burnout: 1) physicians believing that BBN means discussing a poor prognosis (p = 0.039); 2) physicians self-assessing BBN to be a stressful task for themselves (p = 0.001); 3) discussing prognosis only including the rates for cure (p = 0.036); 4) feeling unskilled at patient-physician relationship (p = 0.029) and 5) being a resident (p = 0.049). On the contrary, the following variables were found to be related to low levels of burnout: 1) considering BBN an emotionally engaging task (p = 0.042); 2) having a consistent plan for communicating with patients (p = 0.040); 3) responding to patients’ emotions with empathic responses (p = 0.017); 4) discussing prognosis with the goal of promoting awareness of illness trajectory, therapeutic choices and to optimize patients’ coping (p =
0.010; 5) sharing decisions with patients (p = 0.019); 6) developing CS by using textbooks and scientific literature (p = 0.011); 7) feeling to be good or very good at CS (p = 0.000); 8) graduation within the last 6 to 16 years (p = 0.003) [Table 3A - (table provided at the end of the manuscript)].

**Multivariable analysis**

The multivariable logistic regression model confirmed that: a) physicians believing that BBN means discussing a poor prognosis (OR 2.42; 95% CI 1.03 to 5.66; p = 0.042); b) physicians self-assessing BBN to be a stressful task for themselves (OR 3.56; 95% CI 1.46 to 8.71; p = 0.005) were related to high levels of burnout; whereas a) physicians referring to plan in advance before communicating with patients (OR 0.43; 95% CI 0.19 to 0.95; p = 0.037) and b) physicians reporting to have learnt CS from textbooks and scientific literature (OR 0.19; 0.04 to 0.89; p = 0.034) were correlated to low levels of burnout [Table 3B (table provided at the end of the manuscript)]. All other independent variables included in the multivariable model were not significantly associated to the presence of burnout. Goodness-of-fit of our multivariable model was good, as the c-statistic was equal to 0.78.

**Discussion**

This study collects descriptions and opinions of a sample of Italian hospital medical doctors on their own HC, including specific behaviours, thoughts, and feelings they might experience while getting ready for and performing difficult communication tasks. Moreover, it informs some of the factors and how they might relate to burnout metrics. Results are consistent with those of previous surveys, mainly focused on the disclosure of the diagnosis, such as that from the American Society of Clinical Oncology. [10, 13–15] The majority of our respondents believed that BBN mainly equals discussing a poor
prognosis, that discussing prognosis is the most difficult communication task, and that BBN is very emotionally engaging or stressful. Most clinicians admitted not using a consistent evidence-based framework for BBN encounter, not asking the patients the amount of information they want to receive, and checking for understanding only if they think this may be impaired. Fear is generally reported as the most frequently emotion raised in patients while discussing such topics. Respondents rated themselves good or at least fair in BBN and mostly reported acquiring CS empirically by observing colleagues. Of note, they reported very low rates of CS training both at medical school and beyond. Also the frequency of burnout in our population is similar to that reported in US practising physicians, where nearly 60% of them experience the syndrome at some point in their career. [2, 16, 17] In Europe, similar rates were documented among French and Swiss physicians, 49% and 70%, respectively. [18, 19] Present data also confirm that younger medical doctors or residents have been reported to be exposed to an even higher risk. [20]

The other important finding of our study is that, for the first time, it documents significant associations between some self-efficacy patterns regarding communication to patients and the risk of burnout. This study shows that physicians for whom BBN means discussing a poor prognosis and self-assessing BBN as a stressful task are exposed to a higher risk of burnout, from almost 2.5 to more than 3.5 fold, respectively.

