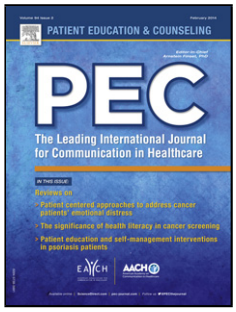

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Verona Coding Definitions of Emotional Sequences (VR-CoDES): Conceptual Framework and Future Directions

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Highlights

- VR-CoDES is rooted in patient-centered, biopsychosocial and functional approach to emotion.
- Emotional communication should be analysed in terms of ongoing sequences of talk.
- Emotions are often expressed as vague cues and require a specific definition **to be identified**.
- Explicitness and provision of space are the two main **VR-CoDES** dimensions in clinician response.
- Results from research on VR-CoDES may help raise awareness of emotional sequences.

Abstract:

Objective: To discuss the theoretical and empirical framework of VR-CoDES and potential future direction in research based on the coding system.

Methods: The paper is based on selective review of papers relevant to the construction and application of VR-CoDES.

Results*:* VR-CoDES system is rooted in patient-centered and biopsychosocial model of healthcare consultations and on a functional approach to emotion theory. According to the VR-CoDES, emotional interaction is studied in terms of sequences consisting of an eliciting event, an emotional expression by the patient and the immediate response by the clinician. The rationale for the emphasis on sequences, on detailed classification of cues and concerns, and on the choices of explicit vs. non-explicit responses and providing vs. reducing room for further disclosure as basic categories of the clinician responses is described.

Conclusions: Results from research on VR-CoDES may help raise awareness of emotional sequences. Future directions in applying VR-CoDES in research may include studies on predicting patient and clinician behavior within the consultation, qualitative analyses of longer sequences including several VR-CoDES triads, and studies of effects of emotional communication on health outcomes.

Practice implications: VR-CoDES may be applied to develop interventions to promote good handling of patients' emotions in healthcare encounters.

Key words: communication, emotion, cues, concerns, sequence analysis, clinical interaction

1. Introduction

The Verona Coding Definitions of Emotional Sequences (VR-CoDES) (**see appendix for a summary presentation of the coding system**) was developed to analyze emotional communication in provider-patient encounters. Since publication of the instrument in 2011 [1, 2], 50 papers have been published which apply VR-CoDES in empirical studies [3-52].

The construction of VR-CoDES was based on the assumption that patients' expressions of emotion in medical consultations need to be identified and responded to. A number of existing coding systems included coding categories aimed to describe and analyze the exchanges about patients' worries and other feelings in clinician-patient encounters [53, 54]. However, grasping the complexity of emotional communication is not an easy task. Emotional expressions are rare in medical settings and often ambiguous and elusive [55-58]. Clinicians may respond in a variety of ways. They may miss the point, detect but choose to ignore or divert attention, minimize or respond with empathy. The patient's expression of emotion may change as the conversation develops.

In order to handle this complexity, the members of the "Verona Network of Sequence Analysis" developed the VR-CoDES based on four methodological choices: [1] Emotional communication should be analyzed in terms of ongoing sequences of talk-in-interaction, which includes a basic triad of an eliciting event, an emotional expression by the patient and the immediate response by the clinician. [2] In assessment of emotional communication it is crucial to recognize that emotions are, more often than not, expressed as vague cues rather than explicit emotions. This requires a very specific and detailed definition of cues to feelings not explicitly expressed. [3] The immediate or possibly the delayed response of the clinician should be assessed. A logical parallel to the explicitness of emotion in the patient's expression is the degree of explicitness of the clinician's response to the patient. [4] In order to assess the function of the clinician's response for the continued dialogue about emotions, it is relevant to code whether or not the clinician's response provides room for further disclosure of the patient's expressed emotion.

