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Communication with patients and colleagues

An intervention study on the impact of a communication skills training course on health care professionals’ ability to communicate with patients and colleagues

Birgitte Nørgaard

This review has been accepted as a thesis together with five previously published papers by University of Southern Denmark, Odense 13th of September 2011 and defended on 4th of October 2011.

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THE 5 ORIGINAL PAPERS ARE


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1. Introduction

Over the last decades, communication in health care has moved away from a predominantly paternalistic approach with one-way information exchange with the doctor as the decision-maker into an informed consent model with the patient as an educated decision-maker. By now, communication in health care is thought of as an interactional partnership model where doctors and patients share the decision-making (1;2). The partnership approach requires certain communication skills from the health care professionals such as the ability to cope with shared decision-making processes, attentive listening and patient-centred communication (1). This focus on communication in health care emerged during the 1960s in the USA, and was based on Bandura’s social learning theory (3); as a consequence, patient satisfaction came to the fore as an important issue in health care.

1.1 Communication in health care

Communication is more than just information, which is words, sentences, statements, etc., spoken or written, whereas communication is the human process “(…) by which information, meanings, and feelings are shared by persons through the exchange of verbal and non-verbal messages” (4). Health communication is a specific problem-based subcategory of communication that includes agenda-setting for health issues, advocacy for health, scientific communication (inter-collegial), doctor-patient communication and preventive health communication. So, narrowly speaking, the term information in health care expresses medical expertise whereas communication is the way this expertise is transferred to and exchanged with patients and their relatives and is the sort of interaction that links medical expertise to patients (3). Communication in health care is predominantly thought of as face-to-face communication, but it includes telephone communication (5). Thus, communication is a multifaceted and complex social process that includes both communication with patients and families, and communication with colleagues.

1.2 Communication with patients

Despite the fact that patient-centred communication has provided a focus area in health care for decades, patient surveys continue to show that patients experience serious problems connected with poor communication. Among the main communicational problems reported by patients, we find a lack of information or incorrect information, a lack of care and readiness to meet patients’ needs and expectations and a lack of respect and involvement (6). Besides, studies of doctor-patient communication have shown that less than 50 % of the medically relevant information from the patients was elicited by doctors (7). Interruptions constitute another problem in doctor-patient communication; it has been shown that, on average, patients are interrupted 18 seconds after having started speaking and that only 23 % completed their statements without interruption by the doctor (8). The schism between the recent shift of focus to patient-centred communication in health care and patients’ actual experiences may have different reasons, such as the fact that elderly patients tend not to ask questions and talk about their worries, in
particularly not when communicating with doctors (8) and that doctors tend to underestimate patients’ level of distress and their need for information (9). But clinicians also experience problems in communication with patients, for example as a result of shortage of supervisory support and time (10). A lack of self-confidence in communication with patients is another problem which may cause avoidance of communication with patients, and thereby cause that the health care professionals therefore are not adequately informed about the patients’ concerns (11;12). Besides, it has been shown that feeling inadequately trained in communication increases the risk of poor mental health in senior doctors (13). The results underscore the need for continuous focus on patient-centred communication with shared agenda-setting and increased patient involvement in recognition of the patient as an expert.

1.3 Communication with colleagues
The majority of studies of communication in healthcare have dealt with communication with patients and only little work has been done on the quality and impact of inter-collegial communication; the topic is thus relatively poorly investigated, apart from an aspect concerning impacts of failed communication on malpractice and mortality. It is known, however, that poor inter-collegial communication may cause trouble for healthcare staff and a US study has shown that positive work relationships among clinicians increase their well-being, self-awareness and integrity. It has also been shown that such factors are required for entering into positive relationships with others – both patients and colleagues (14). A number of studies have investigated the impact of respectful communication and good relationships among colleagues on patient outcomes and patient satisfaction (15;16). The effect of good inter-collegial communication and collaboration on patient outcomes has also been investigated and medical ICU nurses’ reports of good nurse-doctor collaboration have been shown to be positively associated with patient outcomes, such as the severity of illness, death and readmission (17). Besides, if orthopaedic surgeons choose their words carefully, they can avoid specific negative emotional reactions and thus reduce pain and disability (18). Moreover, the organisation benefits from health care professionals’ improved communication skills; research has shown that physicians who adopt a warm, friendly and reassuring manner in consultations are more effective than those whose patient-interviews are more formal (19) and that patient-centred communication is positively associated with patients’ satisfaction with care (20;21). Nevertheless, it has been demonstrated that inter-collegial communication may be difficult and that it is a potential area of malpractice and conflicts (14-16;19-21). Poor inter-collegial communication can cause conflicts among colleagues, role stress, lack of inter-professional understanding and diminished inter-professional interaction, especially among nurses and doctors, and especially in traditional hierarchical organisations such as surgical wards (8;22). In conclusion, the knowledge that good inter-collegial communication benefits both health professionals and patients is indication of the relevance of improving health care professionals’ communication skills in an orthopaedic department.

1.4 How to improve communication skills
Are good interpersonal communication skills a matter of personality, the natural result of experience or skills that can be taught? Studies have shown that key professional communication skills do not reliably improve with experience despite ten or more years of clinical work (23;24). However, communication can be improved through training courses in communication skills (24-26). But, as has also been underscored by other studies, if communication skills training is to contribute meaningfully to clinicians’ practice, it must have an additional focus on how to transfer the new skills into clinical practice (27). This could be done by introducing problem-focused training workshops using experimental methods including video recordings and role-playing, as described by the British psychiatrist Peter Maguire (23;27;28).

1.5 Self-efficacy
An appropriate way of measuring the change in communication skills after a training course could be by assessing the health care professionals’ self-efficacy, a concept that has been used in other studies and has proven to lead to efficient and reliable methods for assessing professionals’ benefit of training in specific cognitive competencies such as communication skills (29-31). Based on the theories of the Canadian psychologist Albert Bandura, self-efficacy is a tool for assessment of confidence in own capability to perform successfully in a specified situation or framework (domain-specific). Besides, self-efficacy is an essential mechanism for a persons’ motivation to reach his goals: the higher the level of self-efficacy, the higher the level of motivation and the bigger the effort invested in reaching a personal goal (32-34). This means that persons with high self-efficacy will try to deal with difficult tasks and will consider them as challenges rather than threats. Because self-efficacy is domain-specific and influenced by other individuals, this kind of self-assessment is most effective when both goals and feedback information is present.

1.6 Health care professionals’ experience of their participation in a communication skills training course
Several studies have demonstrated that training can enhance health care professionals’ communication skills and patient-centredness (12;19;28;29;35-40). Positive correlations between communication skills training and increased levels of self-efficacy have also been demonstrated (29;31). However, it would be most useful to gain further knowledge of the factors behind the impact, the participants’ experience of the process and whether differences between professions could be found. A study has shown that training in communication skills had the effect of improving British medical graduates’ confidence in their communication skills, but that their motivations for their self-assessment were widely different. A group of traditional graduates stated that they – and doctors in general – are natural communicators, whereas a group of problem-based taught graduates related their improved communication skills to their use of various techniques learned during training (41). Another UK study comparing quantitative data from pre-course and post-course surveys indicated increased competency and confidence subsequent to the training course whereas subsequent focus group interviews revealed that the subjects’ enhanced confidence was partly a result of their acquisition of a number of tools presented during training (42). Thus, elucidating the participants’ experience of the process and potential differences between professions in how they experience their participation in communication skills training courses would increase our knowledge and understanding of what might have created specific impacts.
1.7 New questions
The importance of good communication as a precondition for optimal care and treatment is now generally acknowledged; the next step is to provide adequate communication skills for health care professionals. Several studies have demonstrated a number of positive effects of training communication skills and patient-centredness (12;19;24;29;35-40;43), such as significantly improve nurses’ and doctors’ self-efficacy in performing specific communication tasks (30) and increase the perceived confidence of clinicians (36). A few studies have shown a tendency towards better patient satisfaction after clinicians had participated in a communication skills training course (21;30). It has also been shown that training can increase doctors’ inclination to elicit patients’ concerns (44), and increase their abilities in emotion-handling and problem-defining (40). Few studies have investigated the effect of communication skills training courses on clinicians’ self-efficacy and the outcomes experienced by patients, but the results are sparse and new questions keep emerging: How does a training course for health care professionals influence adult orthopaedic patients’ experience of the quality of care? Is it possible to maintain a training effect over time? How do courses influence intercollegial communication in an orthopaedic department? How do orthopaedic health care professionals experience their participation in a communication skills training course?