Previous researches have so far reported that conversations with patients about prognosis have always been challenging for clinicians, either because many of them are concerned that honest information about prognosis can damage patients’ hope or because they feel uncertain in estimating patients’ survival. [21] In the last few years, while new therapeutic technologies have progressively enabled patients to live longer with their disease than ever before, this has become even more complex. [22] Moreover, by demonstrating the
increase of several physiological indices (e.g. heart rate, blood pressure, skin
conductance, cortisol levels, etc...) during BBN encounters, other studies have empirically
confirmed that physicians perceive BBN as a stressful task. [6-8]
Our report supported by quantitative data suggests that these areas of self-efficacy,
related to the distress, deriving from the uncertainty and the emotional burden, are linked
to burnout.
Interestingly, clinicians who disclose prognosis only talking about the success rate of
therapies find themselves at a higher risk of burnout - although this was detected only in
the single-item analysis. This finding suggests that the sole conscious positive estimate of
treatment efficacy may have unintended consequences not only for patients, who may be
led to seek life-sustaining therapies even in phases where active treatments will not be
helpful, but also for physicians, who expose themselves to burnout, by risking losing
patients’ trust when things get worse. [23]
Our data show that an evidence-based theoretical framework for the encounter may be
protective of burnout in a statistically significant manner. This is even more important if
we consider that the majority of our interviewed physicians admit not to plan a BBN
encounter because of lack of time or because they consider this approach to be worthless.
Previous qualitative studies found evidence that simple behavioral training has potential
to positively affect physician-patient relationship and are felt beneficial by physician in
terms of reducing BBN-related stress. [24] Our findings supported by quantitative data the
effectiveness of this approach, and, together with the data that physicians who delay
serious news discussions may experience high levels of burnout, further validate the
importance of planning difficult communication tasks as a burnout prevention strategy.
Furthermore, we found that physicians who are aware of communication skills by means of
textbooks and scientific literature are exposed to low levels of burnout, in a statistically
significant manner. Indeed, although understanding what patients want to know and delivering worrisome information may be stressful for clinicians, it has been reported that standard communication protocol may increase the confidence, the ability of physicians to disclose unfavourable medical information, eventually reducing the BBN related-stress, and may also increase patients' rating of medical professionalism. [25] These findings, associated with the results of the single-item analysis, reporting low levels of burnout for physicians addressing patients' emotions with empathy and fostering shared decision making, further support the relevance of acquiring, practising and improving basic CS as burnout prevention strategy. [25]

Our study has some limitations. First, it was conducted on a sample of physicians who work in Modena, therefore the results we describe could not represent the entire national or international population. However, it should be recognised that a measurable rate of the interviewed physicians attended medical schools in different Italian regions, increasing at least in part the generalizability of the results. Second, the design of our study does not allow to establish an undoubted cause-effect association between the communication patterns and burnout metrics. Repeated monitoring of the same population over time would have consolidated the results. However, it has been recognised that the use of multiple assessments impairs similarly the reliability of the studies by increasing the likelihood of finding results. The data was a non-validated survey looking at a variety of domains of HC and by definition was a measure the clinician own perspectives without any objective data. Objective measures of CST efficacy including the use of audio-recording of the medical encounters would provide more objective data about their communication habits. However, our data are consistent with the results of other surveys about communication and burnout rates in different countries and in different historical periods.
Conclusions

In conclusion, our study identifies that physicians' attitudes and practices about and during difficult communication tasks may influence their risk of burnout. These results support the relevance of embedding evidence-based communication skill training at all levels of professional medical development. Given the potential burnout impact for doctors it may be worth considering priority areas such as BBN and prognostication integrated with core CST to ensure they have mastered the foundation skills. Further studies on large number of physicians of different background and in different Countries are needed to confirm our results.

List Of Abbreviations

BBN = breaking bad news; PEE = physical and emotional exhaustion; CD = cynicism and depersonalization; PA = personal accomplishment; HC = healthcare communication; CS = communication skills; MBI-HSS = Maslach Burnout Inventory - Human Services Survey; OR = odds ratio; CI = confidence interval; CST = communication skill training.

Declarations

Ethics approval and consent to participate

This study was conducted in accordance with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The study was approved by the local Ethical Committee (CE protocol n° 244/16).

Consent for publication

Not applicable.

Availability of data and materials

The datasets used and/or analysed during the current study are available from the corresponding author on reasonable request.
Competing interests

The authors declare that they have no competing interests.

Funding

This work was supported by grants of the Associazione Italiana Lotta alle Leucemie, Linfoma e Mieloma (AIL) – Sezione “Luciano Pavarotti”-Modena-ONLUS (Gold Charity Dinner Show “Inno alla Vita” initiative, by Dr. Alberto Fontana) and is also part of Programma di Ricerca Regione Emilia Romagna-Università, Ricerca per il Governo Clinico, 2010–2012 (3b211-19 to M.L.).

Authors’ contributions

LP, ML, FB, EmBa and AM conceived and designed the study; SF, ElBa and GMG designed the study; AM, EC, VP, DG, HC, MM, RD’A, FB, EmBa, ElBo and FF acquired and analyzed data; SB, PM, FE, ML and LP interpreted the data, FE, PM, EmBa, ML and LP drafted the manuscript and revised it. All authors read and approved the final manuscript.

Acknowledgements

Not applicable.

References

1. Maslach C, Schaufeli WB, Leiter MP. Job burnout. Annu Rev Psychol 2001;52:397–422. doi:10.1146/annurev.psych.52.1.397

2. West CP, Dyrbye LN, Erwin PJ, Shanafelt TD. Interventions to prevent and reduce physician burnout: a systematic review and meta-analysis. The Lancet 2016;388:2272-81. doi:10.1016/S0140-6736(16)31279-X.

