

Keeping the spirit high: Why trauma team training is (sometimes) implemented

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Short title: **Implementation of trauma team training**

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Abstract

Background: Systematic and multiprofessional trauma team training using simulation was introduced in Norway in 1997. The concept was developed from necessity in two district general hospitals and one university hospital but gradually spread to 45 of Norway's 50 acute-care hospitals over the next decade. Implementation in the hospitals has varied from being a single training experience to becoming a regular training and part of quality improvement. The aim of this study was to better understand why only some hospitals achieved implementation of regular trauma team training, despite the intentions of all hospitals to do so.

Methods: Focus group interviews were conducted with multiprofessional respondents in seven hospitals, including small and large hospitals and hospitals with and without regular team training. Interviews were transcribed and analyzed using a Grounded Theory approach.

Results: "Keeping the spirit high" appeared to be the way to achieve implementation. This was achieved through "enthusiasm", "strategies and alliances", and "using spin-offs". It seems that the combination of enthusiasts, managerial support, and strategic planning are key factors for professionals trying to implement new activities.

Conclusions: Committed health professionals planning to implement new methods for training and preparedness in hospitals should have one or more enthusiasts, secure support at the administrative level, and plan the implementation taking all stakeholders into consideration.

Key Words: education, trauma, simulation, quality improvement, team work, rural trauma, Grounded Theory, implementation

High-quality treatment of emergency patients requires optimal team function with respect to leadership, communication, and cooperation (1). In 1997, a group of health personnel introduced multiprofessional training of trauma teams in Norway as a response to needs in their own institutions to prepare for low-frequency, challenging, severely injured patients (2). During the subsequent 10 years, the concept spread by word-of-mouth to other hospitals, and 45 of Norway's 50 hospitals involved in trauma patient care have now conducted one or more training courses. Personnel at the respective hospitals have initiated each new course. The group behind the training concept organized these improvement activities into a public, non-profit foundation, the BEST Foundation: Better & Systematic Trauma Care. The principle behind the activities has consistently been to facilitate self-help for the hospitals involved through free sharing of educational material and training cases after training courses. The hospitals were then expected to use the principles for training according to their own needs and wishes. The foundation arranged yearly network meetings to enable the hospitals and the trauma interested personnel to meet colleagues from other hospitals (3).

Over the years, it became apparent that some hospitals continued training activities locally; however, in others, local organizers did not achieve the intended continuation of team training activities after the first training course with outside instructors. In 2004, 54% of Norwegian hospitals reported that local training courses had been arranged within the previous six months (4). Reports from the network meetings indicated that a number of structural and interpersonal reasons were the causes for success or failure at the local level.

The aim of this study was to report local organizers' perception of barriers to and facilitators of implementation of trauma team training, in order to increase the likelihood of success for quality-improvement activities.

Material and Methods

A qualitative approach was chosen to systematically explore respondents' views of their experience (5). We based the analysis on the Grounded Theory, as described by Glaser & Strauss (6) and Taylor & Bogdan (7).

Interviews were conducted between August 2006 and January 2007. The hospitals were both minor and major, some located far from referral hospitals and two that were university hospitals. Some had successfully implemented local training after the first training course, while others had experienced difficulties or did not continue team-training activities, despite an initial intention to do so. In each hospital, the contact person was asked to select a suitable group of health personnel experienced with the implementation of trauma team training, at his/her discretion. The order of hospital interviews was governed by practical arrangements, and is not critical in Grounded Theory (6,7). Each group gathered at the respective hospital for a focus group conversation lasting 60 to 120 minutes. Focus groups are a useful forum for participants to reflect and exchange different points of view (7, 8). The conversations were moderated by one of the authors and recorded, and subsequently transcribed verbatim and proofread. In addition, we took extensive notes during the focus group meetings and subsequent analysis (5, 9).

After each interview, we worked through the new information gathered and adjusted the focus for the next group. Grounded Theory requires constant analysis and comparison of acquired information before moving on to new participants (6, 7). With this method, data collection ideally ceases when new respondents add no new knowledge or insight (7). This condition was achieved after the first six interviews; however, interview 7 was already planned and for practical reasons was subsequently included. A total of 40 health professionals from 7 hospitals participated in the interviews, including physicians, nurses, radiographers, lab technicians, and administrators.

All transcribed material was analyzed sentence by sentence and coded for the informant's meanings (10).

After initial open coding of all the material, we organized the codes into categories. The material was then repeatedly reanalyzed to reassess the content and confirm the findings in the categories. We identified a main category and subdivided it with three subcategories. Citations from these transcripts are given in italics and referenced with the interview number and transcript page number.