2. Aim
The aims of this study were to investigate whether a training course in communication skills for health care professionals could improve:
- Health care professionals’ self-efficacy in communication with patients and colleagues
- Health care professionals’ evaluation of inter-collegial communication
- Patients’ experience of quality of care,
and to investigate health care professionals’ experience of
- participation in a communication skills training course
- the influence of the course on their ability to communicate with patients and colleagues.

3. Methods and data
3.1 Design
The study was designed as an effectiveness study with an intervention combined with before- and after-measurements. Data were collected by means of questionnaires and further explored in focus group interviews with health care professionals. The intervention consisted in an in-house communication skills training course for all health care professionals at the Orthopaedic Department, Kolding Hospital. Outcomes were measured on the health care professionals’ experience of their participation in the training course, their self-efficacy and on their evaluation of how the intervention had affected communication among colleagues, and on patients’ evaluation of quality of care. The intervention process, with data collection on patients’ evaluation of information continuity and care and health care professionals’ self-efficacy and evaluation of inter-collegial communication, is illustrated in Figure 1.

3.2 Setting
The study was conducted at the Department of Orthopaedic Surgery, Kolding Hospital in Denmark, during 2007-10. The department consisted of two in-patient wards, an out-patient clinic, an emergency ward and an operating theatre, serving a mixed urban and rural district. The patients were mainly adults suffering from musculoskeletal disorders. The two in-patient wards (A and B) differed with regard to their patient characteristics, ward A serving primarily elderly patients and a few infants scheduled for arthroplastics (mean age for project period: 56.44 years for men...
and 62.04 years for women), and ward B serving slightly younger patients (mean age for project period: 48.68 years for men and 51.92 years for women), who were mainly admitted acutely after trauma.

### 3.3 Population

#### 3.3.1 Health care professionals

All health care professionals who had been employed at the department for more than 6 months were included in the study. Staff whose Danish were deemed inadequate were excluded. The health care professionals from ward B were first allocated to the training course from 27 February 2008 to 05 November 2008, together with staff from the operating theatre, the out-patient clinic and the emergency ward. The ward A staff were then allocated to the training course from 01 October 2008 to 23 April 2009, together with staff from the operating theatre, the out-patient clinic and the emergency ward. The brief overlap in the ward’s training periods was due to the six-week interval between the two training days and the follow-up day. Allocation periods and measurements are shown in Figure 2.

Figure 2. Periods for assessing patients’ evaluation of quality of care before, during and after the health care professionals’ communication skills training course, by ward.

#### 3.3.2 Patients

The investigation of the patients’ evaluation of the quality of care included patients admitted to the two in-patient wards in the department. The patients were asked to complete a touch screen questionnaire immediately before discharge. The patients were included consecutively in the measurement period: 01.05.07-31.05.10. Patients of 18 years or older were included if they had been hospitalized for more than 24 hours in the department and could speak and read Danish. Parents could answer proxies for children younger than 18 years of age. A number of patients were not included either because of their inability to access touch screens, cognitive limitations, poor eyesight, readmission, transfer to other hospitals, or severe immobilization.

### 3.4 Sample

A total of 190 out of 191 eligible staff members (99.5%) completed the course; one refused to participate, nine were ineligible due to involvement in the research process, leaving a sample of 181 health care professionals: 21 doctors, 103 nurses, 25 nursing assistants, 18 secretaries and eight other staff members, including service staff and managers. Of the 181 health care professionals included in the study, 177 (97.8%) completed the pre-course questionnaire (T1). Immediately after the course (T2) and six months after the course (T3), the response rates were 165/169 (97.6%) and 150/153 (98%), respectively. A total of 148 answered all three questionnaires. Eighty-six per cent of the respondents were female, 14 per cent were male. The respondents were divided into four age groups: 20-29 years, 30-39 years, 40-49 years and 50+ years. The numbers of eligible responders, non-responders and drop-outs are shown in Figure 3.

A total of 32 health care professionals were selected for the mono-professional focus group interviews, including a group consisting of the head of the department and mid-level managers. The interview groups were formed in such a way that homogeneity was ensured among groups in terms of age, seniority and years of employment at the department. Of the 32 health care professionals interviewed 25 (78%) were women. One in seven doctors interviewed was a woman (14%) and six out of seven managers interviewed were women (88%).

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Men n (%)</th>
<th>Women n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age &lt;30</td>
<td>20/21 (95.2)</td>
<td>1/21 (4.8)</td>
</tr>
<tr>
<td>Age 31-40</td>
<td>1/103 (0.9)</td>
<td>102/103 (99)</td>
</tr>
<tr>
<td>Age 41-50</td>
<td>1/25 (4)</td>
<td>24/25 (96)</td>
</tr>
<tr>
<td>Age &gt;51</td>
<td>0/18 (0)</td>
<td>18/18 (100)</td>
</tr>
</tbody>
</table>

Table 1. Health care professionals, by age and gender.

Of the 181 health care professionals included in the study, 177 (97.8%) completed the pre-course questionnaire (T1). Immediately after the course (T2) and six months after the course (T3), the response rates were 165/169 (97.6%) and 150/153 (98%), respectively. A total of 148 answered all three questionnaires. Eighty-six per cent of the respondents were female, 14 per cent were male. The respondents were divided into four age groups: 20-29 years, 30-39 years, 40-49 years and 50+ years. The numbers of eligible responders, non-responders and drop-outs are shown in Figure 3.

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1 Data were extracted from the Patient Administrative System by economic consultant Hans Jørn Refsgaard Jørgensen
Figure 3. Health care professionals allocated to the training course, showing eligible responders, non-responders and drop-outs (T=time).

Patients
In the period 1 May 2007-31 May 2010 a total of 3660 patients completed the questionnaire. The eligible response rate was calculated allowing for non-delivery of scanner cards and non-accessibility to touch-screens. The response rates were 67.8 % for P1 (baseline before the training course), 62.5 % for P2 (during the training period) and 77.6 % for P3 (after the training course), respectively. The mean age of responders at P3 was about six years higher than at P1 and P2, but only minor variations with respect to gender was found between the measurement periods. Mean age and gender distributions are shown in Table 2 by measurement period.

3.5 The intervention
The course was based on the Calgary-Cambridge Observation Guide with a structure of an effective patient interview, based on a shared agenda. Another main constituent of the training course was a tool box, including tools such as attentive listening, silence and summarizing (45;46). The course was further inspired by the British psychiatrist Peter Maguire’s work on medical communication, which has a skills-based approach using videotaped scenarios, role-playing and simulated communication sequences (28).