3. Hlubocky FJ, Back AL, Shanafelt TD. Addressing Burnout in Oncology: Why Cancer Care Clinicians Are At Risk, What Individuals Can Do, and How Organizations Can Respond. Am Soc Clin Oncol Educ Book Am Soc Clin Oncol Meet 2016;35:271-9. doi:10.14694/EDBK_156120.
4. van Vliet LM, Epstein AS. Current State of the Art and Science of Patient-Clinician Communication in Progressive Disease: Patients’ Need to Know and Need to Feel Known. J Clin Oncol 2014;32:3474-8. doi:10.1200/JCO.2014.56.0425.

5. Fallowfield L, Jenkins V. Communicating sad, bad, and difficult news in medicine. The Lancet 2004;363:312-9. doi:10.1016/S0140-6736(03)15392-5.

6. Brown R, Dunn S, Byrnes K, Morris R, Heinrich P, Shaw J. Doctors’ stress responses and poor communication performance in simulated bad-news consultations. Acad Med J Assoc Am Med Coll 2009;84:1595–602. doi:10.1097/ACM.0b013e3181baf537.

7. Shaw JM, Brown RF, Dunn SM. A qualitative study of stress and coping responses in doctors breaking bad news. Patient Educ Couns 2013;91:243–8. doi:10.1016/j.pec.2012.11.006.

8. Shaw J, Brown R, Dunn S. The impact of delivery style on doctors’ experience of stress during simulated bad news consultations. Patient Educ Couns 2015;98:1255–9. doi:10.1016/j.pec.2015.08.023.

9. Bousquet G, Orri M, Winterman S, Brugière C, Verneuil L, Revah-Levy A. Breaking Bad News in Oncology: A Metasynthesis. J Clin Oncol 2015;33:2437–43. doi:10.1200/JCO.2014.59.6759.

10. Baile WF, Buckman R, Lenzi R, Glober G, Beale EA, Kudelka AP. SPIKES-A six-step protocol for delivering bad news: application to the patient with cancer. The Oncologist 2000;5:302-11.

11. Gilligan T, Coyle N, Frankel RM et al. Patient-Clinician Communication: American Society of Clinical Oncology Consensus Guideline. J Clin Oncol 2017; 35:3618-3632

12. Grunfeld E, Whelan TJ, Zitzelsberger L, Willan AR, Montesanto B, Evans WK. Cancer care workers in Ontario: prevalence of burnout, job stress and job satisfaction. CMAJ Can Med Assoc J 2000;163:166-9.
13. Grassi L, Giraldi T, Messina EG, Magnani K, Valle E, Cartei G. Physicians’ attitudes to and problems with truth-telling to cancer patients. Support Care Cancer 2000;8:40–5.

14. Christakis NA, Iwashyna TJ. Attitude and self-reported practice regarding prognostication in a national sample of internists. Arch Intern Med 1998;158:2389–95.

15. Voorhees J, Rietjens J, Onwuteaka-Philipsen B, Deliens L, Cartwright C, Faisst K, et al. Discussing prognosis with terminally ill cancer patients and relatives: A survey of physicians’ intentions in seven countries. Patient Educ Couns 2009;77:430–6. doi:10.1016/j.pec.2009.09.013.

16. Shanafelt TD, Hasan O, Dyrbye LN, Sinsky C, Satele D, Sloan J, et al. Changes in Burnout and Satisfaction With Work-Life Balance in Physicians and the General US Working Population Between 2011 and 2014. Mayo Clin Proc 2015;90:1600–13. doi:10.1016/j.mayocp.2015.08.023.

17. Kansoun Z, Boyer L, Hodgkinson M, Villes V, Lançon C, Fond G. Burnout in French physicians: A systematic review and meta-analysis. J Affect Disord. 2019;246:132-147.

18. Hamming O. Explaining burnout and the intention to leave the profession among health professionals - a cross-sectional study in hospital setting in Switzerland. BMC Health Serv Rev 2018; 18:785-96.

19. Rotenstein LS, Torre M, Ramos MA et al. Prevalence of Burnout Among Physicians: A Systematic Review. JAMA. 2018;320:1131-1150

20. Jovanović N, Podlesek A, Volpe U et al. Burnout syndrome among psychiatric trainees in 22 countries: Risk increased by long working hours, lack of supervision, and psychiatry not being first career choice. Eur Psychiatry. 2016 Feb;32:34-41.

21. Back AL, Arnold RM. Discussing Prognosis: “How Much Do You Want to Know?”
Talking to Patients Who Are Prepared for Explicit Information. J Clin Oncol 2006;24:4209-13. doi:10.1200/JCO.2006.06.007.

22. Temel JS, Shaw AT, Greer JA. Challenge of Prognostic Uncertainty in the Modern Era of Cancer Therapeutics. J Clin Oncol 2016;34: 3605-3608

23. Fallowfield LJ, Jenkins VA, Beveridge HA. Truth may hurt but deceit hurts more: communication in palliative care. Palliat Med 2002;16:297-303. doi:10.1191/0269216302pm575oa.

