Postprint Version	1.0
Journal website	http://www.pec-journal.com/article/S0738-3991(12)00424-7/abstract
Pubmed link	http://www.ncbi.nlm.nih.gov/pubmed/23219482
DOI	10.1016/j.pec.2012.10.017

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How to create and administer scripted video-vignettes in an experimental study on disclosure of a palliative breast cancer diagnosis

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ABSTRACT

Objective: Scripted consultations provide the opportunity to vary and study the effect of specific elements of medical communication. These scripted consultations are role-played, videotaped and then judged by analogue patients. Most studies applying this methodology have provided little insight into how they created internally and externally valid written and role-played scripts. In this paper we aim to address this gap by providing a detailed description of a scripted video-vignette study's methodology.

Methods: Following the five phases of creating and implementing scripted video-vignettes the current study's methodology is described: (1) deciding if video-vignettes are appropriate, (2) developing a valid script, (3) designing valid manipulations, (4) converting the scripted consultations to video, (5) administering the videos in an experiment.

Results: Following these phases and four validation steps internally and externally valid vignettes were developed.

Conclusions: The detailed description of the current study's methodology produced general recommendations for scripted video-vignette studies, such as the importance of validating both the written as well as the role-played scripts and involving both experts and lay people in validating the scripts. For other choices no golden standard exists.

Practice implications: The presented methodology and recommendations may serve as a source of inspiration for future scripted video-vignette studies.

1. INTRODUCTION

While observational studies on communication provide valuable insight into the practitioner–patient relationship, causal relations between communication and outcomes cannot be determined [1]. Therefore, in the era of evidence-based medicine, communication is increasingly being studied experimentally. Scripted video-vignettes are an example hereof; researchers create multiple role-played scripts of a consultation in which elements of communication (e.g. empathic remarks [2]) are systematically varied. Analogue patients (APs; healthy persons or patients) view these videos and judge the communication from the patient perspective. This methodology allows researchers to assess the impact of isolated variations in communication.

In order to draw causal relations, methodological validity of scripted video-vignettes has to be ensured. First, internal validity has to be warranted by creating scripts and manipulations that reflect the communication under study. Second, external validity is established when APs perceive the scripts as realistic and can identify with the video-patient. In a recent systematic review we concluded that previous scripted video-vignette studies often failed to ensure both types of validity [3]. For example, many studies do not provide detailed information on the creation and validation of their manipulations [2], [4], [5], [6], [7], [8], [9] and [10]. We suggested that researchers provide more insight into these elements, thereby increasing the quality of studies.

In this paper we aim to address this gap by providing a detailed description of the methodology of a specific scripted video-vignette study. We focus mainly on the procedures of creating internally and externally valid scripts as well as the experiment conducted with these role-played scripts.

2. METHODS

When creating and implementing scripted video-vignettes researchers encounter five phases [11]; (1) deciding if video-vignettes are appropriate, (2) developing a valid script, (3) designing valid manipulations, (4) converting the scripted consultations to video, (5) administering the videos. The current study's methodology will be described following these phases (see Fig. 1 for a visual representation). The validity of the written and role-played scripts was tested in four steps by having them rated and commented upon by experts and lay-people: oncologists, communication experts and breast cancer survivors and healthy women (steps 1–3). In the final fourth step role-played videos were validated in an experiment with breast cancer patients/survivors and healthy women.

[FIGURE 1]

2.1. Phase 1: deciding if video-vignettes are appropriate

The current study focused on the transition from curative to palliative breast cancer care. When communicating such information, oncologists encounter several dilemmas. First, patients often want as much information as possible [12], [13], [14], [15] and [16], while it is also common to hear patients express a wish not to receive too much – prognostic – information [17], [18], [19], [20], [21] and [22]. Second,

many patients stress the importance of receiving realistic information [23], [24], [25] and [26], while simultaneously asking for hope [23], [27], [28] and [29]. Oncologists have to balance between these seemingly contradictory needs. In a previous qualitative study we found that women who imagined themselves in the situation of hearing life-limiting information varied in their preference for explicit prognostic information, while they believed hope could be provided by reassuring patients that they will not be abandoned by the hospital [30]. Moreover, oncologists often seemed to struggle with providing prognostic information in patients' preferred manner and did not always offer reassurance about non-abandonment (unpublished study). Therefore, in the current experimental study we aimed to provide more insight into the effect of: (i) more versus less explicit prognostic information, and (ii) more versus less reassurance about non-abandonment at the transition from curative to palliative breast cancer care.

For this study, using scripted video-vignettes in an experimental design was appropriate for the following reasons. First, it allowed us to standardize communication across consultations, which is impossible in clinical care [31] as patients might for example ask for more prognostic information. By standardizing communication, causal conclusions about the manipulated communication could be drawn. Second, it allowed the randomizing of potentially negative communication (e.g. more prognostic information than preferred), which would be unethical to vary in clinical care [32]. This allowed studying the effect of potentially negative communication. Last, by showing one video to multiple APs, the influence of background characteristics (e.g. coping style) on the perception of communication could be assessed. Moreover, as multiple participants rated the same video-vignette, the reliability of outcomes was increased [33] and [34].