The training model was adjusted to local conditions in the Department of Orthopaedic Surgery with an added focus on communication among colleagues. The adjustments before the training were based on the results of a focus group interview that had revealed important communication skills and communication dilemmas. The interview was carried out with a group of eight participants, representing all professions and wards in the department. The participants were asked to describe what they perceived to be important communication skills and core communication tasks with respect to both patients and colleagues in an orthopaedic department. In addition, they were asked to describe the characteristics of successful and difficult communication situations, respectively, with both patients and colleagues. The interview showed that core themes were: dealing with angry and worried patients, showing obligingness and empathy, receiving and giving information, the need for communication tools for controlling patient-interviews and communication with stressed-out colleagues. The answers were condensed and implemented in the teaching materials in accordance with the original course concept.

The course was compulsory for all staff members with patient contact, i.e. doctors, nurses, nursing assistants and medical secretaries. The training was conducted by two in-house trainers per class and the teaching methods included videotaped scenarios, role-playing and simulated communication sequences. It was a deliberate policy to recruit the trainers among all professions in the department; the group counted one medical secretary, two doctors and five nurses representing the five wards in the department (out-patient clinic, operating theatre, emergency ward and two in-patient wards).

During two initial course days, the structure and tools used in patient-centred communication and communication with colleagues were introduced, alternating with supervised role-playing. A six-week interval gave the participants an opportunity to practice their new communication tools and to videotape an authentic communication situation with a patient or a colleague before a follow-up day on which the video-recordings provided the focus for plenary discussions, supervision and personal feedback sessions. Each class had eight participants, and had been composed in order to ensure variation among professional backgrounds.

Table 2. Responders by gender and mean age.

<table>
<thead>
<tr>
<th></th>
<th>Gender</th>
<th>Mean age</th>
<th></th>
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</thead>
<tbody>
<tr>
<td></td>
<td>M 67.8</td>
<td>W 58.2</td>
<td>N 105.9</td>
<td>47.8</td>
<td></td>
</tr>
<tr>
<td>P1 - before training course</td>
<td>67.8</td>
<td>58.2</td>
<td>105</td>
<td>47.8</td>
<td></td>
</tr>
<tr>
<td>P2 - during training course</td>
<td>62.5</td>
<td>53.0</td>
<td>62</td>
<td>47.8</td>
<td></td>
</tr>
<tr>
<td>P3 - after training course</td>
<td>77.6</td>
<td>61.6</td>
<td>104</td>
<td>56.6</td>
<td>5.4</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Gender</th>
<th>Mean age</th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>Women</td>
<td>Not indicated</td>
<td>N</td>
<td>All</td>
</tr>
<tr>
<td>P1</td>
<td>67.8</td>
<td>58.2</td>
<td>105.9</td>
<td>47.8</td>
</tr>
<tr>
<td>P2</td>
<td>62.5</td>
<td>53.0</td>
<td>62</td>
<td>47.8</td>
</tr>
<tr>
<td>P3</td>
<td>77.6</td>
<td>61.6</td>
<td>104</td>
<td>56.6</td>
</tr>
</tbody>
</table>
3.6 Questionnaires

3.6.1 Questionnaires – health care professionals

The investigation of the health care professionals’ self-efficacy was designed as a follow-up study in which each informant was asked to complete the same questionnaire three times: before (T1), immediately after (T2) and six months after the course (T3). The questionnaire were coded so that paired analysis could be performed.

The questionnaire concerning self-efficacy in communication with patients was based on Albert Bandura’s self-efficacy theory and developed and validated by Parle et al. including a scale for numerical measurement of the strength of self-efficacy (29). The questionnaire has been translated in a two-stage process and used for doctors and nurses in the Department of Paediatrics, Kolding Hospital (35). The scale was subsequently translated into Danish and used in the fore mentioned study in the Department of Paediatrics. The questionnaire was further adapted for the present study and expanded with questions about inter-collegial communication based on the focus group interview discussed above.

The questionnaire contained eight questions elucidating the health care professionals’ self-efficacy in communication with patients and eleven questions concerning self-efficacy in communication with colleagues. The questions had a technical skills-based approach and the answers were rated on a numerical ten-point scale indicating responses from “Not certain at all” to “Quite certain”. The questions are shown in Figure 6a and Figure 6b in the Results section, and Appendix A (in Danish). A further twelve questions evaluating the nature of the inter-collegial communication were based on a cultural and behavioural approach; six questions elucidating intra-professional communication and six questions elucidating inter-professional communication. These questions were answered on a four-point scale from “Not at all” to “To a considerable extent”. There were questions on gender, age and profession and on whether the respondents previously had participated in communication training courses. The health care professionals were also asked to which extent they believed that the course would improve their communication skills and how they generally experienced their daily work.

3.6.2 Questionnaires – patients

The patient questionnaire was based on the Interpersonal Skills Rating Form (IPS), developed and validated by Schnabl et al., who have shown the scale to be a precise tool for measuring important aspects of doctor-patient interaction, particularly with regard to empathy and the communication of information (47). The questionnaire has been used in a previous study carried out in the Department of Paediatrics, Kolding Hospital, where it was pilot-tested on twelve parents and used for an additional study (48). The questionnaire contained 19 items categorised into: information (twelve items), continuity (three items) and care (four items). The answers were rated on a four-point scale from “To a considerable extent” to “Not at all” with the possibility of responding “Not relevant”. Besides, there were questions concerning age, gender, waiting time and on whether their admission to the ward had been acute or planned. The questions are shown in Table 6, 7 and 8 in the Results section and in Appendix B (in Danish). The questionnaire was filled in via a touch screen, either a fixed screen placed in the ward or a portable mini laptop, which could be brought to patients with mobility problems. Access to the touch screen required a bar code scanner card supplied by a nurse.

3.6.3 Focus group interviews

The health care professionals’ experience of participation in the communication skills training course was assessed in focus group interviews. A total of 32 health care professionals representing all wards were selected for the interviews, which were conducted in four mono-professional groups with doctors, nurses, nurse assistants and medical secretaries, and one group with the head of department and mid-level managers. The mono-disciplinary interview design was chosen to accommodate the varying needs of the professions involved. Besides, this approach facilitated analyses illustrating differences between the groups’ perspectives. The groups were originally planned to have counted between six and ten members as recommended by Morgan (49), but due to no-shows, sizes varied between five and eight participants. To ensure data validity, comparatively homogenous groups were formed in terms of age, seniority and years of employment at the department. The composition of groups also ensured that all wards involved in the training courses were represented in all interview sessions. The informants were chosen in consultation with the managers in the department. The interviews were based on a semi-structured interview guide (see Appendix C), constructed according to the following aims: a) to uncover as many relevant topics as possible, b) to extract as specific data as possible, c) to create an interaction that would facilitate an in-depth exploration of the participants’ experiences, and d) to relate to the participants’ personal contexts as the basis for the answers. Based on these aims, the questions were developed in a dialectical process in the research team. In line with the recommendations (49), the questions had furthermore been formulated with a view to securing that focus was not lost by exploring too many topics, while a natural progression along topics was ensured. The questions are outlined in Figure 4.

Figure 4. Focus group interview questions

Written information was given to the participants so that they were aware of the aims of the interview, what was expected of them as respondents, and that data would be anonymized during transcription. All personal identifiers were thus removed or disguised so that the persons described could not be identified. A research assistant performed the interviews, while non-verbal cues such as moods, atmosphere and enthusiasm were noted by an observer. The audiotaped interviews, which were carried out in November 2009, took between 55 and 97 minutes.

3.7 Ethical considerations

The health care professionals were informed by letter about the aims of both the questionnaire survey and the focus group interviews. Patients were informed regarding the aim of the study, their right to remain anonymous and to withdraw at any time without consequences for their actual or future care and treat-
ment. This information was given by nurses when the bar code scanner card for the touch screen questionnaire was handed out. All personal identifiers were removed or disguised from all data to preclude personal identification. The study was licensed by the Danish Data Protection Agency and needed no further ethical approval.