24. Rodriguez HP, Anastario MP, Frankel RM, Odigie EG, Rogers WH, von Glahn T, et al. Can teaching agenda-setting skills to physicians improve clinical interaction quality? A controlled intervention. BMC Med Educ 2008;8:3. doi:10.1186/1472-6920-8-3.

25. Back AL, Deignan PF, Potter PA. Compassion, compassion fatigue, and burnout: key insights for oncology professionals. Am Soc Clin Oncol Educ Book Am Soc Clin Oncol Meet 2014:e454-459. doi:10.14694/EdBook_AM.2014.34.e454.

26. Curtis JR, Wenrich MD, Carline JD, Shannon SE, Ambrozy DM, Ramsey PG. Understanding physicians' skills at providing end-of-life care perspectives of patients, families, and health care workers. J Gen Intern Med. 2001;16:41-9.

Tables

Table 2. Physicians’ communication preferences.

| Planning the encounter | IMAa | HOAb | SAC |TOT |IMA % | HOA% | SA% |TOT % |
|------------------------|------|------|-----|-----|------|------|-----|------|
| 1. How do you prepare for breaking bad news encounter? | 40   | 32   | 14  | 86  | 37%  | 43%  | 32% | 38%  |
| consistent plan or strategy | 42 | 30 | 15 | **87** | 39% | 41% | 34% | **39%** |
|-----------------------------|----|----|----|--------|-----|-----|-----|--------|
| No consistent approach to task | 19 | 5  | 3  | **27** | 18% | 7%  | 7%  | **12%** |
| Use my experience            | 7  | 6  | 7  | **20** | 7%  | 8%  | 16% | **9%**  |
| Follow my emotions            | 22 | 17 | 13 | **52** | 21% | 23% | 30% | **23%** |
| Plan to provide all relevant information at once then respond to questions | -  | -  | -  | -     | -   | -   | -   | -      |

2. In your opinion, would a strategy or approach to breaking bad news be important?

| Yes            | 67 | 47 | 25 | **139** | 63% | 64% | 57% | **62%** |
|----------------|----|----|----|---------|-----|-----|-----|---------|
| No             | 10 | 1  | 4  | **15**  | 9%  | 1%  | 9%  | **7%**  |
| Maybe          | 28 | 20 | 13 | **61**  | 26% | 27% | 30% | **27%** |
| 3. In your opinion, why physicians do not use a strategy or approach to breaking bad news? | 2 | 6 | 2 | 10 | 2% | 8% | 5% | 4% |
|---|---|---|---|---|---|---|---|---|
| Lack of time | 32 | 27 | 17 | 76 | 30% | 36% | 39% | 34% |
| Not necessary | 26 | 22 | 10 | 58 | 24% | 30% | 23% | 26% |
| Can’t say | 20 | 13 | 9 | 42 | 19% | 18% | 20% | 19% |
| Not to put distance between themselves and the patient | 23 | 15 | 7 | 45 | 21% | 20% | 16% | 20% |
| Don’t consider breaking bad news a clinical skill | 19 | 9 | 4 | 32 | 18% | 12% | 9% | 14% |

**Breaking bad news**

| 4. What does breaking | - | - | - | - | - | - | - | - |
| bad news mean for you? | Discussing diagnosis | Telling patient he/she is terminally ill | Discussing a poor prognosis | Talking about end of active treatment | Discussing diagnosis of cancer |
|-----------------------------------|-------------------------|-------------------------------------------|-------------------------------|-----------------------------------|-----------------------------------|
| 22 17 5 44 21% 23% 11% 20%   | 45 29 11 85 42% 39% 25% 38% | 71 47 27 145 66% 64% 61% 64% | 57 47 16 120 53% 64% 36% 53% | 35 25 5 65 33% 34% 11% 29% |
| **5. In an average month, how often do you have to break bad news to a patient/family?** | **-**  | **-** | **-** | **-** |
| Never | 6 0 10 16 6% 0% 23% 7% | 69 33 21 123 64% 45% 48% 55% | 26 21 7 54 24% 28% 16% 24% | 6 20 6 32 6% 27% 14% 14% |
6. Which one do you think is the most difficult task of breaking bad news?

| Task                                                      | 60 | 45 | 20 | 125 | 56% | 61% | 45% | 56% |
|-----------------------------------------------------------|----|----|----|-----|-----|-----|-----|-----|
| Discussing prognosis                                      |    |    |    |     |     |     |     |     |
| Telling patient about recurrence                         | 19 | 26 | 15 | 60  | 18% | 35% | 34% | 27% |
| Discussing transition to palliative care                 | 30 | 42 | 15 | 87  | 28% | 57% | 34% | 39% |
| Encouraging and dealing with family involvement           | 15 | 10 | 5  | 30  | 14% | 14% | 11% | 13% |
| Discussing diagnosis                                     | 22 | 11 | 6  | 39  | 21% | 15% | 14% | 17% |