Ethics

The study was approved by the Norwegian Social Science Data Services (26.06.2006, 14868/SS). We emphasized to interviewees that the visits did not include any economic or other compensation. The study did not attempt a formal evaluation of the hospitals' trauma system or training program. Respondents gave written consent, and we treated all material anonymously.

Results

The main determinant for success in local implementation of multiprofessional trauma team training seemed to be "keeping the spirit high". This was achieved through "enthusiasm", "strategies and alliances", and "using spin-offs".

"Keeping the spirit high" means that the successful health professionals in each hospital apply a number of measures to maintain interest and promote recurrent training of trauma teams. These measures include encouraging one another, establishing advanced shortcuts in the hospital administrative systems, remaining within economical constraints, and conscious targeted marketing of the benefits of trauma team training.

Enthusiasm

All respondents described the need for specially committed professionals in each hospital who could manage the practical arrangements for trauma team training, the "enthusiasts". The respondents agreed that this person not did not necessarily need to be a physician, but that hierarchical position influenced the enthusiast's impact. When nurses were enthusiasts, they tended to be allied with physicians. In most hospitals, a small group of representatives from many or all of the departments involved in multiprofessional trauma care locally supported the enthusiast. It was emphasized that one isolated enthusiast would strive and should ideally be supported by others. Some hospitals had designated trauma coordinators to be responsible for trauma related activities. The respondents agreed that this official designation would enhance the status of the enthusiast and improve the chance of success.

“One of the reasons for our success was that we had enthusiasm among both nurses and physicians, in a way where not only one profession was caring, and that several departments engaged in this, especially some important departments” (I,1).

When the hospitals allocated resources to this function, the chance for continued trauma team training seemed to improve.

Enthusiasts without support from the executive level, especially if enthusiasts were nurses without physician backup, seemed to have little chance of success. Failures were reported from hospitals that started enthusiastically but allocated responsibility for follow-up to only one person.

Strategies and alliances

Training of trauma teams and increased awareness of trauma care compete with many other obligations of administrators and department chairs in the public hospital trusts in Norway. The respondents had developed a number of ways to increase the possibility of

achieving their goals within the administrative and budgetary systems of their hospitals. Instead of following the organizational chain through departmental chairs, division directors, etc., many had established a direct link to the hospital director, bypassing a number of possible resisters. This link was achieved by trauma groups organized as part of the directors' staff. Political and financial competition between hospitals and trusts was used to establish a need for trauma teams, and training and quality control were advocated as an advantage and a sign of progress. By establishing trauma groups as a consultative organ in the administrative system, the enthusiasts increased the group's credibility and importance, and by requesting orders from the hospital directors to the groups they further reinforced their credibility.

“Several of the activities we are performing now we have asked the hospital director to instruct us to do” (II, 9).

Trauma enthusiasts applied some degree of conscious administrative disobedience to improve their chance of success:

“It takes so long to ask everybody, and it is more difficult to terminate an initiative that is running and can show results, than to turn down a proposal before it has started” (II,7).

The respondents emphasized that multiprofessional groups with representatives from all personnel categories involved in trauma care increased the rate of success.

Another argument used to highlight the need for trauma team training was the responsibility that major hospitals had to minor hospitals in their catchment area. For minor hospitals, the reason given for training was the need to prove that the hospital had an acceptable standard of trauma care.

“We need to have the competencies... But if we are good and keep on training, showing that we can manage, it will be easier for those outside to see that things are working well” (IV, 6).

Marketing the training within the organizations was used to increase awareness and visibility and thus as a strategy for anchoring training activities. Some respondents emphasized that training and improved trauma care would increase their superiors' self esteem, thus increasing support for the activities. Initial funding of part-time trauma coordinators was achieved in a number of creative ways, ranging from research and development grants to documentation of improved hospital income by increased precision in reimbursement claims to the government.

The original training concept included a whole-day arrangement with combined theory and practice and two consecutive trainings for two teams each. However, several hospitals had adjusted this program to more applicable regimens, such as short practical sessions or single simulations for each team, all to improve the chance of getting the training done.

“It is a weakness of our present training concept that the same team gets one training only...It is better to have something suboptimal that is considered positive than to attempt reaching the perfect, which we would probably not achieve” (VI, 9).

Using spin-offs

The respondents emphasized the benefits of team training and trauma-care improvement for real patient situations in their everyday practice, and the transferability of experience gained through the training to parallel treatment situations.

“It is obvious that this has benefits for others, both medical and surgical patients, although [multitraumatized patients] is a small group of approximately 400 per year” (I, 8).