3.8 Analysis and statistics
All data were transferred through StatTransfer and analyzed by Stata, version 11 (StataCorp. 2001. Statistical Software: Release 11. College Station, TX: Stata Corporation)

3.8.1 Questionnaire survey – health care professionals
Data from the health care professionals’ paper-based questionnaires were double entered into EpipData. The first control showed a mean of 1.08 % typing errors in the three measurements. In the next linkage the percentage of typing errors was 0.00.

Health care professionals’ self-efficacy
T1 was used as a baseline for both T2 and T3. Data were analyzed by means of paired t-tests and analyses for confounders and bivariate analysis were performed by means of linear regression, adjusted for baseline. To ensure that data could meet model requirements of normal distribution, standardized normal probability plots of the residuals (gender, age and profession) were performed, showing a p-distribution. A p-value of ≤ 0.05 was chosen as significance level. A Cronbach’s Alpha coefficient (i.e. a coefficient of reliability used for testing the internal consistency or reliability of the questionnaire) was calculated on the collapsed scores for the two groups of questions: communication with patients and communication with colleagues, and additionally on each measurement, T1, T2 and T3.

Health care professionals’ evaluation of inter-collegial communication
Summary statistics were performed by means of paired t-tests. Analysis for confounders and bivariate analysis were performed by means of linear regression, adjusted for baseline. To ensure that data would meet model requirements of normal distribution, standardized normal probability plots of the residuals (gender, age and profession) were performed, showing a p-distribution (on collapsed data). In order to report results for each of the questions, Wilcoxon signed-rank sums were calculated. A p-value of ≤ 0.05 was chosen as significance level for all tests. Cronbach’s Alpha coefficients were calculated for the collapsed scores for each measurement (T1, T2 and T3) and for all items as a whole.

3.8.2 Focus group interviews
The transcription was done verbatim, except for the omission of occasional non-essential or non-descriptive exclamations. All interviews were sampled in one document with numbered lines, enabling the tracking and tracing of statements and quotations for the analyses. In the interpretation of data, priority was given to what the participants had found important rather than to what they had found interesting.

To gain a preliminary insight into the data, the transcripts were first read and annotated. The data were then indexed in a procedure that focused on the main theme of the study, i.e. the informants’ experienced of participation in the communication course. Next, data were indexed in greater detail with the aim of extracting data given in response to the questions, i.e. what had overall made the greatest impression during training; what had been especially good and especially difficult during training; and what changes were experienced in their ability to communicate with patients and colleagues. The indexing procedure required several re-readings of the transcripts and playbacks of the tapes to establish an understanding of the context of comments and statements. The assessment of moods and the atmosphere of the interview were verified on the basis of the written records. The data were subsequently entered into a matrix of the type described by Miles et al. (63). This was chosen for organization of the data in order to maintain a good overview of the data and to ensure a clear focus.

3.8.3 Questionnaire survey – patients
The patients entered their responses to the questions directly into the MLSS (Multi Lingual Survey System) via the touch screen and data were subsequently transferred into Stata, version 11 for the analysis.

As studies have shown that Danish in-patients are generally very satisfied at baseline, dichotomization of answers was made between “To a considerable extent” and the other answer categories. To reliably measure an expected difference of 10 percentage points, i.e. an increase in the proportion of patients who answered “To a considerable extent” from 50 % to 60 %, a power of 90 % (0.90) and an alpha of 0.05, it is required to have 538 patients in each group (before-and after measurements). A p-value of ≤ 0.05 was chosen as significance level. The data were divided into three periods: P1, P2, and P3 and analyzed by means of logistic regression adjusted for the training effect, with a supplementary analysis adjusted for age. Data from P2 were entered into the regression analysis with a course effect of one half, which means that these data were separated from the P1 and P3 data, but contributed to the slope of the regression line (Delta). The course effect of one half was chosen, because the course effect on patients is reported in odds ratio (with 1 as the no-association factor).

A Cronbach’s Alpha coefficient was calculated for each item and on all items as a whole.

4. Results
4.1 How health care professionals experienced their participation in a communication skills training course
The results of the focus group interviews are reported thoroughly in Paper 2 by combining quotations from interviews and themes and summaries of the discussions. For every group, the report states the topics that made the greatest impression, that were considered especially good and especially difficult and the changes mentioned in relation to their ability to communicate with patients and colleagues. In Table 3 a condensed version of the results is presented. The matrix gives responses by profession (vertically), i.e. for nurses, nursing assistants, medical secretaries, doctors and managers, and by questions (horizontally).

In addition, any anomalies are reported, as are information concerning considerable differences in informants’ responses, either with respect to responsiveness or to their experiences, at both a group level and on individual levels.
Table 3. Health care professionals’ experience of their participation in communication skills training course, by groups and topics (condensed).

<table>
<thead>
<tr>
<th>Group</th>
<th>Concerns experienced during training</th>
<th>Concerns experienced after training</th>
<th>Change in communication (no. courses)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Doctors</td>
<td>Overall, the doctors’ group was characterized by a marked reluctance to respond and almost consistently negative responses which varied little over time. The compulsory status of the training course had made the overall greatest impression on this group and had provoked the longest and most heated discussions. Generally speaking, the group was strongly critical towards the inter-professional approach. The tools shared agenda and summarization of the patient interviews were mentioned as those that had influenced their communication the most.</td>
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</tr>
<tr>
<td>Nurses</td>
<td>The group of nurses was characterized by a reluctant, albeit positive attitude. They were impressed by the teachers’ commitment and skills and their ability to grasp the participants’ practical problems and integrate them into the course. They had experienced the small classes as very good and conducive to their building of self-confidence and learning. They experienced that giving feedback to colleagues was especially difficult, but that the training course had made the task more manageable. It was also their experience that the training had contributed to greater patient involvement and more patient-oriented communication and that their sense of being in control of the patient-interviews had improved in particular in relation to angry patients or relatives. Besides, they expected that the mixed classes would increase solidarity and inter-collegiate understanding in the department, and that it would facilitate collaboration with regard to the patients.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing assistants</td>
<td>The responses from the nursing assistants were less specific and precise, but in general, they focused on the positive impressions from the course. The nursing assistants had experienced the mixed-class organization as great fun and found that this element had contributed to increased understanding among colleagues across the department. The topics they had experienced as especially good were also those that they regarded as the most difficult during training, namely video-recording and role-playing. With regard to what they had experienced as changes in their ability to communicate with patients and colleagues, the nursing assistants mentioned pausing as a very valuable tool; using it deliberately had offered room for the patients to talk and had increased their own attentiveness to the patients’ concerns.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical secretaries</td>
<td>The medical secretaries’ reactions to the course were consistently positive, focusing almost entirely on communication with patients and relatives. They were most impressed by the role-playing activities and video-recording, which they had also experienced as both the most difficult and the most fruitful element of the course. The mixed class organization was also mentioned as a positive aspect, and with regard to experienced changes in their communicational behaviour, they mentioned such tools as shared agenda, leaving room for the patients (i.e. pausing) and managing angry patients (i.e. empathy).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Anomalies between groups and within groups

It can be interesting and quite informative to look for anomalies in data. The doctors interviewed were predominantly negative with respect to the influence of the communication skills training course, a finding that constitutes an anomaly among the groups. On the other hand, the responses of informant 3 in the doctors’ group were anomalous for the group by indicating several changes in his/her communication after the training course, and this informant’s responses thus concurred with those of the other groups. A respondent representing an anomaly within the group of nurses, informant 4, gave answers that were very similar to those typical for the doctors. The two anomalies were different from each other, however. Informant 3 in the doctor group differed from the other doctors, both by reporting positive experiences and by a marked willingness to respond. This informant thus tended to dominate discussions in the group, whereas informant 4 in the nurse group was very reluctant to answer, taking very little space, but still leaving a distinctly negative impression. The other three groups (the nursing assistants, medical secretaries and managers) appeared to be more homogeneous, both with respect to their responsiveness in the interviews and their experiences of the training course. Anomalies are indicated in Figure 5, which shows an overall polarization of interview outcomes: pro or contra, both in attitudes and in the experiences from the training course.
4.2 Self-efficacy

All of the questions on communication with both patients and colleagues were phrased: “To which extent do you believe that you can successfully...” followed by designation of a specific communication skill. When the results from all professions were collapsed, the increase in mean score for self-efficacy from T1 to T2 was significant for all questions regarding communication with both patients and colleagues. The increase in mean score for self-efficacy from T1 to T3 was also significant for all questions regarding communication with both patients and colleagues. The mean scores for each question are illustrated for T1, T2 and T3 in Figures 6a and 6b, whereas the detailed scores for changes in self-efficacy from T1 to T2 and from T1 to T3 are shown by profession in Table 4a and Table 4b.