While these four choices regarding methodological approaches are described in the papers on VR-CoDES [1, 2] and the manual [59], the theoretical and empirical rationale for the conceptual framework of the system has not been discussed so far in published papers. Moreover, the conceptual framework of the VR-CoDES has developed as the coding system has been applied in different studies. In the present article, we provide a selective review of the papers relevant to the construction and application of VR-CoDES by discussing the assumption that the study of emotion in clinical communication is important and by explaining the theoretical and empirical rationale for each of the four methodological choices mentioned above. Finally, we briefly outline potential future directions in studies applying VR-CoDES, with an emphasis on how research applying VR-CoDES may contribute to theory development and eventually new practice applications.

2. A basic assumption: Emotions are important in clinical communication

Emotions are transient events, functioning as an automatic orienting system evolved to guide adaptive behaviour [60]. They serve intrapersonal functions - to establish our position towards the environment, pulling us towards certain objects actions and ideas and pushing us away from others [61]. According to a functional approach to emotion theory, emotions should not primarily be understood as signs of psychopathology, but as attempts to handle specific problems of survival or adjustment [62]. Moreover, social and emotional processes are interwoven, and emotions play an important part in our interaction with other individuals [63]. All meaningful relationships are more or less emotionally charged, as emotions serve to establish and maintain interpersonal bonds, as well as regulating internal states [64].

As opposed to a strict biomedical approach to medicine, biopsychosocial and patient-centred models in healthcare encounters recognize the importance of emotions. In the paper on the development of the VR-CoDES , Zimmermann et al. pointed out that "… from a biopsychosocial perspective where the emotional and physical aspects of the patient's illness are both considered important, cues and concerns are significant sources of information on patients' fears and worries [1]. There is evidence that negative emotions may be associated with sustained arousal and a risk for physiological stress responses and

subsequent diseases such as cardiovascular disease [65]. Therefore, when expressed during the medical encounter, patients' worries may offer the clinician clues to explore whether patients' emotional distress is of clinical significance and would need, as any other symptom, to be assessed, diagnosed and treated [66].

In a patient-centred tradition it is a task of the clinician to handle these emotions for the best of the patient, with a genuine display of empathy. Empathy in the clinician-patient relationship includes both a perceptual awareness and recognition of the emotion, and emotional resonance of the emotion, as well as responding to and acting on the observed emotion in a helpful, therapeutic way [67, 68]

3. The rationale for choice of methodological approaches

3.1. Sequence analysis

The Verona Network started their work with a series of papers on sequence analysis in communication research [54, 69-76]. In one of these papers, Bensing et al. pointed out that "…doctor-patient communication is a reciprocal give-and-take, in which each statement bears a relationship to the preceding and subsequent statements …In sequence analysis specific behaviours are studied in relation to their predecessors and successors" [69]. Accordingly, the VR-CoDES data consist of three elements which constitute a mini-sequence: the initiating event, the patient's expression of emotion and the clinician's response. A major objective in VR-CoDES research is to analyse all three of these elements of the triad [59].

Bensing et al. pointed out that many of the previous methods of interaction analysis were insensitive to identifying crucial "…rare events, for instance critical incidents or remarkable patient cues", elements that "tend to disappear" in conventional analyses [69]. Their observation that "…one single, wrongly timed interruption can effectively silence a patient who just tried to verbalise his worries" is a first acknowledgement that rare events may be particularly significant in predicting consultation outcome, such as satisfaction or well-being, but in more traditional probabilistic statistical approaches are lost.

Although not explicitly recognized during the construction of VR-CoDES, the theory of turn design developed in conversational analysis (CA) may serve as additional rationale for the choice of sequence analysis as a major approach. Turns and turn-taking are basic elements in communication. Turn-taking refers to the organisation of speaker exchange: one person speaks at a time after the speech of another and before others take over again. In addition, each turn is designed to be responsive and connected to what the other speaker said in the prior turn, and each speaker will more often than not refer to the prior turn explicitly or by inference, when he or she gets the floor [77].

A number of studies have shown that this reciprocal referencing back to the other speaker's turn may develop into a process of interactional alignment during talk-in-interaction. In the course of a conversation, speakers tend to imitate and influence one another's way of speaking [78, 79] and adjust to one another's posture and movements in an intricate dance of mirrored movements [80, 81]. These studies

add to the rationale for studying expressions of emotion in a sequential context and have implication for the study of a phenomenon such as empathy. Empathy should not be understood as an individual capacity, but as a sequence of distinct stages involved in empathic interaction [82].