2.2. Phases 2 and 3: developing a valid script and designing valid manipulations

A standard script was written of part of a consultation in which the transition from curative to palliative breast cancer care was being discussed. Various sources were used to create the standard script. First, quotes from the aforementioned qualitative study [30] were used. Next, two authors – a practicing medical oncologist (EvdW)

and experienced communication researcher (JB) – provided the biomedical/social content and structure. Additionally, videotapes of clinical bad news conversations and prior scripted video-vignette studies [35], [36] and [37] were viewed for input.

The standard script contained a 'diagnosis', 'prognosis' and 'treatment' sequence instead of a whole consultation as we were interested in specific communication instead of a general impression of the consultation. This standard script remained identical, while the manipulated communication varied between the different versions of the script. Last, an introduction sequence was written displaying the video-patient introducing herself and her feelings towards the upcoming consultation, aimed to increase APs' empathic involvement [38] and [39].

Next, the manipulations were crafted. During the 'prognosis' sequence, the oncologist's level of prognostic information was varied (high versus low) and during the 'treatment' sequence, the reassurance about non-abandonment was varied (high versus low). By combining all variations within the standard script, four different

scripts were created (see Table 1). Manipulations were based on oncologists' and lay peoples' remarks in the qualitative study. The lowly explicit manipulation included qualitative information while the highly explicit manipulation involved statistical information. The lowly reassurance manipulation was the standard script while the highly reassurance manipulation consisted of three added fragments (one or two sentences each) of reassurance about non-abandonment. See Appendix A for the final scripts including manipulations.

[TABLE 1]

We varied only the verbal content between scripts, to ensure that all effects could be attributed to verbal elements. During the prognosis manipulation non-verbal communication was standardized and during the reassuring comments, non-verbal communication was held equal with the remaining script. A length-difference between the lowly and highly reassuring condition emerged due to the added reassuring fragments. We did not compensate for duration differences, as (i) clinical consultations with various levels of empathy also differ in length [40] and, (ii) entering 'filler' communication might unintentionally influence perceptions.

Validation step 1: The written scripts were commented upon by both experts and lay people; two oncologists, three communication experts and two survivors. Participants rated each script's realism (external validity) using the response categories 'not at all realistic', 'partially realistic' and 'very realistic'. To determine internal validity, the success of the manipulations – how explicit the prognostic information was perceived and how reassuring (concerning non-abandonment) the oncologist came across – was measured for each script using 1–10 scales ('not at all' to 'very'). Participants were asked to provide additional comments. Results and comments were used to adjust the scripts.

2.3. Phase 4: converting the scripted consultations to video

Validation step 2. The adjusted scripts were role-played by a physician and breast cancer survivor (NP) for pilot-testing by seven lay people; both healthy women and survivors. The manipulation success and realism of the videos was determined using the aforementioned measures. Next, the extent to which participants could empathize with the video-patient (external validity) was measured for each video using the response categories 'not at all', 'partially', and 'very'. Again, scripts were adjusted following the results.

Meanwhile, professional actors were casted to role-play the oncologist, patient and husband. We chose not to use a clinical oncologist, as it was crucial that the videos would vary only on specific communication. Videotaped castings were shown to oncologists, communication researchers, cancer patients/survivors and healthy women who stated which actors came across most realistically (i.e. as if they were a real oncologist and patient). This was done during presentations (for patients/survivors and oncologists) and individual contacts (for all sorts of participants). For each part the large majority chose the same actor. So, a 50-year-old white male played the oncologist, as many oncologists are middle age men. A 45-

year-old white female played the patient, enabling women of all ages to identify with her. The husband was role-played by a white male of 50 years.

The chosen actors role-played the scripts under supervision of a movie-director. This was first done during a training day. Alternating camera-perspectives were used;

during emotional moments close-ups of the patient/husband may increase viewers'

emotional arousal [41] and [42]. Contrary, during the manipulations APs' own feelings towards the communication have to be elicited, so the camera was then focused on the oncologist [43].

Validation step 3. Edited pre-final videos were sent by secured email to experts and lay people; one oncologist, four communication experts, five breast cancer survivors and two healthy women participated. Participants judged again the videos' realism and manipulation successes (external versus internal validity) and provided additional comments. Results were used to adjust the scripts a final time.

During a recording day the final scripts were role-played and videotaped. The explicit prognosis manipulations were comparable in length (low 55; high 60 s). The reassuring fragments covered 31 s. To put these lengths into perspective, the introduction sequence took 1.53 min, the diagnosis sequence had a length of 2.13 min, and the standard treatment sequence was 2.25 min long. Videos are available from the authors upon request.

2.4. Phase 5: administering the videos

Next, the videos were used in an experiment, which was approved by the Medical Ethics Committee of the University Medical Center of Utrecht. Both breast cancer patients/survivors and healthy women were recruited for this outcome study.

Participants were 51 breast cancer patients/survivors and 53 healthy women (Table 2). They viewed and judged all four videos (Table 1). We chose to show participants all videos, which allowed them to compare the different styles while showing only one video would have required a much larger sample size. In the aforementioned pilot study (Section 2.3, validation step 2) participants indicated that they were able to concentrate on four videos of 3½ to 4 min in succession, though communication was varied only slightly.

[TABLE 2]

Validation step 4. Manipulation success was determined in the experiment as well, by asking participants how explicit they perceived the prognostic information and how reassuring (concerning non-abandonment) the oncologist came across after each video (using 1–10 scales 'not at all' to 'very'). We analyzed whether the manipulations were perceived as equally successful by the patients/survivors versus healthy women.