The medical secretaries had the lowest baseline score, at 5.35 for communication with patients and 6.70 for communication with colleagues. The doctors rated themselves the highest: 7.54 for communication with patients and 6.93 for communication with colleagues. The nurses had identical baseline scores, 6.82, for communication with patients and with colleagues, and the nursing assistants’ baseline scores were 6.04 for communication with patients and 7.25 for communication with colleagues, respectively. The collapsed scores for baseline (T1) and the development in self-efficacy (T2 and T3) are shown by profession in Figure 7a and Figure 7b.
For questions concerning communication with patients, Cronbach’s Alpha coefficients were: T1: alpha = 0.94 / T2: alpha = 0.94 / T3: alpha = 0.93. For the questions concerning communication with colleagues, Cronbach’s Alpha coefficients were: T1: alpha = 0.87 / T2: alpha = 0.92 / T3: alpha = 0.92.

4.3 Inter-collegial communication
The Cronbach’s Alpha coefficients were estimated for 0.88 for T1, 0.89 for T2 and 0.90 for T3. Collapsed test results for the three periods showed an Alpha coefficient of 0.95.

A summary statistics t-test for all twelve questions collapsed showed a significant increase in the health care professionals’ evaluation of inter-collegial communication from T1 to T2 with a mean difference of 0.08 (p = 0.0021, n = 165). A linear regression test showed no significant differences among age groups, genders or professions. Analyses of each question by a Wilcoxon signed-rank test revealed differences between intra-professional and inter-professional communication. Regarding intra-professional communication, 1/6 question was assessed significantly higher at T2 than at T1, and 2/6 questions were assessed significantly higher at T3 than at T1. All other questions received higher scores both from T1 to T2 and from T1 to T3, although the results were non-significant. The increase in the health care professionals’ assessment of inter-collegial communication was significant for 4/6 questions regarding developments from T1 to T2, and for 5/6 questions from T1 to T3. Only one question, concerning the giving of continuous feedback to each other, showed a non-significant increase for both intra- and inter-professional communication and at both T2 and T3. All questions, p-values and proportions are shown in Table 5.

4.4 Patient satisfaction
Patients’ evaluation of the quality of information, continuity and care
The logistic regression tests showed statistically significant increases in the proportion of patients responding “To a considerable extent” for 15/19 questions (OR between 1.20 and 1.87, p < 0.05); non-significant increases for 3/19 questions (OR between 1.04 and 1.09), and statistically significant decrease for 1/19 question (OR 0.68, p = 0.001) after the training course (P3). The proportion of patients responding “To a considerable extent” before and after the training course, the OR, CI and p-values are shown by questions in Table 6. The result of the Cronbach’s Alpha estimation was 0.88 for all questions collapsed. The questions concerning information showed an Alpha coefficient of 0.86; continuity: 0.88 and care: 0.66.

Table 6. OR, CI and p-values for increases in proportion of patients responding “To a considerable extent” after the training course, by questions.
The three questions showing non-significant increases in the proportion of patients responding "To a considerable extent" after the training course all concerned communication with doctors, whereas the questions concerning communication with nurses and nursing assistants all showed significant increases. Only patients’ experience of kindness and obligingness was associated with significant decrease after the training course.

The proportion of patients responding "To a considerable extent" increased between 5 and 10 percentage points for 7/19 questions; between 1 and 5 percentage points for 8/19 questions; and less than 1 percentage point for 3/19 questions. For 1/19 questions there was a decrease of 3.9 percentage points for patients responding "To a considerable extent" from P1 to P3.

The analyses showed age to be a determinant for the response "To a considerable extent" with an OR between 1.000243 and 1.008992 per year. Therefore, the analysis was repeated with adjustment for age, but only minor variances in OR were detected, and no changed conclusions. The results are shown in Table 7.

Table 7. OR, CI and p-values for the increases in proportion of patients responding "To a considerable extent" after the training course by questions and adjusted for age.

<table>
<thead>
<tr>
<th>Question</th>
<th>OR (95% CI)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did you feel that the nurse who prepared the information was kind?</td>
<td>1.05 (1.03-1.07)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Did you feel that the nurse who prepared the information was patient?</td>
<td>1.04 (1.02-1.06)</td>
<td>0.001</td>
</tr>
<tr>
<td>Did you feel that the nurse who prepared the information was helpful?</td>
<td>1.03 (1.00-1.06)</td>
<td>0.07</td>
</tr>
</tbody>
</table>

Intra-class variations

A separate analysis of the two in-patient wards showed a considerable difference for P1. With all questions collapsed, the proportion of responses to the category "To a considerable extent" was 72.9 % for ward A, and 62.5 % for ward B. At P3 the proportions were 76.1 % for ward A and 70.9 % for ward B. Ward A also showed an increase in the proportion of patients responding "To a considerable extent" from P1 to P3 for 19/15 items, and for two of those the increase was above 10 percentage points. For ward B the number of patients responding "To a considerable extent" increased from P1 to P3 for all 19 items; and for 7 of those the increase was above 10 percentage points. The proportions of patients responding "To a considerable extent" at P1, P2 and P3 are shown by ward in Table 8.

Table 8. Proportion of patients responding "To a considerable extent" at P1, P2 and P3, by ward.

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Did you feel that the nurse was well prepared for your visit?</td>
<td>72.1</td>
<td>72.3</td>
<td>72.4</td>
<td>62.3</td>
<td>62.5</td>
<td>62.6</td>
</tr>
<tr>
<td>Did you feel that the nursing assistant was well prepared for your visit?</td>
<td>72.4</td>
<td>72.5</td>
<td>72.6</td>
<td>62.3</td>
<td>62.9</td>
<td>62.7</td>
</tr>
<tr>
<td>Did you feel that your visit was as long as necessary?</td>
<td>72.5</td>
<td>72.6</td>
<td>72.7</td>
<td>62.3</td>
<td>62.9</td>
<td>62.7</td>
</tr>
<tr>
<td>Did you feel that the nursing assistant spoke to you in a way you appreciated?</td>
<td>72.7</td>
<td>72.8</td>
<td>72.9</td>
<td>62.3</td>
<td>62.9</td>
<td>62.7</td>
</tr>
<tr>
<td>How often did you appreciate the quality of your medical care?</td>
<td>72.9</td>
<td>73.0</td>
<td>73.1</td>
<td>62.3</td>
<td>62.9</td>
<td>62.7</td>
</tr>
<tr>
<td>Did you feel that the nursing assistant spoke to you in a way you appreciated?</td>
<td>72.1</td>
<td>72.2</td>
<td>72.3</td>
<td>62.3</td>
<td>62.9</td>
<td>62.7</td>
</tr>
<tr>
<td>Did you feel that the nursing assistant spoke to you in a way you appreciated?</td>
<td>72.3</td>
<td>72.4</td>
<td>72.5</td>
<td>62.3</td>
<td>62.9</td>
<td>62.7</td>
</tr>
<tr>
<td>Did you feel that the nursing assistant spoke to you in a way you appreciated?</td>
<td>72.5</td>
<td>72.6</td>
<td>72.7</td>
<td>62.3</td>
<td>62.9</td>
<td>62.7</td>
</tr>
</tbody>
</table>