7. How would you
describe the part of your job in which you break bad news?

|                      | 4 | 5 | 2 | 11 | 4% | 7% | 5% | 5% |
|----------------------|---|---|---|----|----|----|----|----|
| Stimulating          |   |   |   |    |    |    |    |    |
| Stressful            | 36| 33| 14| 83 | 34%| 45%| 32%| 37%|
| Emotionally engaging | 78| 60| 30| 168| 73%| 81%| 68%| 75%|
| Worrisome            | 6 | 4 | 2 | 12 | 6% | 5% | 5% | 5% |
| Depressing           | 9 | 5 | 3 | 17 | 8% | 7% | 7% | 8% |

8. What do you feel is the most difficult part of breaking bad news?

|                      | 75| 55| 32| 162| 70%| 74%| 73%| 72% |
|----------------------|---|---|---|----|----|----|----|----|
| Being honest but not taking away hope |   |   |   |    |    |    |    |    |
| Dealing with the patient’s emotions | 27| 26| 6 | 59 | 25%| 35%| 14%| 26%|
| Spending the right   | 8 | 15| 9 | 32 | 7% | 20%| 20%| 14%|
| amount of time                                      |  |  |  |  |  |  |  |
|----------------------------------------------------|---|---|---|---|---|---|---|
| Involving friends and family of the patient        | 3 | 3 | 0 | 6 | 3% | 4% | 0%  | 3% |
| Involving patient or family in decision making     | 13| 5 | 5 | 23| 12%| 7% | 11% | 10%|
| **Discussing prognosis**                           | 9 | 5 | 4 | 19| 52%| 57%| 43% | 52%|
| 9. What does discussing prognosis mean for you?    | - | - | - | - | - | - | - | - |
| Information about illness trajectory and outcome   | 56| 42| 19| 117| 52%| 57%| 43% | 52%|
| Success/failure rates of treatment options         | 61| 49| 24| 134| 57%| 66%| 55% | 60%|
| Mean survival time for patients affected           | 20| 14| 6 | 40 | 19%| 19%| 14% | 18%|
by the same disease and undergoing the same treatment

| Chances of cure | 27 | 13 | 5 | 45 | 25% | 18% | 11% | 20% |
|-----------------|----|----|---|----|-----|-----|-----|-----|
| Success rates of treatment options | 37 | 32 | 11 | 80 | 35% | 43% | 25% | 36% |

10. Would you inform patient and family about prognosis?

| Yes, certainly | 67 | 44 | 28 | 139 | 63% | 59% | 64% | 62% |
|----------------|----|----|----|-----|-----|-----|-----|-----|
| No             | 3  | 1  | 2  | 6   | 3%  | 1%  | 5%  | 3%  |
| Patient no, family yes | 13 | 11 | 5  | 29  | 12% | 15% | 11% | 13% |
| Family no, patient yes | 5 | 1  | 2  | 8   | 5%  | 1%  | 5%  | 4%  |
| Only if patient/family asks about it | 12 | 20 | 5  | 37  | 11% | 27% | 11% | 16% |
| Only under certain circumstances |   |   |   |   |   |   |   |
|----------------------------------|---|---|---|---|---|---|---|
| 11. If yes, for which reason?    |   |   |   |   |   |   |   |
| Ethical reasons                  | 14| 10| 6 | 30| 13%| 14%| 14%| 13%|
| Foster therapeutic compliance    | 21| 13| 6 | 40| 20%| 18%| 14%| 18%|
| Improve patient’s awareness of treatment plan | 23| 22| 17| 62| 21%| 30%| 39%| 28%|
| Make patient aware of illness trajectory, therapeutic choices and optimize adjustment to new condition s | 65| 42| 20| 127| 61%| 57%| 45%| 56%|
| 12. If not, for which reason?    |   |   |   |   |   |   |   |
| Issue                                                                 | Response | 0%  | 1%  | 2%  | 3%  | 5%  | 8%  | 10% | 12% | 16% | 22% | 24% | 26% | 29% | 35% | 40% |
|----------------------------------------------------------------------|----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Physicians are not updated about diseases prognosis                 |          | 0   | 0   | 0   | 2   | 3%  | 0%  | 0%  | 1%  | 2%  | 3%  | 5%  | 1%  | 1%  | 1%  | 1%  |
| Physicians do not know how to discuss prognosis                     | 1        | 2   | 1   | 4   | 2%  | 3%  | 5%  | 3%  | 3%  | 3%  | 3%  | 3%  | 3%  | 3%  | 3%  | 3%  |
| Lack of time                                                         | 0        | 1   | 0   | 1   | 0%  | 2%  | 0%  | 0%  | 1%  | 1%  | 1%  | 1%  | 1%  | 1%  | 1%  | 1%  |
| Not to take away hope                                               | 10       | 13  | 5   | 28  | 16% | 22% | 24% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% | 20% |
| Not to scare patients                                               | 4        | 7   | 0   | 11  | 7%  | 12% | 0%  | 8%  | 8%  | 8%  | 8%  | 8%  | 8%  | 8%  | 8%  | 8%  |
| Patients might not be ready                                         | 12       | 13  | 6   | 31  | 20% | 22% | 29% | 22% | 22% | 22% | 22% | 22% | 22% | 22% | 22% | 22% |
| Patients might not be able to handle emotions                       | 16       | 13  | 6   | 35  | 26% | 22% | 29% | 25% | 25% | 25% | 25% | 25% | 25% | 25% | 25% | 25% |
| Physicians cannot know every single patient’s prognosis             | 12       | 5   | 1   | 18  | 20% | 8%  | 5%  | 13% | 13% | 13% | 13% | 13% | 13% | 13% | 13% | 13% |
| Physicians do not                                                   | 5        | 5   | 2   | 12  | 8%  | 8%  | 10% | 9%  | 9%  | 9%  | 9%  | 9%  | 9%  | 9%  | 9%  | 9%  | 9%  |
### Sharing decision making