3. RESULTS

Validation step 1. The written scripts. A majority of the participants perceived all scripts as 'very realistic'. The manipulation of explicitness was successful (low $M = 3.42$, $SD = 1.96$; high $M = 8.17$, $SD = .75$, possible range 1–10) and the 3 added

reassuring fragments were perceived as such ($M = 6.8$, $SD = 1.92$; $M = 7.0$, $SD = .82$; $M = 8.5$, $SD = .58$, possible range 1–10). Various comments were provided regarding the script. These concerned, for example, reassurance: *'When the doctor says 'as you understand' (after a reassuring fragment, red), I would take that as an instruction to keep silent about my fears and doubts, which would make me more anxious'* (quote) and the introduction: *'To 'undergo 'a scan is very passive, I think that more often the doctor would use words like 'the scan was made' (quote)*. Based on these quantitative and qualitative results the scripts were adjusted.

Validation step 2. The preliminary role-played videos. In the pilot study almost all participants found the preliminary role-played videos very realistic. Moreover, all could empathize with the video-patient very well. The videos differed in prognostic explicitness (low $M = 6.43$, $SD = 2.34$; high $M = 8.08$, $SD = 1.55$) and reassurance about non-abandonment (low $M = 4.86$, $SD = 2.44$; high $M = 8.08$, $SD = 1.19$). As the distinction in explicitness was less sharp, these manipulations were intensified (e.g. in the lowly explicit condition the remark that the tumour is quite aggressive was deleted).

Validation step 3. The pre-final videos (role-played by the actors). Videos were seen equally as realistic and partially realistic. Videos differed in level of prognostic explicitness (low $M = 3.83$, $SD = 1.87$; high $M = 7.70$, $SD = 1.55$) and reassurance about non-abandonment (low $M = 3.92$, $SD = 2.02$; high $M = 7.48$, $SD = 1.17$).

Additional comments were used to shape the final scripts. These concerned, for example, the introduction: *'I got the impression that the physician does not know the patient. However, he does not introduce himself'* (quote), the non-verbal communication: *'I would have expected that a real couple (...) exchanges some glances to share their common loss'* (quote) and the diagnosis *'I think the physician is unclear. Why doesn't he say that you cannot be cured anymore when you have metastases?!'* (quote).

Validation step 4. The success of the manipulations determined in the experiment. Again, in the highly explicit videos the prognosis was perceived as being more explicit than in the lowly explicit videos (low: $M = 3.68$, $SD = 2.39$; high: $M = 5.96$, $SD = 2.06$) while the videos also differed in level of perceived reassurance about non-abandonment (low: $M = 4.24$, $SD = 2.27$; high: $M = 7.23$, $SD = 1.98$). See Table 3 for an overview of the manipulation success in all four validation steps. Moreover, in the experiment, the manipulated communication was equally successfully perceived by the breast cancer patients/survivors versus healthy women (for all manipulations $p > .21$, see Table 4).

[TABLE 3 EN 4]

4. DISCUSSION AND CONCLUSION

4.1. Discussion

In this article, a detailed description of the methodology of a scripted video-vignette study was provided. Based on our results and the choices we made some general recommendations for scripted video-vignettes studies can be generated. However, we also encountered dilemmas for which no golden standard emerged.

4.1.1. *General recommendations for scripted video-vignette studies*

4.1.1.1. Validate both written and role-played scripts

Based on our results, we would recommend future studies to validate both written and role-played scripts. To ensure internal validity it is crucial that manipulations succeeded. As we found that the perception of communication depended on the medium through which it was offered (i.e. text versus video), it seems important to (internally) validate the written as well as the role-played scripts. Only some previous studies made explicitly clear they did so [6], [31], [32], [36] and [37]. Additionally, after validating the written scripts most often changes to the scripts are made. To determine whether these changes are successful, it is important to validate the role-played scripts again. Last, by pilot-testing role-played videos, elements potentially hampering external validity can be detected. For example, our actor-patient had long hair which she wore down in the pre-final videos. Breast cancer survivors correctly remarked that this hair-length is impossible after chemotherapy 2 years earlier. So, in the final videos her hair was put up.

4.1.1.2. Involve both experts and lay people in validating the scripts

In the current study, the written and role-played scripts and manipulations were commented on by experts and lay people. Both parties are involved in medical consultations while their perspective on communication can differ [44], [45] and [46], highlighting the importance of including both experts and lay people in the validation process [3]. So far, few studies have explicitly asked physicians to comment on the manipulations [5], [6], [32], [36], [47], [48] and [49]. Additionally, lay people and physicians both have a unique insight into whether the – role-played – scripts are realistic. For example, while selecting the actor-patient, EvdW remarked that the actress whose reaction towards the bad news was subtle was most realistic.

4.1.1.3. Keep all but the manipulated communication constant while displaying the exact manipulations

Another important element for ensuring internal validity is the use of a standard script, in which manipulations are varied [3]. Only by creating scripts in which all but the manipulated communication is held constant, causal conclusions about found effects can be drawn. By providing the content of the manipulations it becomes clear which wordings/behaviours influenced outcomes. This holds especially when manipulating specific communication instead of container-concepts consisting of

multiple behaviours (e.g. 'patient-centeredness') [50] and [51]. Other studies can then replicate or build further upon specific findings, increasing the evidence-base of specific communication. Until now, only some studies provided this information [2], [6], [37] and [49].

