The research area of clinical communication has over the last thirty years grown both in the number of publications and in importance in health research. For instance, in June this year, professor Jozien Bensing from Utrecht, The Netherlands, won the prestigious Spinoza Price for her research on the physician-patient relationship.

Clinical communication affects both patients and physicians on different levels. In addition to evoke thoughts and feelings, medical consultations may elicit psychophysiological stress responses, such as sympathetic activation (heart rate, blood pressure, electrodermal activity (skin conductivity) and stress hormone (cortisol) changes). Studies of the psychophysiology of clinical communication may be useful in the process of quality improvement in health care.

The Clinical Communication Research Laboratory
In the Department of Behavioural Sciences in Medicine at the University of Oslo, the Clinical Communication Research Laboratory is equipped with hardware and software for behavioral observation (The Observer® XT), biomedical measurement devices, video cameras, and editing tools. Our research group has used several versions of The Observer over the years in a number of studies of clinical communication. Currently, we apply The Observer XT version.

For our group, the greatest advantage with the XT version of The Observer is the integration with Biopac MP 150 - the psychophysiological data acquisition and analysis tool that we apply. When The Observer XT was ready for beta testing, our group participated because of our experience with both The Observer and Biopac systems.

In our laboratory we conduct experiments that simulate medical consultations (Figure 1). All consultations are video recorded. We measure blood pressure, heart rate, and electrodermal response on both the doctor and the patient. These signals are automatically synchronized and imported into The Observer XT. After scoring the behavior, we can view the event log with the coding categories, the curve forms from the physiological measurement, and the video, all synchronized and in one screen, as shown in Figure 2.

Studies of Clinical Communication
In a number of studies we have shown that patients react with very different responses to different doctor messages. For instance, in a study of consultations between physicians and patients with fibromyalgia (musculoskeletal pain and fatigue disorder), physicians were instructed to apply different predefined communication strategies in a systematic way. All
consultations were videotaped and afterwards analysed in accordance with the Roter Interaction Analysis coding scheme. We found that patients with alexithymia (deficits in recognizing or expressing emotions) were particularly sensitive to physician communication behavior. These patients responded with higher satisfaction if the physicians clearly expressed empathy, but a higher stress response in terms of cortisol levels 24 hours later if they had reported increased psychological distress immediately after the consultation.

Four years later, the same patients were given the opportunity to watch the videotapes of the consultations. During this review, the patients’ electrodermal response was recorded applying the Biopac system. We found in this experiment an increase in sympathetic activity (electrodermal response) in patients with alexithymia who watched consultations where the physicians asked extensively for emotional experiences, again indicating a selective sensitivity to emotional themes.

Using The Observer XT for clinical communication research
The integration of the Biopac and The Observer XT systems has strongly facilitated research on psychophysiological aspects of clinical communication. It is easy to code (and recode) the behaviors in The Observer XT and the simultaneous visualization of both behaviors, video, and physiological responses is profitable for both data exploration and presentation to an audience. The application of two or more video files makes it possible to record both at distance (to catch the interaction) and close-up (for non-verbal cues). In order to make the consultations as close to real life as possible, we will in the future test out wireless recording that allows free movement of the participants during the experiment.

References

Contact information
Erik Holt, University of Oslo, Oslo, Norway (E-mail: erik.holt@medisin.uio.no).