| **13.** Do you usually ask patients how much they want to know before breaking bad news? | - | - | - | - | - | - | - | - |
|---|---|---|---|---|---|---|---|---|
| Yes | 23 | 25 | 11 | 59 | 21% | 33% | 25% | 26% |
| No  | 84 | 50 | 33 | 167 | 79% | 67% | 75% | 74% |

| **14.** In your opinion, why do not physicians ask patients how much they want to know? | - | - | - | - | - | - | - | - |
|---|---|---|---|---|---|---|---|---|
| They can understand it all by themselves | 23 | 19 | 5 | 47 | 21% | 26% | 11% | 21% |
| Patients always tell what they consider necessary | 30 | 27 | 16 | 73 | 28% | 36% | 36% | 32% |
|-----------------------------------------------|----|----|----|----|-----|-----|-----|-----|
| Patients might get scared by that question    | 45 | 27 | 12 | 84 | 42% | 36% | 27% | 37% |
| Patients are always informed by physicians    | 28 | 17 | 19 | 64 | 26% | 23% | 43% | 28% |

15. In an average month, how often do you talk to patients who do not want to receive information about their disease?

|                      | Less than 5 times | 5 to 10 times | 10 to 20 times |
|----------------------|-------------------|---------------|----------------|
|                      | 100               | 4             | 2              |
|                      | 54                | 17            | 1              |
|                      | 42                | 1             | 1              |
|                      | 196               | 22            | 4              |
|                      | 93%               | 4%            | 2%             |
|                      | 74%               | 23%           | 1%             |
|                      | 95%               | 2%            | 2%             |
|                      | 87%               | 10%           | 2%             |
16. What do you offer when discussing treatment options?

|                               | 1 | 1 | 0 | 2 | 1% | 1% | 0% | 1% |
|-------------------------------|---|---|---|---|----|----|----|----|
| The best treatment for the patient, to the best of my knowledge and belief | 72 | 52 | 33 | 157 | 67% | 70% | 75% | 70% |
| To choose between all the available treatment options | 17 | 5 | 8 | 30 | 16% | 7% | 18% | 13% |
| To share decision with me | 45 | 36 | 8 | 89 | 42% | 49% | 18% | 40% |
| To trust my opinion | 0 | 0 | 1 | 1 | 0% | 0% | 2% | 0% |
| The most innovative treatment option | 1 | 0 | 0 | 1 | 1% | 0% | 0% | 0% |
**17. At the end of a visit, how often do you check for patient understanding?**

| Frequency | Never | Every time | Every time I think patient is not understanding | Every time I notice patient has limited health literacy | When patient asks me weird questions |
|-----------|-------|------------|-----------------------------------------------|----------------------------------------------------|-----------------------------------|
|           | 43    | 22         | 16                                            | 81                                                | 135                               |
|           | 40%   | 30%        | 36%                                           | 36%                                               | 57%                               |
|           | 2%    | 1%         | 2%                                            | 2%                                                | 68%                               |
|           | 2%    | 2%         | 2%                                            | 2%                                                | 55%                               |
|           | 2%    | 2%         | 2%                                            | 2%                                                | 60%                               |
|           | 12%   | 12%        | 9%                                            | 11%                                               | 19                                |
|           | 11%   | 7%         | 5%                                            | 7%                                                | 12%                               |
|           | 8%    | 5%         | 8%                                            | 5%                                                | 12%                               |

