

## PEER REVIEW HISTORY

BMJ Open publishes all reviews undertaken for accepted manuscripts. Reviewers are asked to complete a checklist review form ([see an example](#)) and are provided with free text boxes to elaborate on their assessment. These free text comments are reproduced below. Some articles will have been accepted based in part or entirely on reviews undertaken for other BMJ Group journals. These will be reproduced where possible.

### ARTICLE DETAILS

<b>TITLE (PROVISIONAL)</b>	Communication in interdisciplinary teams: Exploring closed-loop communication during in-situ trauma team training
<b>AUTHORS</b>	Härgestam, Maria; Lindkvist, Marie; Brulin, Christine; Jacobsson, Maritha; Hultin, Magnus

### VERSION 1 - REVIEW

<b>REVIEWER</b>	Krange, Ingeborg University of Oslo
<b>REVIEW RETURNED</b>	09-Aug-2013

<b>REPORTING &amp; ETHICS</b>	<p>This is a very interesting and important study. Trauma teams' capacity to diagnose the patient quickly in time restricted settings is critical. Qualified communication skills might be a matter of life and death. Research; as you also refer to, have shown that teamwork and team performance is crucial to problem-solving processes in complex cases, and observed adverse events or impeded patient safety originate more often from flawed teamwork and poor communication than from individuals' lack of clinical skills (IOM 2000).</p> <p>Overall the text is easy to follow. I have some comments that I will come back to, but first I will emphasize that there are two main problems in the text.</p> <ul style="list-style-type: none"> <li>- What is your research contribution? You have a review but it does not really bring me as a reader towards what you end up studying. A serious implication of this is that it is difficult to identify how your research adds to recent publications both in the introductory part and in the discussion section.</li> <li>- What is your main argument? It is about communication in interdisciplinary teams but how is this linked to the review and your research findings? As I will come back to I think the argument differ quite a bit.</li> </ul> <p>Below I will give you some more comments and elaborate on the two already mentioned.</p> <ul style="list-style-type: none"> <li>- Key messages. The two first bullet points are not clear. Please reformulate.</li> <li>- Figure 1. This is a very plain communication model. I would suggest dropping the model since it rather disqualifies than qualifies the text. Taking i.e. a socio-cultural perspective on trauma team communication practices into account, it is not at all certain that it is just for "The sender to transmit a message" and for "the receiver [to] acknowledge it". What is transmitted? Is it the same for the sender as for the receiver? How does the receiver understand the message? Is the message made relevant for the further diagnostic work? These are questions that the authors seems to be aware of</li> </ul>
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	<p>later in the text: "Shortcomings also occur within the interdisciplinary team where misunderstandings, language difficulties, interruptions and hesitation to speak (against authority) have been reported." and because this is the very core of the CLC definition: "a transmission model where verbal feedback is of great importance to ensure that the team members correctly understand the message." The model does not mirror how you describe communication.</p> <p>– The review works in one way fine. It points towards different studies that have documented the need for communication training in interdisciplinary teams. Although it is nice to read, it does not help me to understand why exactly this study is important by adding to existing research. Why did you choose to focus on profession, age, gender, years in profession etc.? What is it meant to lead to? I also find it challenging to understand parts of the interpretations in the discussion part. Given that you in the beginning start by reviewing literature emphasizing that communication are vital for successful diagnostic work in trauma teams, you end up by saying "The participants' main focus was on completing the assigned task, and communication appeared to be of minor importance. (...) Perhaps this reflects a common perception that communication is something that can be taken for granted and therefore not necessary to practice." Is communication not important because the actors are more concerned with the assignment? It could also be reasonable to claim that it is the other way around. Because the participants tend to be procedurally oriented, important aspects during the diagnostic work might be left out. This might make the communication aspects even more important. And as you write later in the text "As has already been mentioned, the nurses' vital role in a resuscitation team depends on good communication skills (...) These skills, which develop with experience, improve the team's performance." This is the very core of your argument and it differs quite a bit. I would strongly recommend developing a consistent argument.</p> <p>– Analysis. The workload behind the coding of the communication activities must have been time consuming. However, I miss a section where you explain how this coding was performed. Who did it? If several researchers were involved, were there any discrepancies in how they categorized different statements? How did you deal with that? Generally, the statistical analysis is readable and clear but it is not part of my specialization. I would recommend that the journal invites another reviewer to secure the quality.</p> <p>Although my comments are somehow critical I really hope you will improve the text and resubmit an improved version. Good luck!</p>
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REVIEWER	Peter Oluf Andersen MD, Ph.D. Department of Anaesthesiology Bispebjerg hospital Copenhagen Denmark  No conflicts of interest
REVIEW RETURNED	19-Aug-2013

THE STUDY	1. Does the personal in the trauma simulations represent the same number of persons that appear in real trauma situations in the ER.? This might also affect the transfer to real life setting.
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	<p>2. Is it defined in the introduction video about teamwork in emergency settings, when and where to use CO and CLC ( e.g when prescribing medicine to patient). Could it affect the result that the number of tasks requiring CO and CLC might vary in the different simulations.</p> <p>3. Is a specific leadership style (of the 2 types you describe) recommended in the introductory video</p> <p>4. What technical problems lead to the exclusion of two teams</p> <p>5. The introduction part should briefly mention the importance of deliberate practice, since you want to examine the role of professional experience</p>
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## VERSION 1 – AUTHOR RESPONSE

### Reviewer 1

What is your research contribution? You have a review but it does not really bring me as a reader towards what you end up studying. A serious implication of this is that it is difficult to identify how your research adds to recent publications both in the introductory part and in the discussion section

-The introduction has been rephrased to better focus on the research question.