4.1.1.4. Take actions to increase APs' identification with the video-patient

To ensure external validity it is important that APs succeed to put themselves in the shoes of the video-patient [3]. Therefore, studies may match APs and the video-patient on background characteristics (e.g. gender and age) and take actions to increase AP's identification with the video-patient. We tried to realize this in various ways, by: (i) including a woman of middle-age as patient, with whom all APs could identify, (ii) creating an introduction video to increase emotional involvement, (iii) assessing and ensuring participants' identification in the preliminary videos, (iv) informing participants about the study aim in the experiment. These methods are more rigorous than previous studies' approaches, who only sometimes assessed identification with the video-patient [32], [35] and [49]. Other methods might also be beneficial, such as matching actors and APs on race or used dialect.

4.1.2. Encountered dilemmas

Not all the choices we made translate themselves into general recommendations. Most choices reflect dilemmas for which insight into the rationales for, and effects of, the possible decisions is lacking. Examples of such dilemmas are: the sources used to create the script (own experience, previous studies and/or theoretical input); the length of a script (whole versus part of a consultation); the nature of the manipulation (verbal, non-verbal, or both); the participants role-playing the scripts (actors versus real doctors/patients); the use of different camera perspectives (focused on the patient, physician or both); the APs included (healthy persons versus patients/survivors); and the number of video-vignettes APs view (one versus multiple). In the current article we underpinned the choices we made in these and related dilemmas. However, other studies may follow other rationales and make other decisions. In an aligned paper, we will discuss the methodological considerations of various encountered dilemmas when creating and implementing scripted video-vignettes more in detail [11].

Moreover, the heterogeneity of studies will make it difficult to achieve 'golden standards' for all methodological considerations. Three examples of heterogeneity in studies influencing methodology are the following. First, some studies may create audio or written vignettes instead of videotaped ones. Although for such studies many of the provided advices still apply, differences also emerge. For example, it may be more difficult to immerse oneself in such vignettes [52] so more attention may be paid to external validity. Second, studies may choose to manipulate other elements than communication, such as characteristics of the environment. For such manipulations the used camera perspective and length of the vignettes may have different influences than when manipulating communication. Last, studies will differ on financial budget available. For example, casting and hiring professional actors

may be too expensive for some studies which will settle instead for members of their research team (who may or may not be doctors) to role-play the scripts.

4.1.3. Limitations

Scripted video-vignette studies, and our study in particular, have limitations. First, scripted studies remain proxies for clinical interactions and results must be generalized to clinical patients with caution. Experimental studies should preferably go hand in hand with clinical studies to define the effect of communication in both situations. Second, our study sample might not be representative; less involved women may be underrepresented as women voluntarily participated in the validation studies and experiment.

4.1.4. Future studies

In the evolving field of scripted video-vignette studies this article may serve as a starting point for further discussion and scholarship in developing and applying evidence-based vignettes. We encourage researchers to describe their methodological procedure. More specifically, we suggest them to report – and reflect on – the following elements: (i) the rationales for conducting a scripted video-vignette study, (ii) the exact manipulations (and standard script), (iii) whether they used an introduction video or other introduction material, (iv) when and how the scripts were validated, (v) whether actors or real doctors/patients role-played the scripts, (vi) the different camera-perspectives used, (vii) attempts to increase AP's level of identification, (viii) the procedure of the experiment, e.g. how many videos were viewed. Providing this information will increase insight into specific strengths and hurdles of scripted video-vignette studies and provide more insight into a study's quality. Future studies can focus on various encountered dilemmas. For example, more research is needed on the effect of using different camera-perspectives. By following these suggestions, better experimental scripted video-vignette studies can be created which provide more evidence-base for how communication may influence patient outcomes.

4.2. Conclusion

Using scripted video-vignette studies to investigate the effect of specific elements of communication provides more insight into these elements' effects, on the premise of using valid scripts and manipulations. Future studies might benefit from general recommendations generated from this study. However, for other choices no golden standard exists.

4.3. Practice implications

Creating and administering internally and externally valid scripted video-vignettes is a daunting task. The current article may provide researchers with handles how to do so, such as by involving both experts and lay people in validating the written and role-played scripts and keeping all but the manipulated communication constant. These recommendations and the detailed description of the current study's methodology may serve as a source of inspiration for future scripted video-vignette studies.

CONFLICT OF INTEREST

All authors declare that there are no conflicts of interest.

ROLE OF FUNDING

This project was funded by the Spinoza Prize awarded to Prof. Jozien Bensing, PhD by the Dutch Research Counsel (NWO). The NWO was not involved in the research process.

ACKNOWLEDGEMENTS

We thank the breast cancer survivors, healthy women, oncologists and communication-experts for validating the written and role-played scripts. We would like to thank Ariette Sanders-van Lennep for her help in role-playing the preliminary scripts. We thank the actors and movie-director in creating the video-vignettes. We are grateful to Richard van Kruysdijk for his help with editing the video-vignettes. Last, we are grateful to the PPI for valuable comments on an earlier version of the manuscript.

[APPENDIX A.]