**18. Which of the following**

| Frequency | - | - | - | - | - | - | - | - |

**Tracking and responding to emotions**

| Frequency | - | - | - | - | - | - | - | - |
| emotions do patients show you more often? |  |  |  |  |  |  |  |
|-----------------------------------------|---|---|---|---|---|---|---|
| Fear                                   | 76| 58| 30| 164| 71%| 78%| 68%| 73%|
| Anger                                  | 14| 24| 3 | 41 | 13%| 32%| 7% | 18%|
| Sadness                                | 34| 31| 16| 81 | 32%| 42%| 36%| 36%|
| Disgust                                | 0 | 1 | 1 | 2  | 0% | 1% | 2% | 1% |
| Happiness                              | 6 | 5 | 0 | 11 | 6% | 7% | 0% | 5% |
| Disappointment                         | 13| 15| 5 | 33 | 12%| 20%| 11%| 15%|
| 19. What do you do when patients show you their feelings? | - | - | - | - | - | - | - |
| Talk about the benefits of therapy     | 12| 6 | 8 | 26 | 11%| 8% | 18%| 12%|
| Remain silent waiting for the end      | 15| 15| 4 | 34 | 14%| 20%| 9% | 15%|
| Address patients' emotions with empathic responses | 74| 49| 22| 145| 69%| 66%| 50%| 64%|
| Highlight                              | 41| 27| 18| 86 | 38%| 36%| 41%| 38%|
| what is positive | | | | | | | | |
|------------------|---|---|---|---|---|---|---|---|
| Interrupt the visit then start again when patients are more relaxed | 1 | 1 | 0 | 2 | 1% | 1% | 0% | 1% |

### Communication skills training

#### 20. How did you develop your communication skills?

| Observing mentors and older colleagues | 78 | 61 | 31 | 170 | 73% | 82% | 70% | 76% |
|----------------------------------------|----|----|----|-----|-----|-----|-----|-----|
| Experience                             | 58 | 41 | 17 | 116 | 54% | 55% | 39% | 52% |
| Communication skills training courses  | 8  | 7  | 0  | 15  | 7%  | 9%  | 0%  | 7%  |
| Textbooks and scientific literature    | 6  | 4  | 4  | 14  | 6%  | 5%  | 9%  | 6%  |
| Medical school                         | 3  | 6  | 5  | 14  | 3%  | 8%  | 11% | 6%  |

#### 21.

| | | | | | | | | |
|-----------------|---|---|---|---|---|---|---|---|
| | | | | | | | | |

---

33
| Would a strategy or approach to breaking serious news be helpful in your practice? |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|
| Yes, certainly | 76 | 60 | 34 | 170 | 70% | 81% | 77% |
| No | 3 | 0 | 0 | 3 | 3% | 0% | 0% |
| It is not possible to determine in advance a way to do it regardless of the situation and the individual needs. | 29 | 14 | 10 | 53 | 27% | 19% | 23% |

**Self-evaluation**

22. How do you feel about your own ability to break serious news? - - - - - - - -
|          | 2  | 0  | 2  | 4  |       |       |       |       |
|----------|----|----|----|----|-------|-------|-------|-------|
| Very good| 2  | 0  | 2  | 4  | 2%    | 0%    | 5%    | 2%    |
| Good     | 32 | 26 | 16 | 74 | 30%   | 35%   | 36%   | 33%   |
| Fair     | 57 | 32 | 21 | 110| 53%   | 43%   | 48%   | 49%   |
| Poor     | 8  | 9  | 2  | 19 | 7%    | 12%   | 5%    | 8%    |
| Very poor| 9  | 7  | 3  | 19 | 8%    | 9%    | 7%    | 8%    |

23. In a qualitative study on patient-physician relationship, patients have been asked to “classify” their physician's basing on the attitudes and skills physician showed them during treatments [26].

Which kind of physician's do you think you are?

|          |    |    |    |    |       |       |       |       |
|----------|----|----|----|----|-------|-------|-------|-------|
| Unskilled| 25 | 14 | 6  | 45 | 24%   | 21%   | 14%   | 21%   |
| Emotional| 4  | 2  | 1  | 7  | 4%    | 3%    | 2%    | 3%    |
| ly overwhelmed | 6 | 4 | 6 | 16 | 6% | 6% | 14% | 8% |
|----------------|---|---|---|----|----|----|-----|----|
| Tough but skillful | 4 | 1 | 2 | 7  | 4% | 1% | 5%  | 3% |
| Insensitive but skillful | 6 | 1 | 1 | 8  | 6% | 1% | 2%  | 4% |
| Detached | 59 | 45 | 26 | 130 | 57% | 67% | 62% | 61% |