3.2. Detailed classification of indirect and explicit expression of emotion

There is solid empirical rationale for a strong emphasis on the effort of VR-CoDES to carefully classify in medical interviews vague expressions of emotion. Even if emotions appearing in medical interviews may be voiced as distinct emotions, such as fear, sadness or joy in medical consultations, it is more common for patients to express their emotions more vaguely, as an indirect hint of an underlying feeling, which is difficult for the physician to detect and respond to. A review of 58 articles published between 1975 and 2006 established that adult patients express 1-7 worries, fears or unpleasant emotions during medical consultations [55]. In one study, even experienced senior general practitioners missed 53% of verbal cues when interviewing simulated patients [83], and 60% missed verbal cues when interviewing real patients [84]. As a result there are two risks: to lose the entire emotional message (with the result that the patients concern would not come up to the surface) or to hear it and hypothesize the meaning without checking with the patient. The consequence of this latter attitude is that the health provider might misunderstand the message or, if s/he decides to answer the cue later, there is a high probability **s/he will** forget **to do so**.

The ability to correctly detect the emotional state of the patient **also** has implications **for** the quality of care, the detection of patient's emotional needs and finally the costs of untreated psychiatric symptoms in terms of unmet needs, functional disability and high service utilization [85, 86].

The understanding that emotions are expressed as subtle cues is also rooted in current theories of emotions. Researchers in the tradition of Paul Ekman's work make a distinction between macro expressions, micro expressions and subtle expressions of emotion [87]. Most often micro- and subtle expressions are studied in nonverbal communication, but vague, subtle and ambiguous expressions of emotions are often present even in verbal communication [88].

The VR-CoDES system defines cues as "verbal or nonverbal hints, which suggest an underlying unpleasant emotion and that lack clarity". Cues, clues and prompts, have been introduced with similar meaning by previous systems presented in literature [89-93].

In the preliminary stages of the development of VR-CoDES the same consultations were analysed by use of a number of different classification systems [1]. The different systems differed in their definitions of cues and on the distinctions between a cue and a non-cue or neutral statements. In the development of VR-CoDES, a classification system of seven modes of expressing a hint to an emotion, based on the choice of words and on the form of the expression (emphasis, non-verbal communication, repetitions etc.) was therefore developed [1].

The VR-CoDES have been applied in different countries and languages. Although more similarities than differences have been reported in emotional expression across cultures [94], to help coders, at the end of the manual, numerous examples have been added in order to make it easier to adapt

coding procedures to different cultural and linguistic contexts. The ability to identify emotional information may depend on physician and patient culture and language, since the individual diversity in this expression is culturally influenced, and **responsive** to social and contextual variables.

When assessing emotional verbal cues, language specificities may be particularly relevant and emotional recognition within a language may be difficult to generalize to emotion recognition in other languages.

Cues in VR-CoDES ARE contrasted with concerns, which are defined as "clear and unambiguous expressions of an unpleasant current or recent emotion that are explicitly verbalised with or without a stated issue of importance". The word concern was chosen because it was already applied in the literature to denote expressions of emotion, for instance in RIAS [53] and MIARS [91]. Generally, a concern implies a worry (a worried or nervous feeling about something, or something that makes you feel worried) or the involvement in something important (to be important to someone or to involve someone directly). As a worry it implies a negative feeling or an unpleasant sensation that causes apprehension, worry, anxiety, fear or discomfort. Therefore the word concern implies both the emotion, the feeling, the sensation and the context, the situation, the object of that emotion (psychological, social or medical), which could be stated explicitly or not.

In the manual, concerns are described with reference to Ekman's descriptions of six basic emotions (anger, sadness, disgust, fear, surprise and happiness) [95]. Ekman's work is primarily based on the study of facial expressions, but has equal validity to verbal expression of emotion which may distinguish between primary (basic) and secondary (or social) emotions [88]. Concerns once expressed give health providers the elements for eventually exploring if patients' emotional distress is of clinical significance and would need to be diagnosed and eventually treated.