REFERENCES

- [1] Hall JA. Some observations on provider–patient communication research. *Patient Educ Couns* 2003;50:9–12.
- [2] Fogarty LA, Curbow BA, Wingard JR, McDonnell K, Somerfield MR. Can 40 seconds of compassion reduce patient anxiety? *J Clin Oncol* 1999;17: 371–9.
- [3] van Vliet LM, van der Wall E, Albada A, Spreeuwenberg PM, Verheul W, Bensing JM. The validity of using analogue patients in practitioner–patient communication research: systematic review and meta-analysis. *J Gen Intern Med* 2012;27:1528–43.
- [4] Harrigan JA, Rosenthal R. Physicians’ head and body positions as determinants of perceived rapport. *J Appl Soc Psychol* 1983;13:496–509.
- [5] Dowsett SM, Saul JL, Butow PN, Dunn SM, Boyer MJ, Findlow R, et al. Communication styles in the cancer consultation: Preferences for a patient-centred approach. *Psychooncology* 2000;9:147–56.
- [6] Floyd M, Lang F, Beine KL, McCord E. Evaluating interviewing techniques for the sexual practices history. Use of video trigger tapes to assess patient comfort. *Arch Fam Med* 1999;8:218–23.
- [7] Aruguete SM, Roberts CA. Gender, affiliation, and control in physician-patient encounters. *Sex Roles* 2000;42:107–18.
- [8] Aruguete MS, Roberts CA. Participants’ ratings of male physicians who vary in race and communication style. *Psychol Rep* 2002;91:793–806.
- [9] Roberts CA, Aruguete MS. Task and socioemotional behaviors of physicians: a test of reciprocity and social interaction theories in analogue physician–patient encounters. *Soc Sci Med* 2000;50:309–15.
- [10] Johnson CG, Levenkron JC, Suchman AL, Manchester R. Does physician uncertainty affect patient satisfaction? *J Gen Intern Med* 1988;3:144–9.
- [11] Hillen MA, van Vliet LM, de Haes CJM, Smets EMA. Developing and administering scripted video vignettes for experimental research of patient-provider communication. Under review.
- [12] Barnett MM. Does it hurt to know the worst? Psychological morbidity, information preferences and understanding of prognosis in patients with advanced cancer. *Psychooncology* 2006;15:44–55.

- [13] Hagerty RG, Butow PN, Ellis PA, Lobb EA, Pendlebury S, Leighl N, et al. Cancer patient preferences for communication of prognosis in the metastatic setting. *J Clin Oncol* 2004;22:1721–30.
- [14] Schofield P, Carey M, Love A, Nehill C, Wein S. 'Would you like to talk about your future treatment options'? Discussing the transition from curative cancer treatment to palliative care. *Palliat Med* 2006;20:397–406.
- [15] Rodin G, Mackay JA, Zimmermann C, Mayer C, Howell D, Katz M, et al. Clinician–patient communication: a systematic review. *Support Care Cancer* 2009;17:627–44.
- [16] Hagerty RG, Butow PN, Ellis PM, Dimitry S, Tattersall MH. Communicating prognosis in cancer care: a systematic review of the literature. *Ann Oncol* 2005;16:1005–53.
- [17] Clayton JM, Butow PN, Tattersall MH. When and how to initiate discussion about prognosis and end-of-life issues with terminally ill patients. *J Pain Symptom Manage* 2005;30:132–44.
- [18] Kirk P, Kirk I, Kristjanson LJ. What do patients receiving palliative care for cancer and their families want to be told? A Canadian and Australian qualitative study. *Brit Med J* 2004;1343–9.
- [19] Butow PN, Dowsett S, Hagerty R, Tattersall MH. Communicating prognosis to patients with metastatic disease: what do they really want to know? *Support Care Cancer* 2002;10:161–8.
- [20] Benson J, Britten N. Respecting the autonomy of cancer patients when talking with their families: qualitative analysis of semistructured interviews with patients. *Br Med J* 1996;313:729–31.
- [21] Leydon GM, Boulton M, Moynihan C, Jones A, Mossman J, Boudioni M, et al. Faith, hope, and charity: an in-depth interview study of cancer patients' information needs and information-seeking behavior. *West J Med* 2000;173:26–31.
- [22] Elkin EB, Kim SH, Casper ES, Kissane DW, Schrag D. Desire for information and involvement in treatment decisions: elderly cancer patients' preferences and their physicians' perceptions. *J Clin Oncol* 2007;25:5275–80.
- [23] Hagerty RG, Butow PN, Ellis PM, Lobb EA, Pendlebury SC, Leighl N, et al. Communicating with realism and hope: incurable cancer patients' views on the disclosure of prognosis. *J Clin Oncol* 2005;23:1278–88.
- [24] Girgis A, Sanson-Fisher RW. Breaking bad news: consensus guidelines for medical practitioners. *J Clin Oncol* 1995;13:2449–56.
- [25] Fujimori M, Uchitomi Y. Preferences of cancer patients regarding communication of bad news: a systematic literature review. *Jpn J Clin Oncol* 2009;39:201–16.
- [26] Parker SM, Clayton JM, Hancock K, Walder S, Butow PN, Carrick S, et al. A systematic review of prognostic/end-of-life communication with adults in the advanced stages of a life-limiting illness: patient/caregiver preferences for the content, style, and timing of information. *J Pain Symptom Manage* 2007;34:81–93.
- [27] Clayton JM, Butow PN, Arnold RM, Tattersall MH. Fostering coping and nurturing hope when discussing the future with terminally ill cancer patients and their caregivers. *Cancer* 2005;103:1965–75.
- [28] Randall TC, Wearn AM. Receiving bad news: patients with haematological cancer reflect upon their experience. *Palliat Med* 2005;19:594–601.
- [29] Kutner JS, Steiner JF, Corbett KK, Jahnigen DW, Barton PL. Information needs in terminal illness. *Soc Sci Med* 1999;48:1341–52.
- [30] van Vliet L, Francke A, Tomson S, Plum N, van der Wall E, Bensing J. When cure is no option: how explicit and hopeful can information be given? A qualitative study in breast cancer. *Patient Educ Couns* 2011 [Epub ahead of print].
- [31] Willson P, McNamara JR. How perceptions of a simulated physician–patient interaction influence intended satisfaction and compliance. *Soc Sci Med* 1982;16:1699–704.
- [32] Shapiro DE, Boggs SR, Melamed BG, Graham-Pole J. The effect of varied physician affect on recall, anxiety, and perceptions in women at risk for breast cancer: an analogue study. *Health Psychol* 1992;11:61–6.
- [33] Wensing M, van de Vleuten C, Grol R, Felling A. The reliability of patients' judgments of care in general practice: how many questions and patients are needed? *Qual Health Care* 1997;6:80–5.