5. Discussion

5.1 Discussion of methods and materials

The study presented was an effectiveness study investigating the implementation of a training course in a real world context with adoptions to local conditions. The nurses’ general strike from the 16th of April to the 15th of June, 2008 provides an example of inevitable real-world incidents which had consequences for the study. The strike caused deviations from the planned course structure (with a six-week interval between initial course days and the follow-up day) for classes 3, 4, 6, 7 and 8, as the follow-up days were delayed by 19 to 25 weeks (affecting 5 of 25 classes = 20 %). Most of the studies in this field have tested the efficacy of training under more controlled conditions, such as narrower settings (50), focusing on a single profession (12;37;44;51), or on a delimited part of an organisation (31), or on a training environment separated from the clinical setting (27). This study thus accommodates the need for effectiveness studies in order to close the gap between research and practice and to make the research results more useful and accessible for clinicians in order to improve the patient-clinician relationship (52).

The content was based on the Calgary-Cambridge Observation Guide with particular focus on structure and skills (46), while the approach to training was inspired by the British psychiatrist Peter Maguire’s work on patient-centred medical communication (38;53;54). The extended focus of this course, which included all professions in the department and also their communication with colleagues, was based on an initial focus group interview with the aim of making the intervention meaningful and relevant to the orthopaedic department. Similar courses have often been conducted in oncology, paediatric or psychiatry departments, but orthopaedic surgeons have been shown to be rather disease-oriented (55) and to tend to give higher priority to clinical competencies like medical knowledge and patient care (i.e. treatment) and lower priority to interpersonal and personal communication skills and practice-based learning (56).

The standardized training method used here is a strength of the study, as the skills learned at the training course were immediately applicable in the health care professionals’ clinical practice. This corroborates Maguire’s position that communication skills should be taught in problem-focused training workshops, using e.g. video recordings for feedback (54), and his position is supported by others who state that communication skills courses must be experiential because instructional methods have failed to provide
the desired results and because communication skills acquired in a training environment are difficult to transfer into the clinical setting (23;27;57–58). In addition, the compulsory status of the training course removed a possible selection bias, as everyone employed in the department had to participate, not only the highly motivated, but also those who were more reluctant or even negative. However, one staff member’s attitude was so decidedly negative towards the course that her non-participation was tacitly accepted. The training methods, the small class sizes and the fact that there were two teachers per class meant that all participants could contribute actively. In order to get the certifi- cate documenting that they had completed the training course, the participants had to be present on all three days and bring a video-recording for the follow-up day. If they were either sick or did not bring the video-recording, another follow-up day was scheduled. All participants were issued with the certificate upon their completion of the course.

The self-rating survey could be argued to represent a methodol- ogical weakness of this study, as it has been pointed out that self-ratings are reactive measures with the measure itself as an influence on the outcome (28), resulting in either overrating or under- rating (22). To counter this, the data were tested for a ceiling effect (overrating). The highest possible score of ten was received by two respondents at T1 and two at T3 (none at T2); of these three of them were in the category for communication with patients and one for communication with colleagues. For all questions collapsed, no respondents had a mean score above nine. The use of patients’ surveys involves the risk that patients are reluctant to be critical when they are still in care or treatment; they might see themselves in a position of dependency on the health care staff they are evaluating (59). Besides, surveys can appear too simple for patients with more complex expectations and needs, which it may be difficult to encompass in a satisfaction survey (60). Furthermore, there is a risk that a non-response bias will skew the responses towards a more positive result (61). It has, however, been found that patient surveys can be both relevant and valid tools (62), but a test-retest on the internal reliability of the questionnaire would have been desirable.

In order to minimize bias in the focus group interviews, certain precautions were taken, such as authenticity (secured by making verbatim transcriptions), inclusion (all data, including anomalies, are reported) and transparency (of matrix construction) (49;63). A core issue in the discussion on focus group interviews is respondents’ mutual influence on each other; a way to enrich and qualify the discussions and thereby the answers, as it was seen in the group of medical secretaries. On the other hand, this mutual influence could bias the interviews through polarization or conformity, and strong personalities and well-formulated informants may dominate groups. There is also a risk of an educational hierarchy, meaning that lower-ranking members would defer to their superior’s opinions. A number of precautions were taken to counter such bias; the groups were thus formed by profession, the interviews were audiotaped, the interviewer was very experienced, and the researcher was not present during the interviews. The matrix was proved to be useful for summarizing the content of the large data set, thus overcoming the problem that readers have no immediate access to the data sources. It enabled the study of groups as well as individual contributions, and moreover facilitated the move from the qualitative analysis of single groups to the comparative analysis of all groups, without losing sight of individual aspects.

5.2 Discussion of results

The focus group interviews revealed useful data on how the health care professionals’ had experienced the training course; it’s organisation with respect to group sizes, mixed groups, teaching methods, and the fact that the course was compulsory. The small size of groups contributed to a high level of confidence and the use of role-playing and video recordings as teaching methods was experienced as conducive to learning and was found to subse- quently enrich communication with patients and among colleagues, even though responses varied among professions, with the doctors’ group as the most negative. But somewhat in contradic- tion to their reported experience of participating in the course, the doctors’ self-efficacy scores were approximately the same as for nurses and nursing assistants, measured immediately after the course and six months later. However, at baseline the doctors’ self-efficacy had been higher than that of the other professions. This, and the fact that the group of doctors was relatively small, might explain why their gains from T1 to T3 were lower and statistically non-significant. The findings regarding self- efficacy for communication with patients are in conformity with those of other researchers, among them Langewitz, Ammentorp et al., Fallowfield and Finset et al. (12;30;36;37), who all found increased levels of self-efficacy after communication skills training. Self-efficacy for communication with colleagues is a sparsely investigated field as is the quality of inter-collegial communica- tion. Most research on these topics is relatively dated and con- cerns the negative impact of poor clinician-colleague relationships on practice. Safran et al. took a theoretical perspective in their work on core features and relationship qualities of “high-functioning organizational cultures”. They identified the diversity of mental models, heedful interrelating, good communication, mutual respect and trust as essential elements (64). These were all central points of interest for this study, both in the interven- tion and the following survey phase. The effect of training was most pronounced for inter-professional communication, which also scored considerably lower at baseline compared to intra- professional communication and was most outspoken six months after the training course compared to the measurement immedi- ately after the course. Other researchers have found the strongest effect of an intervention where the population or the topics had achieved the lowest baseline (62). This finding of improved levels of inter-collegial communication and the increased level of self-efficacy might benefit both patients and health care profes- sionals which has been shown by other researchers finding that if doctors were trained in patient-centredness, the patients experi- enced significantly improved information levels (44) and that doctors who were perceived as warm, friendly and patient-centred were more effective than those who were more formal in their consultations (19). This presumably also applies for this study as the results from patients’ evaluation of information, continuity and care showed significantly higher patient satisfac- tion after the courses. The results corroborate the results of Trumble et al. who found a significant increase in out-patients’ satisfac- tion following a workshop on communication skills for doctors (65). Shilling et al. found a non-significant increase in patients’ satisfaction after a communication skills training course for doctors (66). The question regarding kindness and obliging- ness, which showed a significant decrease after the training
course, is the only item in the questionnaire that assessed the patients’ overall evaluation of their reception during admission; the other items all assess more technical issues, such as information, preparedness, time and language. The separate analyses for the two wards showed that the ward with the oldest patients whose admission had been planned (ward A) were more satisfied at baseline, but there was a less marked increase in satisfaction after the training course compared to those found in the ward with the younger and primarily acute patients (ward B). This could be explained as a result of the tendency mentioned earlier, that the population with the lowest baseline experienced the strongest effect of an intervention (62), but it is also a fact that ward A went through some rather disturbing organizational changes in the study period. It experienced two changes of charge nurse and had to move twice due to renovations. Furthermore, an interprofessional study unit was integrated in the ward and more than 31 nurses and nursing assistants left and were replaced by less experienced staff. This indicates that the ward and its staff were under considerable strain. The minor effect of training on this ward, as evaluated by patient satisfaction, could be explained partly by the higher baseline and partly by the changes mentioned. A significant association between heavy workloads and patients’ satisfaction has previously been shown in a Danish study using essentially the same questions (67). But it remains a fact that the patient satisfaction increased despite the organizational disturbances.