As pointed out by Stone et al., the application of strict coding rules, according to which expressions either **are or are not** coded as emotional expression, may imply that subtle expressions of emotion are not coded as cues and are lost to analysis [96]. Interestingly, when Kale et al compared a qualitative discourse analysis with VR-CoDES, they found some expressions which they considered expressions of emotions that were not coded as cues in VR-CoDES [24]. However, all these expressions could be classified as related to one of the 7 categories of cues, but had been considered sub-threshold by the coders.

3.3. Explicit and non-explicit clinician responses

With regard to the clinician's response, the main interest of VR-CoDES is what happens to the patient's cue or concern. Does it survive, so to speak, when it is responded to by the clinician? The rationale for choosing explicit versus non-explicit as one of two major qualities of the clinician response, appears to be a logical parallel to the distinction between an explicit expression of a concern and the non-explicit cue on the part of the patient. To be counted as explicit the response must refer verbally to the patient's cue or concern.

The explicit-non-explicit distinction fits well with the literature on turn design in conversation analysis, briefly discussed above in the context of sequence analysis. Studies of turn design show how turns-at-talk are contingent to one another. Turns are most often designed through either repetition, deixis (often a pronoun) or ellipsis (omission, implicit reference to prior turn; [77]). In everyday conversation, every answer except change of topic is connected to the prior turn. In the VR-CoDES manual, the code for explicit response to patient cue/concern is used if the health provider uses repetition or synonyms (reference to the cue/concern either by its content or emotion). Expressions which refers to the cue or concern with a pronoun (deixis) may also be coded as explicit.

3.4. Distinctions between clinician responses which provide or reduce room for further disclosure.

After having assessed whether the patients' expression of emotion has been explicitly picked up or not, the next logical step is to code whether the patient, explicitly or not, is invited to further disclose his or her emotion.

The analysis of how an element of conversation is handled by the speaker of the next turn, not only in terms of wording, but also in terms of the function of the response in the continued dialogue, is an important topic in linguistics and communication research [97]. In interpersonal interaction, the response may have the function to maintain reciprocity in the dialogue, or represent a topic shift. Providing space is the prerequisite to let the other speaker disclose personally relevant information and feelings. When patients in a medical interview feel free to express topics of immediate importance, and when physicians pay attention to what the patient wants or needs to convey, the probability **of introducing** personal concerns increases as indicated by several studies based on sequence analysis. Eide et al. showed that the physician communication elements found to be related to patients' expression of concern (as defined by RIAS system) were the use of silence, minimal encouragers and affirmations, which are examples of non-explicit provision of room for the patient's emotion [98]. Similarly Del Piccolo et al. demonstrated that cues (as defined by the VR-MICS) appeared among other patient expressions and were preceded by physicians' facilitations and handling of emotion [29]. Also in psychiatric context, cues had a higher probability **of becoming** explicit (concerns as defined by the VR-CoDES) after the provision of space [15]. Therefore the provision of space has a positive and optimistic emotional undertone that transfers caring to the patient.

In psychotherapy, providing room for patient's to express their emotions is most often considered important. In this context, emotions are not primarily an expression of symptoms, but rather the patient's attempts to relay threats and disappointments to their therapist. A common factor of the wide range of psychotherapies is the establishment of a non-judgmental, genuine and trusting relationship that is comprised of exemplary listening skills and empathic reflection [99]. The enablement of the patient to express feelings and emotions is a general important feature of the therapeutic endeavor within psychological interventions such as motivational interviewing or psychotherapy [100]. By providing

room for further disclosure, the therapist may help the patient to modify their emotional responses to serve a more constructive function for the patient.