- [34] Woolliscroft JO, Howell JD, Patel BP, Swanson DB. Resident-patient interactions: the humanistic qualities of internal medicine residents assessed by patients, attending physicians, program supervisors, and nurses. *Acad Med* 1994;69:216-24.
- [35] Schmid Mast M, Kindlimann A, Langewitz W. Recipients' perspective on breaking bad news: how you put it really makes a difference. *Patient Educ Couns* 2005;58:244-51.
- [36] Swenson SL, Buell S, Zettler P, White M, Ruston DC, Lo B. Patient-centered communication: do patients really prefer it? *J Gen Intern Med* 2004;19:1069-79.
- [37] McKinstry B. Do patients wish to be involved in decision making in the consultation? A cross sectional survey with video vignettes. *Br Med J* 2000;321:867-71.
- [38] Gerrards-Hesse A, Spies K, Hesse F. Experimental inductions of emotional states and their effectiveness: a review. *Br J Psychol* 1994;85:55-78.
- [39] Westermann R, Spies K, Stahl G, Hesse FW. Relative effectiveness and validity of mood induction procedures: a meta-analysis. *Eur J Soc Psychol* 1996;26:557-80.
- [40] Epstein RM, Franks P, Shields CG, Meldrum SC, Miller KN, Campbell TL, et al. Patient-centered communication and diagnostic testing. *Ann Fam Med* 2005;3:415-21.
- [41] Plantinga G. The scene of empathy and the human face on film. In: Plantinga G, Smith GM, editors. *Passionate views: film, cognition, and emotion*. Baltimore: The Johns Hopkins University Press; 1999. p. 239-55.
- [42] Preston SD, de Waal FB. Empathy: its ultimate and proximate bases. *Behav Brain Sci* 2002;25:1-20.
- [43] Choi L. Leaving it up to the imagination: POV shots and imagining from the inside. *J Aesthetics Art Criticism* 2005;63:17-25.
- [44] Bensing J, Mazzi M, Fletcher I, Zimmermann C, Rimondini M, DeVeugele M GULIVER: Travelling into the heart of good doctor-patient communication. An international multicentre study. Poster Presentation at AACH Chicago; 2011.
- [45] Mazor KM, Ockene JK, Rogers HJ, Carlin MM, Quirk ME. The relationship between checklist scores on a communication OSCE and analogue patients' perceptions of communication. *Adv Health Sci Educ Theory Pract* 2005;10: 37-51.
- [46] Greco M, Spike N, Powell R, Brownlea A. Assessing communication skills of GP registrars: a comparison of patient and GP examiner ratings. *Med Educ* 2002;36:366-76.
- [47] Swenson SL, Zettler P, Lo B. 'She gave it her best shot right away': patient experiences of biomedical and patient-centered communication. *Patient Educ Couns* 2006;61:200-11.
- [48] Saha S, Beach MC. The impact of patient-centered communication on patients' decision making and evaluations of physicians: a randomized study using video vignettes. *Patient Educ Couns* 2011;84:386-92.
- [49] Bradley G, Sparks B, Nesdale D. Doctor communication style and patient outcomes: gender and age as moderators. *J Appl Soc Psychol* 2001;31:1749-73.
- [50] de Haes H, Bensing J. Endpoints in medical communication research, proposing a framework of functions and outcomes. *Patient Educ Couns* 2009;74: 287-94.
- [51] Epstein RM, Street RLJ. *Patient-centered communication in cancer care: promoting healing and reducing suffering*. National Cancer Institute; 2007.
- [52] Lang A. *Measuring psychological responses to media*. Hillsdale, NJ: Lawrence Erlbaum Associates; 1994.

FIGURE, TABLES. AND APPENDIX

Fig. 1. Visual representation of the procedure of creating and administrating valid scripted video-vignettes.

Table 1
Conditions of the systematically varied videos.

Video 1	Explicit high	Reassurance high
Video 2	Explicit high	Reassurance low
Video 3	Explicit low	Reassurance high
Video 4	Explicit low	Reassurance low

Table 2
Demographic characteristics of participants in the experimental study.