What is your main argument? It is about communication in interdisciplinary teams but how is this linked to the review and your research findings? As I will come back to I think the argument differ quite a bit.

-The introduction has been rephrased to better focus on the research question.

Key messages. The two first bullet points are not clear. Please reformulate.

- The key messages have been reformulated

Figure 1. This is a very plain communication model. I would suggest dropping the model since it rather disqualifies than qualifies the text. Taking i.e. a socio-cultural perspective on trauma team communication practices into account, it is not at all certain that it is just for “The sender to transmit a message” and for “the receiver [to] acknowledge it”. What is transmitted? Is it the same for the sender as for the receiver? How does the receiver understand the message? Is the message made relevant for the further diagnostic work? These are questions that the authors seems to be aware of later in the text: “Shortcomings also occur within the interdisciplinary team where misunderstandings, language difficulties, interruptions and hesitation to speak (against authority) have been reported.” and because this is the very core of the CLC definition: “a transmission model where verbal feedback is of great importance to ensure that the team members correctly understand the message.” The model does not mirror how you describe communication.

- We believe that the model helps the reader to understand some of the key concepts in communication. To better explain the model we have added two sentences to the introduction, immediately above Figure 1. “This advocated model assumes that communication is simple and clear. In practice communication is more complicated and several other factors affect the transmission (22, 23). It is therefore of great importance to study if this communication model, suggested among educators, is useful in complicated practical situations.”

- Furthermore, we have made a more expanded explanation of the purpose; “Since communication is more complicated than just sending a message between individuals (see figure 1), the purpose of this exploratory study was to investigate the communication during in-situ trauma team training, more specific;”

The review works in one way fine. It points towards different studies that have documented the need

for communication training in interdisciplinary teams. Although it is nice to read, it does not help me to understand why exactly this study is important by adding to existing research. Why did you choose to focus on profession, age, gender, years in profession etc.? What is it meant to lead to? I also find it challenging to understand parts of the interpretations in the discussion part.

Given that you in the beginning start by reviewing literature emphasizing that communication are vital for successful diagnostic work in trauma teams, you end up by saying "The participants' main focus was on completing the assigned task, and communication appeared to be of minor importance. (...) Perhaps this reflects a common perception that communication is something that can be taken for granted and therefore not necessary to practice." Is communication not important because the actors are more concerned with the assignment? It could also be reasonable to claim that it is the other way around.

Because the participants tend to be procedurally oriented, important aspects during the diagnostic work might be left out. This might make the communication aspects even more important. And as you write later in the text "As has already been mentioned, the nurses' vital role in a resuscitation team depends on good communication skills (...) These skills, which develop with experience, improve the team's performance." This is the very core of your argument and it differs quite a bit. I would strongly recommend developing a consistent argument.

- The introduction as well as the discussion has been rephrased to better focus on the main research question.

This advocated model assumes that communication is simple and clear. In practice communication is more complicated and there are other factors that effect the transmission, for example profession, gender and age. It is therefore of great importance to study if this communication model, suggested among educators works in practice.

- These sentences concerning the nurses role have been removed from the text  
- Parts of the discussion has been rephrased to develop a more consistent argument.

Analysis. The workload behind the coding of the communication activities must have been time consuming. However, I miss a section where you explain how this coding was performed. Who did it? If several researchers were involved, were there any discrepancies in how they categorized different statements? How did you deal with that? Generally, the statistical analysis is readable and clear but it is not part of my specialization. I would recommend that the journal invites another reviewer to secure the quality.

- The methods section has been expanded in the part relating the coding of communication: "The communication in the team was transcribed and categorized using the data analysis software program NVivo 9. The communication was then quantified as CO (step one) and CLC (all three steps included) (Figure 1), according to definitions set out in advance (14, 21). The categorization and quantifications were made by two of the authors (MHa and MHu) and then discussed in the research group".

Although my comments are somehow critical I really hope you will improve the text and resubmit an improved version. Good luck!

- Thank you for the encouraging words.

Reviewer 2

1. Does the personal in the trauma simulations represent the same number of persons that appear in real trauma situations in the ER.? This might also affect the transfer to real life setting.
  - Yes, this is now stated in Methods during Research setting "Efforts were made to make the simulated environment as authentic as possible; therefore the training was executed in the regular emergency room (ER) in the ED with the trauma team composed as according to the trauma team manual currently in use at the ED".
2. Is it defined in the introduction video about teamwork in emergency settings, when and where to use CO and CLC (e.g when prescribing medicine to patient). Could it affect the result that the number of tasks requiring CO and CLC might vary in the different simulations.
  - We have added in Methods during Research setting. "In this introductory video the importance of using CLC by giving feed back to the sender was highlighted, e.g. when prescribing drugs or fluids or when asking for help with a pre-assigned task".
3. Is a specific leadership style (of the 2 types you describe) recommended in the introductory video
  - No, this is not mentioned in the video.
4. What technical problems lead to the exclusion of two teams
  - This is stated in Methods during Participants. "Two of the teams were excluded from this analysis due to technical problems with the recording equipment and one team was incomplete".
5. The introduction part should briefly mention the importance of deliberate practice, since you want to examine the role of professional experience
  - Thank you for the suggestion. We have underlined this in the discussion "The observed improved performance in usage of CLC in an emergency situation after structured trauma courses might in line with other studies showing that deliberate practice is key to excellence (36-38).