3.5. What is a good clinician response? The principle of neutrality in coding.

There is some empirical evidence that patients may profit both from explicitly verbalizing their emotions and from having the opportunity to talk more about it. A "provide room"-response with an explicit reference to the patient's emotion will facilitate emotional awareness and may facilitate further elaboration from the patient. At a very basic level, neurobehavioral experiments have shown that naming a negative emotion reduces a person's emotional arousal more than just thinking about what produces the negative emotion [101, 102]. These studies indicate that higher centers in the frontal cortex (ventrolateral prefrontal cortex) overrule the more primitive affective ones. This area of the frontal lobes is involved in emotional regulation both in terms of down-regulation of areas such as amygdala and anterior insula (this reduces psychological distress) [103] and increased self-control [104]. There is further evidence that naming emotions may contribute to emotional regulation [105].

However, this does not mean that the VR-CoDES category "Provide room for further disclosure" always is the best response to a given expression of emotion from the patient. Different combinations of explicit/non-explicit and provide/reduce space may have different functions in the consultation. By explicitly naming the patient's feelings, the clinician at least pays attention to the patient's verbal expression. However, while naming the emotion could include the use of active listening skills, such as echoing, clarifying, using empathic statements or asking questions on the emotion or the content the emotion is related to, it could also include blocking behaviors, such as giving premature advice, minimizing or devaluating and disconfirming what the patient has said. Moreover, there are situations when explicit empathic remarks may not function. For instance, Back and Arnold illustrated how exchanging information, containing and tolerating emotions, or simply showing respect may be good ways to verbalize empathy when patients ask ''Isn't there anything more you can do?'' in palliative treatment. [105].

On the other side, facilitating behaviors do not necessarily require an explicit mention of patient's verbal expression. Examples of non-explicit facilitative techniques are attentive silence, back-channeling, empathic comments not explicitly referring to the cue/concern expressed by the patient (i.e. "I see"; "I can imagine"), or very general open questions (i.e. "How?"). Which combination of explicit/non-explicit and provide/reduce space for further disclosure is best from a therapeutic point of view may depend on the context in a broad sense.

For these reasons, The VR-CoDES system applies the principle of neutrality in coding clinician responses to the patients' emotional expression [2]. In the manual (the VR-CoDES-HP), it is explicitly pointed out that "…the proposed coding system (…) does not distinguish between "good" and "bad" responses. No response category is in and of itself "good" or "bad" [59]. Whether a response is

appropriate is a matter to be established empirically as a response may be effective in one and less effective in another context, and depends in the end on outcome of the communication." The fact that opening up emotional talk may have positive effects in a given context, does not mean that providing room for further disclosure by default is considered the appropriate response at every stage in any medical consultation.

4. Potential future directions and practice implications

In the paper by Bensing et al. from 2003, referred to above, the authors called for more "theory-guided research and for clear statements, or hypotheses on the adequacy or inadequacy of certain behaviors in specified conditions" [69]. Still, many of the studies which apply the VR-CoDES are rather descriptive. We will briefly discuss some potential future developments and ask whether research applying VR-CoDES may contribute to theory development and eventually new practice applications. At this point, we suggest three potential directions: [1] Studies on predicting patient and clinician behavior within the consultation. [2] Analysis of longer sequences including several chained eliciting event + cue/concern + clinician response triads. [3] Studies of the effects of emotional communication on health outcomes.

4.1. Studies on predicting patient and clinician behavior within the consultation

The organization of data in sequences provides an opportunity to analyze how a given event may have impact on subsequent events later in the consultation. Del Piccolo et al. and Finset et al. have investigated potential predictors of providing room for further disclosure in studies with multi-level designs [15, 21]. Both groups found, for instance, an association between clinician initiated cues and concerns and the probability of providing room for more emotional talk by the health provider. Del Piccolo et al. showed also that cues which became concerns and concerns which were further elaborated by the patient were those that had been acknowledged and handled by the psychiatrist by actively providing space to their expression [29].

An interesting variable which could be investigated in a prediction paradigm is the effect of timing. For example, Finset et al found in one study that oncologists gave more room for disclosure to the first cue or concern in the consultation [21]. On the other hand, Zhou et al. found that experienced head and neck cancer consultants started to encourage emotional disclosure at about six minutes into a ten minutes consultation after consistently blocking patients during the first stages of the consultation [33]. It could be interesting to see what factors influenced timing, and what impact timing on cues and concerns would have on the consultation.