	Breast cancer patients/survivors (n = 51)	Healthy women (n = 53)
	M (SD)	M (SD)
Age	52.03 (8.50)	41.35 (14.49)
	N (%)	N (%)
Marital status		
Married	28 (55)	25 (47)
Single (includes divorced, widowed)	23 (45)	28 (53)
Highest education		
Low (<secondary school)	1 (2)	3 (6)
Medium (secondary school+vocational education)	17 (33)	17 (32)
High (higher vocational education or university)	33 (65)	33 (62)
Occupation		
Paid job	32 (63)	32 (60)
Non-paid job (including unemployed, housewife, student)	19 (37)	21 (40)
Ethnicity		
Dutch (including Western immigrants)	45 (88)	42 (83)
Immigrant	6 (12)	11 (17)

Table 4
Success of manipulations in the experiment in relation to whether or not participants had (had) breast cancer.

	Breast cancer patients/survivors	Healthy women	t	p
	M (SD)	M (SD)		
	N = 45	N = 50		
Low explicit	3.86 (2.38)	3.6 (2.17)	.55	.58
High explicit	5.82 (2.04)	6.11 (1.74)	-.74	.46
	N = 45	N = 49		
Low reassurance	4.09 (1.99)	4.41 (1.90)	-.80	.43
High reassurance	6.97 (2.08)	7.46 (1.66)	-1.27	.21

How explicit/reassuring a video was perceived was indicated on a 1–10 scale ('not at all' to 'very'). All t-tests were performed with two-sided significance testing.

Table 3
Validation of the written and role-played scripts: success of the manipulations.

Step	N	Explicitness		Reassurance	
		Low	High	Low	High
		M (SD)	M (SD)	M (SD)	M (SD)
Step 1: written scripts	7	3.42 (1.96)	8.17 (.75)	–	Fragment 1 = 6.8 (1.92) Fragment 2 = 7.0 (.82) Fragment 3 = 8.5 (.58)
Step 2: preliminary videos	7	6.43 (2.34)	8.08 (1.55)	4.86 (2.44)	8.08 (1.19)
Step 3: pre-final videos	12	3.83 (1.87)	7.70 (1.55)	3.92 (2.02)	7.48 (1.17)
Step 4: videos experiment	104	3.68 (2.39)	5.96 (2.06)	4.24 (2.27)	7.23 (1.98)

How explicit/reassuring a video was perceived was indicated on a 1–10 scale ('not at all' to 'very').

Appendix A. Final scripts including manipulations

Abbreviation	Camera perspective
CAM1	Overview shot of patient/husband and oncologist
CAM3	Shot oncologist
CAM2	Shot patient/husband
T (Total)	Total shot
M (medium)	Middle close up
C (close up)	Face close up
P	Patient
H	Husband
O	Oncologist

Introduction sequence

Verbal

P: My name is Loes Bakker, I'm 45 years old. I'm married and have two adorable children; a 17-year-old girl and a 15-year-old boy. Two years ago I was diagnosed with breast cancer. I've had breast-conserving surgery during which the tumour was removed. To be on the safe side, I first received radiation therapy and afterwards chemotherapy to tackle cells which may still be there but which cannot be seen. After a while, my life seemed to get back on track again. However, one month ago I felt a lump in the same breast. Of course, I was in shock and immediately called the hospital. I got an appointment with the surgeon right away. He did a physical exam and felt my lymph nodes. He didn't have a good feeling about it all, so last week I already had a bone scan and CT scan done of my liver and lungs to see if the cancer has come back. I can't believe it. But I have an appointment with the doctor right now to get the test results. I haven't slept all week, I'm so uptight and I'm afraid the cancer is back.

Non-verbal

P + H are sitting in a waiting room on a reading table. On the table some papers are placed. P talks. She looks anxious and nervous. From time to time, she stares and looks restlessly around her. She fiddles with a hands/fingers. Voice falters somewhat.

Diagnosis sequence

Verbal

O: Mr and Ms Bakker, my name is doctor van Ardenne. Welcome. Please, have a seat. Some shuffling, then everybody sits down.

O: So, you went to see the surgeon, Doctor Blom, after you felt a lump in your breast. Doctor Blom did a physical examination and suspected that the cancer might have recurred. Therefore a puncture of a lymph node near the collarbone was done and both a bone scan and CT scan of your liver and lungs were made.

P: Yes, that's correct. That all happened last week. And now I'm already sitting here.

O: Yes, it all happens very quickly, doesn't it? I have the test results of the examinations, and we have viewed the scans with all the doctors involved, and unfortunately I do not have good news for you. We have found metastases in both the liver and bones.

P: Oh no.

Non-verbal

CAM1/T O opens the door, shakes P + H's hands. P + H are sitting down, next to each other. They sit opposite O, who has also taken a seat. P leans on the table, H leans more back with this arms folded.

CAM3/M O talks calmly and looks at P + H. He folds and unfolds his hands, somewhat restlessly.

CAM2/M P makes eye-contact and looks away.

CAM3/M O nods. Puts the patient charts in front of him, puts on his glasses and puts them off. CAM2/C

P looks straight ahead.

1 s of silence

P stares blankly ahead.