5.3 Limitations
The patients’ response rates posed a challenge for the study. To access the questionnaire a bar code scanner card had to be handed out by a nurse, and at times with heavy workloads, this task may have been given lower priority. To compensate for this, various countermeasures were implemented, such as arranging several staff information meetings, rewarding staff on monthly basis for high response rates, promotion of key persons responsible for the response rate, detailed plans with key persons for each shift during weekends and holidays and daily revision of occupancy lists to ensure that patients had responded before discharge. As none of this showed any particular effect on delivery rates of scanner cards or on response rates, a research assistant was hired towards the end of the data collection period. The effect of this is reflected in the relatively high response rate for P3 and probably also in the fact that the mean age of the respondents in P3 was about six years higher, compared to P1 and P2 populations. Results from previous research are ambiguous regarding the characterization and significance of non-responders. Some studies have pointed out that their non-responders had not constituted a homogenous group and that they did not differ markedly from responders, neither on age or gender (68-70) nor on satisfaction rating (71). Other studies have stated that non-responders tended to be less satisfied (60), were younger and more likely to be male and single (71). Yet other studies have shown that non-participation is of great importance and can be the cause of biased results (61,72), whereas Lasek et al. has shown that there is no secure evidence that non-responders are less satisfied than responders. He concludes that the impact of non-response bias is small (71). It thus seems difficult to estimate a possible non-responder bias in this study. It cannot be ruled out that the research assistant succeeded in including more of the older patients because of a more personal and committed approach, which could be reflected in the higher ages of the responders in P3, but as both treatment (the course effect) and age are taken into account in the statistical analysis, the effect of the training course can be assumed to be correctly estimated.

6. Conclusion
In this thesis it has been shown that a communication skills training course for health care professionals had an impact on both patients and professionals. Among the results is a significantly increased self-efficacy of health care professionals in relation to communication with both patients and colleagues and an improved inter-collegial communication. The focus group interviews revealed enriched and more confident communication with patients and colleagues and the increase in patient-centredness as the most essential experiences of change. Moreover, it was found that the acquired communication tools were important in the health care professionals’ efforts to communicate in a more patient-centred way, and in gaining control of interviews, especially with dissatisfied patients, relatives and colleagues. The study has also shown that these improvements in health care professionals’ communication skills contributed to significantly improved patient satisfaction concerning information, continuity and care.

7. Perspectives
This effectiveness study performed under real world conditions shows that a training course in communication skills for health care professionals implemented for all staff in a middle-sized department can improve the patients’ assessment of information, continuity and care; the health care professionals’ self-efficacy for communication with patients as well as with colleagues and also improves the health care professionals’ evaluation of inter-collegial communication. For an orthopaedic department, the increased focus on patient-centred communication and inter-collegial communication could provide a pathway towards diversification of the traditionally disease-oriented focus and hierarchical organization. The study also shows that patients’ level of satisfaction can be raised despite heavy workloads on staff and major organizational changes. This means that it is possible to improve health care professionals’ self-efficacy and patients’ satisfaction in an entire department, even when the department is in full working. Large-scale studies would be needed to study the impact of communication skills training in a larger organization, such as an entire hospital.

8. Summary
Background: Although patient-centred communication has provided a focus point in health care for many years, patient surveys continuously reveal serious communication problems as experienced by patients, due to poor communication. Likewise, poor inter-collegial communication can cause problems for both health care staff and patients. So, knowing that patient-centred communication and good inter-collegial communication is for the benefit of both health professionals and patients, the relevance of improving health care professionals’ communication skills and investigating the effect on both professionals and patients is beyond doubt.
Aim: The aim of this study was to investigate whether a training course in communication skills for health care professionals could improve:
Health care professionals’ self-efficacy in communication with patients and colleagues
Health care professionals’ evaluation of inter-collegial communication
Patients’ experience of quality of care,
and to investigate health care professionals’ experience of
• participation in a communication skills training course
• the influence of the course on their ability to communicate with patients and colleagues.

Methods: The study was carried out in the Department of Orthopaedic Surgery, Kolding Hospital, a part of Lillebaelt Hospital, as an intervention study with baseline measurements and measurements after the intervention. The intervention was an in-house communication skills training course for all health care professionals at the department. The effect was measured partly on the health care professionals’ self-efficacy and evaluation of inter-collegial communication, partly on patients’ evaluation of quality of information, continuity and care. Data were collected by means of questionnaires and further explored by focus group interviews with health care professionals.

Results: A total of 181 health care professionals were included in the study. The questionnaire was completed by 177 (97.8 %) before; 165/169 (97.6 %) immediately after and 150/153 (98 %) six months after the course. The health care professionals’ self-efficacy was significantly increased, both for communication with patients and colleagues. The effect was still present six months after the training course. Also the health care professionals’ evaluation of inter-collegial communication showed significant improvements after the course; the effect was more pronounced for inter-professional than for intra-professional communication and more pronounced six months after than immediately after the course. A total of 32 health care professionals participated in the focus group interviews, which showed that, in general, nurses, nursing assistants, medical secretaries and managers principally experienced better control over the patient interview, increased confidence in communication, improved inter-collegial understanding and increased focus on patient-centred communication after the training course. The doctors had an overall negative experience of their participation in the training course, but nevertheless experienced positive changes in their communication after the course. In the patient survey a total of 3660 patients answered the questionnaire from the 1st of May 2007 until the 31st of May 2010. The eligible response rates were 67.75 % for the baseline measurement and 77.63 % for the after measurement. There was a significant increase in patients responding “To a considerable extent” for 15/19 questions; a non-significant increase for 3/19 questions, and a statistically significant decrease for 1/19 question after the training course.

Conclusion: The study has shown that a communication skills training course can improve health care professionals’ self-efficacy in communication with both patients and colleagues and also improve inter-collegial communication. The focus group interviews showed that the most essential experiences of change were more confident communication with patients and colleagues and an increased patient-centredness. Furthermore, the study has shown a significant increase in patient satisfaction concerning information, continuity and care after the training course for health care professionals.

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APPENDIX A: QUESTIONNAIRE – HEALTH CARE PROFESSIONALS (DANISH)
SPØRGESKEMA OM KOMMUNIKATION MED PATIENTER OG KOLLEGER

Til tæger, pleiepersonalet og lægesekretærer i Østfjordkirurgisk Afdeling (Form-fælts)

I forbindelse med kommunikationsprojektet i Østfjordkirurgisk Afdeling, herunder i Undervisning, der vil findes der en tilstræbelse til at vurdere definerer, hvilke spørgsmål der skal tilføjes personalalets vurdering af kommunikation med patienter og kolleger.