Statistical approaches are available that are especially suited to the analysis of sequences [106]. These intensive quantitative methods can be applied when suitable theory and hypotheses are developed for detailed testing and assessment of fit of raw data from VR-CoDES. The derivation of suitable research questions are crucial in such models. The multi-level logistic regression with explicitness or openness of

clinician responses to various cues and concerns is a flexible routine, but limited to the shorter sequence. Longer sequences require additional approaches such as Hidden Markov Models [107, 108]. Latent variables, for example emotional expressions describing a process of 'escalation', can be specified that are based upon well-developed theoretical justification [44]. The observables (e.g. series of cues that culminate into a concern) from which the latent states are modelled can provide new predictive solutions and enhance understanding of clinician responses over a longer time span. These methods are flexible but investigators require substantial corpuses of data to feed into these complex routines. By merging data form multiple studies, hypotheses may be tested in an endeavor to identify general sequential patterns across data sets

4.2. Qualitative analyses of longer sequences including several VR-CoDES triads

A potential limitation of VR-CoDES is the fact that data are limited to fragments of the consultation since the unit of analysis is a triad consisting of an eliciting event, a cue or concern and a response. For instance, we do not know what the patient does with the room provided for further disclosure unless he or she immediately expresses a follow-up cue or concern.

Mellblom et al., in a study applying a qualitative approach inspired by conversation analysis, studied longer sequences which comprised one or more cues or concerns and found examples of shifts in turn design from a more informal to a task-focused HCP communication style [44]. These researchers tested whether Jefferson's findings regarding pattern of interaction in trouble talk could be identified in medical consultations [109]. Such a combination of VR-CoDES and conversation analysis could be further developed to investigate patterns and longer sequences of emotional talk in consultations. One option could be to also code the patient's immediate turn of talk following the clinician's response. This would further the sequential analysis of empathy for example as referred to above, by adding the reception of empathy phase to the analysis (see 81). By making comparisons across studies, general patterns may be discovered.

4.3. Studies of the effects of emotional communication on health outcome.

In previous studies with other tools than VR-CoDES, data on how clinicians discuss anxieties and concerns have been associated with patient's satisfaction [110, 111] . Moreover, empathic communication and patient satisfaction has also been linked to increased adherence to treatment [112] and to clinical outcomes such as pain, glycemic and blood pressure control [113-120] . The physiological changes and the mechanisms underlying emotional expression consequences have been studied, but questions remain unanswered.

So far, the potential associations between characteristics of interaction covered by VR-CoDES categories and such outcomes have only been tested to a small extent. In a few studies, VR-CoDES data have been used as a dependent variable, to investigate whether a given intervention had effect on the handling of emotion [121]. For instance, Heyn et al. studied the effect of an interactive tailored symptom

assessment intervention (CHOICE) and found that patients after the intervention presented more cues and concerns, but that clinicians did not change their way to respond [18, 22]. Another potential design, not yet tested in a published study, would be to explicitly apply the VR-CoDES response categories as part of the intervention. This line of research will benefit a longitudinal approach to the expression of emotions within the consultation, using VR-CoDES to repeatedly code the same physician and patient interaction.

The role of emotions in promoting health outcome is not restricted to identify and respond to negative emotions. A potential extension of the VR-CoDES coding system and a logical consequence of a functional understanding of emotions would be to construct criteria also for coding positive emotions. Such additions to the coding scheme would represent an interesting feature of a study to test association between communication about positive emotions and health outcomes.

4.4. Practice implications

Clinicians differ in how they encourage patients to express emotions and in how they respond when patients do. This has been shown in detail when applying VR-CoDES in a study of medical students in their communication with simulated patients in an OSCE setting, which showed evidence of large individual differences in responsiveness to emotional cues [27]. This and other studies point to the potential for improvement in how to handle patients' emotions in medical consultations. Studies applying VR-CoDES may help raise awareness of this fact in healthcare. Moreover, the cue –concern definitions (VR-CoDES-P) themselves can be a useful taxonomy for trainers to alert students to the many ways patients signal and express emotions, while the response framework (VR-CoDES-HP) provides students with a repertoire of possible replies to such expressions Simulated and real patients in teaching settings may provide complementary information regarding the effect of responses to their cues/concerns. The most useful implications of research applying VR-CoDES would be to further specify and test the potential for applying insight gained in these studies in interventions to promote good handling of patients' emotions in healthcare. Functional tools, as the VR-CoDES will contribute to answer to questions of clinical relevance.