In one hospital, the consultants had changed their view of the training, from being a skeptical audience to requesting to participate themselves, although they seldom would be in first-line trauma care. The use of debriefing after training situations had encouraged the health personnel to increase the use of similar debriefings after real incidents in their clinical

practice. In addition, the respondents reported that the climate during demanding patient resuscitations had changed remarkably after the introduction of training, thus reinforcing and demonstrating the benefit of the team training.

“The largest change I have seen during my years here is the mood and attitude in the emergency room and how this has improved... This will influence the self esteem of the professionals in the team and result in a feeling of success even though the case was difficult and complicated” (II, 16).

The training was reported to increase confidence and self esteem among trauma team participants and result in improved support for new and inexperienced team leaders. Some hospitals had adapted the team approach and training to other, similar situations such as medical emergencies and acute pediatrics.

“The role of the team leader is different in these groups as compared to what I am used to. Previously, the role of the [physician] team leader was mainly to provide medical background; here it is more a team approach, [and] I think it is wise” (II, 10).

Enthusiasts actively used these effects of trauma team training for further dissemination and anchoring of the training activities.

Table 1 and 2 gives a summary of the main findings.

Discussion

We found that dedicated health professionals consciously applied a number of strategies to increase the chance of success when they wanted to implement trauma team training and related trauma activities.

In the present study, we found that enthusiasm alone seemed to be insufficient to achieve implementation, but when enthusiasts were backed up by a supportive or at least permissive administration, the chances increased. The successful enthusiasts developed

strategies and alliances to secure this acceptance from decision makers in the hospitals. Little is known about how new knowledge is incorporated into clinical practice (11, 12). Research in this field has mainly focused on lacking implementation of evidence-based guidelines (13). Rogers (14) described the spread in mathematical terms and listed a number of factors determining the possible spread. He also describes “persuasion” and “change agents” as important parts of the spread. These two factors are comparable to the activities performed by the enthusiasts in this study.

The medical environment is generally reluctant to adapt new knowledge and even to follow evidence-based guidelines (15, 16). The Institute for Healthcare Improvement has described three fundamental questions and the “plan-do-study-act”-circle as powerful tools in improvements (17). It is noteworthy that the successful enthusiasts in this study managed their implementation by applying some or all of these techniques, although some of them were described as late as 2006 (18). As an example, the successful enthusiasts continuously evaluated the possibilities of getting administrative acceptance for training and adjusted the goals according to the possibilities.

Our findings indicate that changing practice, when considering implementation of new training methods, depends not only on enthusiasts in the organization, but also on their being backed up by the administrative level and that they employ a number of strategic shortcuts to bypass resistance in the organization. Finally, to maximize the changes for implementation, the successful enthusiasts adapted the program contents to suit local conditions. These findings should be considered at the administrative level as well: enthusiast promotion of activities that fit with organizational goals is a resource that should be recognized, encouraged, and actively supported.

This study is limited by the small number of respondents. This limitation is a general phenomenon in qualitative research, but the goal is a broad impression of the respondents’

views, rather than a representative sample; thus, the small number does not necessarily compromise the study's validity (19). The almost similar findings in hospitals of different sizes and with different degrees of training implementation support that the findings are of a more universal character and that they are valid for this type of implementation. In addition, caution is warranted when researchers are studying their own project. We carefully emphasized to the respondents that the interviews were not intended to be formal evaluations of the hospitals' trauma system or training program. Neither were they evaluations of the efficiency of the spread or implementation of the training program. The intention was to learn about factors involved in how health professionals succeed or not in implementing training activities after taking part in a help-to-self-help activity.

Conclusion

Implementation of lasting training activities in hospitals after an initial training course seems to depend on a number of factors. The main determinant seems to be whether it is possible to maintain momentum for improvement, described as "keeping the spirit high". There is a need for dedicated health professionals who are also enthusiasts, and these propagators depend on at least a permissive support from the administrative level. In addition, enthusiasts employ tactical approaches and bypass hierarchical resistance. Administrators should acknowledge the power to achieve change on the part of these enthusiastic professionals.

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Table 1.

Crucial factors for implementation of team training in complex organizations

- Successful implementation depends on enthusiasts.
- The enthusiasts need support from peers and (at least) permissive support from superiors.
- Multiprofessional groups seem to have a better chance for success, and physician involvement improves credibility.
- Enthusiasts and their supporters should explore and use administrative short-cuts.
- The implementation goals should be adapted to current possibilities.
- The change-makers should continuously assess resistance.
- Positive transferable effects should be communicated.

Table 2.

Barriers to implementation of trauma team training as a quality improvement activity

- Responsibility for follow-up allocated to one person only
- Lack of physician involvement
- Only one enthusiast at the hospital
- Lack of flexibility in adjusting training to local conditions
- Absence of administrative support – at least permissive support
- No working hours allocated to training activities