IMA = Internal Medicine Area; HOA = Haematology/Oncology Area; SA = Surgical Area

**Table 3A,B. Associations between communication patterns and burnout.**

A. Single-item analysis. B. Multivariable analysis.

### 3A - Single item analysis

| Variables | All physicians (n=211) | Burnout cases (n=124) | ORa | 95% CIb | P value |
|-----------|------------------------|-----------------------|-----|---------|---------|
| N (%)     | N (%) on all physicians |
| Factors associated with high risk of burnout |

Breaking serious news means discussing a poor prognosis

| Yes | 136 (64%) | 86 (63%) | 1.94 | 1.03–3.64 | 0.039 |
|-----|-----------|----------|-----|---------|-------|
| No  | 75 (36%)  | 38 (51%) |     |         |       |

Breaking serious news is stressful

| Yes | 78 (37%) | 57 (73%) | 2.92 | 1.49–5.73 | 0.001 |
|-----|----------|----------|-----|---------|-------|
| No  | 133 (63%) | 67 (50%) |     |         |       |
|                               | Yes (%) | No (%) | Odds Ratio | 95% Confidence Interval | p-value |
|-------------------------------|---------|--------|------------|-------------------------|---------|
| Discussing prognosis is talking about the success of treatment options | 75 (36%) | 136 (64%) | 2.12 | 1.05–4.28 | 0.036 |
| Self-evaluating as unskilled at patient-physician communication | 44 (22%) | 156 (78%) | 2.27 | 1.04–4.75 | 0.029 |
| Professional Role | 93 (46%) | 109 (54%) | 1.75 | 1.00–3.04 | 0.049 |
| Resident | 109 (54%) | 57 (52%) | | | |
| Consultant | | | | | |
| Factors associated with low risk of burnout | | | | | |
| Having a consistent plan for communication | 80 (38%) | 40 (50%) | 0.37 | 0.14–0.96 | |
| Breaking serious news only considered | 158 (75%) | 89 (56%) | 0.56 | 0.31–0.98 | |
|                          | Yes       | No       | p-value | 95% CI       |
|--------------------------|-----------|----------|---------|--------------|
| Addressing patients'     | 137 (66%) | 71 (52%) | 0.39    | 0.18–0.85    |
|  emotions with empathic  | 72 (34%)  | 51 (71%) |         |              |
| responses                |           |          |         |              |
| Discussing prognosis     | 119 (69%) | 65 (55%) | 0.44    | 0.24–0.82    |
| with the goal of         | 53 (31%)  | 38 (72%) |         |              |
| promoting awareness of   |           |          |         |              |
| illness trajectory,      |           |          |         |              |
| therapeutic choices and  |           |          |         |              |
| to optimize patients'    |           |          |         |              |
| adjustment               |           |          |         |              |
| Sharing decisions        | 86 (41%)  | 42 (49%) | 0.46    | 0.24–0.88    |
| with patients            | 125 (59%) | 82 (66%) |         |              |
| Mastering communication  | 13 (6%)   | 3 (23%)  | 0.18    | 0.01–0.68    |
| skills by using          | 198 (94%) | 121 (61%)|         |              |
| textbooks and scientific literature | Yes | No |
|--------------------------------------|-----|----|
| Self-evaluating communication skills as good or very good | Yes | No |
| Years from graduation | 6-16 | 0-3 |

### 3B - Multivariable analysis

| Variables | OR  | 95% CI | P value |
|-----------|-----|--------|---------|
| Factors associated with high risk of burnout | | | |
| Breaking serious news means discussing a poor prognosis | 2.42 | 1.03-5.66 | 0.042 |
| Breaking serious news is stressful | 3.56 | 1.46-8.71 | 0.005 |
| Factors associated with low risk of burnout | | | |
| Having a consistent plan for communication | 0.43 | 0.19-0.95 | 0.037 |
Mastering communication skills by using textbooks and scientific literature

| Mastering communication skills by using textbooks and scientific literature | 0.19 | 0.04–0.89 | 0.034 |

OR = Odds Ratio; CI = Confidence Interval.

Figures

[Diagram showing the enrollment and completion of a study involving physicians.]

379 Physicians were enrolled in the study
- 176 from Internal Medicine
- 116 from Surgery
- 87 from Hematology and Oncology

153 declined to participate

226 Physicians completed the survey
- 107 from Internal Medicine
- 44 from Surgery
- 74 from Hematology and Oncology
- 1 not specified

103 residents
114 consultants
9 not specified

15 excluded for incomplete data

211 completed the burnout questionnaire
Figure 1

A. The flowchart shows physicians' characteristics and responses at the questionnaires. B. Burnout rates in consultants and residents and according to their branch of medical practice. Dark grey segments represent physician with burnout in at least one dominion. Light grey segments represent physicians without burnout.