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APPENDIX

Summary presentation of the Verona Coding Definitions of Emotional Sequences (VR-CoDES)

EXPRESSION	DEFINITIONS	HEALTH PROVIDER ELICITED (HPE) PATIENT ELICITED (PE)
CONCERN ***Clear verbalisation of an unpleasant emotional state***	**Emotion is current or recent & issue of importance is not stated**	**HPE** *"Yes doctor, I am quite frightened"*
		PE *"And then…I feel also very depressed"*
	Issue of recent or current importance is stated (life events, social problems, symptoms, other issues)	**HPE D:** What are you worried about? P: "*That I could loose my baby*" *P: "You are right, I am upset about the bad outcome of the treatment"* D: Are you worried for the tests outcome" P: *"Yes I do"*
		PE P: "Now the headaches are not so strong…*but I am worried about the results of the tests"*
CUE ***Expression in which the emotion is not clearly verbalized or might be present*** ***The criteria of currency/recentness is not applicable***	a. **Words or phrases in which the patient uses vague or unspecified words to describe his/her emotions** **b. Verbal hints to hidden concerns (emphasizing, unusual words, unusual description of symptoms, profanities, metaphors, ambiguous words, double negations, exclamations, expressions of uncertainties and of hope regarding stated problems).** **c. Words or phrases which emphasise (verbally or non-verbally) physiological or cognitive correlates (regarding sleep, appetite, physical energy, concentration, excitement or motor slowing down, sexual desire) of unpleasant emotional states.** **d. Neutral words or phrases that mention issues of potential emotional importance which stand out from the narrative background and refer to stressful life events and conditions.** **e. A patient elicited repetition of a previous neutral expression (repetition, reverberations of a neutral expression within a same turn are not included).** **f. Non verbal expressions of emotion** **g. Clear expression of an unpleasant emotion, which occurred in the past (more than one month ago) or is without time frame**.	**HPE** D: How do you feel? P:*"I feel so so*"(a) D: How do you feel? *"It could be better"*·(a) D: How do you feel? P:"*I feel like a wet rag*" (b) *D:* How is the pain? *P*: "*The pain really stabs me*" (b) D: How is it going? P: "*The last two months I had only sleepless nights"*(c) D: How is your appetite? P: "*I force myself to eat* (c) D: What else? P:"*I just had this sad funeral"*…(d) D. What did Dr. … said to you? P: *Well…* (sighs)*… he told me that I have cancer* (d) D: How do you feel? P: *Silence (crying*, *sighing)* (f)
		PE D: How is your husband? P: He is always so nervous… *I do not feel good about him*" (a) D: Are you anxious? P: "I am (Concern), *but the worse thing is that all seems useless*"(b) D: It takes some time to get to sleep.. P: "Yeah, …And then in fact once when you are pregnant you, well, do feel very tired and just feel very exhausted*, which is not the first time as well."*(b) D: What about the waterworks? P:" That's ok. *I have this stabbing pain in my back (b)* D: Wouldn't it be useful if you had some time off? P: "I don't think I could have some time off*, cos' they're very, very…"* (b) D: How is your appetite? P: "I don't eat so much lately, *and I feel completely without energy*" (c) P "You know that I can't relax, yeah (pause) Can't seem to just relax (pause)" (c) D: Is your work tiring*? P: Besides, there is my little girl. She goes to a crèche now…* (d) P: "I worked till I started radiation" D: The weight is steady? P: It has dropped about three kilos in the last fortnight, but then maybe*, because of the radiation…* (e) *P: "And (pause) …patient cries* (f) *P* "When the doctor told me about cancer *I was so frightened..*" (g)

Health Provider Responses