Appendix A (Continued)

Verbal	Non-verbal
O: This is not what we hoped for. It is a very bad diagnosis, and I don't want to beat around the bush. H: No way. P: This is what I was afraid of. How awful! Especially for the kids! This does mean that you can't remove it, right? Or can you? O: With metastases, these kinds of metastases, it is indeed no longer possible to remove the cancer completely and cure you. I am very sorry for you. But I do not want to portray things better than they are. P: No, of course not! But you always hope that it's not too bad. And I still feel fine... O: Yes, that makes it more difficult to grasp, doesn't it? P: Yes. But how bad is it? O: What do you mean exactly?	O calmy continues. P swallows a tear, shakes her head and looks desperately to H. Question is posed in a soft voice, head down, but with eye-contact. CAM3/M O is leaning forwards slightly. O looks at P and H in a serious and calm manner. CAM2/C P shrugs, braces herself somewhat. P looks forward. She does pose the question firmly and with eye-contact. CAM3/M O hesitates for a moment. Folds his hands and leans forwards

Prognosis sequence – low explicitness

Verbal	Non-verbal
P: Well, how long have I got? O: Your life-expectancy? P: Yes, as a rough idea. Do you know that in general terms? O: That's very difficult to predict, because it can differ from person to person. You do have a very serious disease, which will limit your life expectancy. That is the only thing we can say for sure. There are women who live for quite a long time with the type of breast cancer you have, and there are women who live less long. The comments you often see on television or read in magazines, about 'you only have so long to live', aren't realistic, because we do not know that in any individual case... So, no, I don't know how it will be for you. P: Yes, I understand that. That's something you can't predict. O: No	CAM 2/M P and H hold hands. CAM3/C O sounds a bit uncomfortable/asks for confirmation. CAM2/M P looks at O in a firm yet slightly anxious way. CAM3/C sighs and starts to talk in a serious way. O Nods his head. Leans backwards.

Prognosis sequence – high explicitness

Verbal	Non-verbal
P: Okay, so how long have I got? O: Your life-expectancy? P: Yes, I would like to know that as specifically as possible. O: That's very difficult. But I can give you some concrete numbers and averages. Would you like me to discuss these with you? P: Yes. O: When we look at what is known from studies with patients with your type of cancer cell and your metastases, 50% of the patients are still alive after 2 years. So, half the people will die within 2 years, while the other half will live longer than 2 years. Some people might only live for half a year. But others will live much longer, maybe as much as 4 years. P: Yes... I understand that. So, you can't predict which group I belong to? O: No	CAM 2/M P and H hold hands. CAM3/C O sounds a bit uncomfortable/asks for confirmation. CAM2/M P looks at O in a firm yet slightly anxious way. CAM3/C sighs and starts to talk in a serious way. O Nods his head. Leans backwards.

Treatment sequence – including reassuring fragments inserted in italics

Verbal	Non-verbal
P: And what now? O: The life expectancy strongly depends on whether the treatments are successful. And that is of course the next question, where do we go from here? You have already had various treatments: radiation, chemo. And now we're again in the situation that we have to do something. And there are still options, which could mean that we can suppress the cancer. <i>Fragment 1 reassurance:</i> O: <i>But whatever action we do take, and however that develops, we will continue to take good care of you. We will be with you all the way.</i> P: Yes, good. P: But what can you do? O: Because the cancer has spread to your bones, and also your liver, an operation is not an option. Because your cancer is not hormone sensitive, we also can't give you hormone therapy. That leaves only chemotherapy, if you want that. In principle we will do 3 courses, every 3 weeks. And then we'll look at: (a) how you feel and how burdensome the treatment is, and (b) how it goes physically, is it working, which we can see with a scan. <i>Fragment 2 reassurance:</i> O: <i>We will do and will continue to do our very best for you.</i> P: Thank you P: So, chemo again? O: Yes. That is something we do not need to decide immediately though. With chemo we might be able to suppress the growth of the tumour, but I cannot assure you that it will help. We only know that after a couple of rounds. But chemo does cause side-effects. Of course, you know that from the last time. P: Yes... We (looks at H) have to discuss this; together but also with the children. But I don't think I have a choice. I have to fight for the children, to make sure they have their mother for as long as possible. That means everything to me.	CAM2/M CAM3/C O looks a bit more confident. He shows more eye-contact. Leans slightly forward. CAM3/M O continues to look at P P pronounces this a bit neutral, not too enthusiastic. CAM1/T CAM3/M O leans backwards. O tries to talk calmly. CAM2/C looks devastated, anxious. CAM1/T CAM3/C O looks at P attentively. A bit neutral CAM3/C O continues to look attentively. CAM2/C P has tears in her eyes. Has her hand in front of her face. P + H make eye-contact. P has a lump in her throat.

Appendix A (Continued)

Verbal	Non-verbal
O: I understand. Therefore, I think that it would be a good idea to discuss in detail all the possibilities during our next appointment, if that is okay with you. <i>Fragment 3 reassurance:</i> O: And whatever happens, we will never abandon you. You are not facing this on your own. P: Thank you. P: But the treatments... The chemo. Will that be the same chemo as the last time?	CAM3/C O looks at P + H. He tries to temper the emotions by continuing the conversation in a matter of fact manner. CAM3/C P says this, a bit restrained. CAM2/M P + H are again quite calm and rational. They do look a bit rigid ahead. CAM3/C
O: It will be a different chemo than the last time. But you will receive the chemo at the outpatient clinic. O: Wait, I do have some leaflets that you can take home later on. Oncologist stands up, walks away. Conversation fades away.	CAM1/T