Vedrørende er der set spørgsmål om, hvordan du oplever, at du med efterfølgeren oplever, at velegnede kommunikation mellem patien og kolleger. Sperger unødvendige beslutter ved at satte kryds af de 4 vokskategorier "blet sikker" "blinde" "blinde" "blinde" "blinde"

1. Hvor gammel er du?
   - 20-29 år
   - 30-39 år
   - 40-49 år
   - 50 år og ældre

2. Hver enkelt i kolleger, der du fælles?
   - Mand
   - Kvindel

3. Hvor lang tid har du været i afdelingen?
   - 1. festet
   - 1. beskæftiget
   - 1. beskæftiget
   - 1. beskæftiget

4. Vær klar til at kommunikere, hvis der er nødvendighed?
   - Ja
   - Nej

5. Hvordan oplever du kommunikationen ved at deltage i afdelingen?
   - Ikke
   - Ikke
   - Ikke
   - Ikke

6. Hvordan oplever du din hverdag i afdelingen?
   - Ikke
   - Ikke
   - Ikke
   - Ikke

7. Hvordan oplever du din hverdag i afdelingen?
   - Ikke
   - Ikke
   - Ikke
   - Ikke

8. Hvordan oplever du din hverdag i afdelingen?
   - Ikke
   - Ikke
   - Ikke
   - Ikke

Analyserne udarbejdes på afdelingens grundlag.

Med venlig hilsen,

Tine Hjelmesterg Kornell
Lukatfl.: 336

Bartaja Hagerst
Lukatfl.: 362
APPENDIX B: QUESTIONNAIRE – PATIENTS (DANISH)

Hvordan oplever du den kollektive kommunikation i din hvertag på
afholdslen?

Først beskrives spørgsmål 26-35 ud fra en mosekog-oversig komunikation derindfor
kun gipsgrens. Dermed beskrives spørgsmål 34-35 ud fra en høvlig-oversig komunikation
(kommunikation mellem tagerne).

Mensfulgt:
26. Vi blev respektfult til
henre den.
27. Vi blev respektfult om
henre den.
28. Vi havde fuld
frihed.
29. Vi havde fuld
frihed.
30. Vi havde fuld
frihed.
31. Vi glæder sig, at
henre har vidlet
henre.
32. Vi glæder sig, at
henre har vidlet
henre.
33. Vi glæder sig, at
henre har vidlet
henre.

Ternfulgt:
34. Vi blev
respektfult om
henre den.
35. Vi blev
respektfult om
henre den.
36. Vi havde
fuld
frihed.
37. Vi havde fuld
frihed.
38. Vi havde fuld
frihed.
39. Vi glæder sig, at
henre har vidlet
henre.
40. Vi glæder sig, at
henre har vidlet
henre.
41. Vi glæder sig, at
henre har vidlet
henre.

Se ikke | I minde grad | I nogen grad | I hel grad
APPENDIX C: FOCUS GROUP INTERVIEW GUIDE (DANISH)

Interviewguide for fokusgruppeinterviews med hhv. sygeplejersker og social- og sundhedsassistentener

Interviewspørgsmål

3 Hovedspørgsmål
1. Hvordan oplever I, at kommunikationskurset har påvirket jeres kommunikation med patienterne?
2. Hvordan oplever I, at kommunikationskurset har påvirket den måde i kommunikationer med hinanden på indenfor jeres faggruppe?
3. Hvordan oplever I, at kommunikationskurset har påvirket den måde i kommunikationer med hinanden på tværs af faggrupper

Underspørgsmål til hovedspørgsmålene
- Hvad har især påvirket
- Hvad har været godt/brugbart
- Hvad har været dårligt/ikke brugbart
- Er der forskel på ændringer på kort sigt (lige efter kurset) og ændringer på langt sigt
- Er der forskel på ændringer efter at kun få hhv. de fleste i afdelingen, har været på kursus
- Hvis ingen effekt - hvad mangler der, for at kurset kunne have haft en effekt

Debriefing
- Hvad har efterladt det største indtryk fra kommunikationskurset (nævnt kun én ting) - runde
- Har deltagerne nogle spørgsmål, eller er der noget, som de gerne ville have været spurgt om
- Hvordan var det, at deltage i interviewet

Interviewguide for fokusgruppeinterviews med lægesekretærer

Interviewspørgsmål

Icebreaker
- Beskriv hvordan jeres kontakt primært er til:
  - Patienterne
  - Andre lægesekretærer
  - Andre kolleger på afdelingen (andre faggrupper)

3 Hovedspørgsmål
1. Hvordan oplever I, at kommunikationskurset har påvirket jeres kommunikation med patienterne?
2. Hvordan oplever I, at kommunikationskurset har påvirket den måde i kommunikationer med hinanden på indenfor jeres egen faggruppe?
3. Hvordan oplever I, at kommunikationskurset har påvirket den måde i kommunikationer med hinanden på tværs af faggrupper

Underspørgsmål til hovedspørgsmålene
- Hvad har især påvirket
- Hvad har været godt/brugbart
- Hvad har været dårligt/ikke brugbart
- Er der forskel på ændringer på kort sigt (lige efter kurset) og ændringer på langt sigt
- Er der forskel på ændringer efter at kun få hhv. de fleste i afdelingen, har været på kursus
- Hvis ingen effekt - hvad mangler der, for at kurset kunne have haft en effekt
- Hvad kan I / afdelingen gøre, for at holde de redskaber I har fået ved lige

Debriefing
- Hvad har efterladt det største indtryk fra kommunikationskurset (nævnt kun én ting) - runde
- Har deltagerne nogle spørgsmål, eller er der noget, som de gerne ville have været spurgt om
- Hvordan var det at deltage i interviewet
Interviewguide for fokusgruppeinterviews med læger

Interviewspørgsmål

1. Hvordan oplever I, at kommunikationskurset har påvirket jeres kommunikation med patienterne?

2. Hvordan oplever I, at kommunikationskurset har påvirket den måde i kommunikerer med hinanden på indenfor jeres egen faggruppe?

3. Hvordan oplever I, at kommunikationskurset har påvirket den måde i kommunikerer med hinanden på tværs af faggrupper

Underspørgsmål til hovedspørgsmålene

- Hvad har især påvirket
- Hvad har været godt/brugbart
- Hvad har været dårligt/ikke brugbart
- Er der nogle situationer, hvor kommunikationsværktøjerne er nemmere at anvende end andre (ambulatoriet vs. sengeafdeling)
- Er der forskel på ændringer på kort sigt (lige efter kurset) og ændringer på langt sigt
- Er der forskel på ændringer efter at kun få hhv. de fleste i afdelingen, har været på kursus
- Hvis ingen effekt – hvad mangler der, for at kurset kunne have haft en effekt
- Hvad kan I / afdelingen gøre, for at holde de redskaber I har fået ved lige

Debriefing

- Hvad har efterladt det største indtryk fra kommunikationskurset (nævn kun én ting) - runde
- Har deltagerne nogle spørgsmål, eller er der noget, som de gerne ville have været spurgt om
- Hvordan var det, at deltage i interviewet

Interviewguide for fokusgruppeinterviews med ledergruppen

Interviewspørgsmål

1. Struktur for interviewet (tænkepause, bred drøftelse ud fra 5 punkter, som vi gerne vil have belyst i interviewet):
   - Jeres kommunikation med patienterne
   - Jeres kommunikation med personalet (som leder)
   - Jeres kommunikation med andre ledere
   - Personalets kommunikation indenfor egen faggruppe
   - Personalets tværfaglige kommunikation

   Skriv på flipover

2. Brug et par min for jer selv på at overveje, hvordan I hver især oplever at kommunikationskurset har påvirket jeres egen kommunikation i hverdagen (arbejdsrelateret)