

Safety culture in the air ambulance services

Each year, several thousand patients are injured and die as an effect of undesired events and medical malpractice in the Norwegian health services. Medical emergency interventions undertaken in the air ambulance services can be regarded as especially risky. A nationwide study of prevailing attitudes to patient safety in the air-ambulance services will be initiated this spring, and this could make an important contribution to improving patient safety.

Health personnel have the ideal of not harming their patients. «Primum non nocere» – first, do no harm – is the guiding principle of the Hippocratic oath. This quotation occupies a key position in medical ethics. Nevertheless, undesired events that cause injury to patients continue to occur. The scope and degree of severity of such events were not quantified until the 1990s, and in 1999, the Institute of Medicine published its report *To err is human: building a safer health system*, in which it was estimated that from 44 000 to 98 000 Americans die each year in hospitals in the USA as a consequence of undesired events (1). In 2010, a similar study was undertaken in Norway, concluding that 4 700 patients die from injuries inflicted on them in Norwegian hospitals annually (2).

Undesired events

Undesired events occurring in the health services often have complex causes (3). A number of studies have shown that human error is a contributing cause in up to 80 per cent of the undesired events in high-risk industries, including anaesthetics and emergency medicine (4). Most likely, at least half of these events could have been prevented (5).

The air-ambulance services treat and transport a constantly increasing number of patients (6). We know that undesired events and errors occur within these services as well (7). Several factors distinguish these services from the hospitals and render them especially vulnerable to human error. It is reasonable to assume a corresponding increase in the occurrence of undesired events, although the scope is uncertain. Personnel working in these services are exposed to a broad range of problems related to emergency medicine in patients in all age groups. Patients who need assistance are often seriously ill or have life-threatening injuries. In addition, time is of the essence and the margins are narrow. This group of patients are in need of complicated interventions, for example endotracheal intubation and intensive monitoring during transport, and will often need respirator treatment or be connected to other kinds of sophisticated medical-technical equipment en route. Decisions regarding various treatment options and operative conditions, such as how to transport the patient and to what hospital, must be made

on a scanty basis and under time constraints. In practice, there will be very limited opportunities to consult hospital specialists about forms of treatment. During transport and handovers, misunderstandings may easily occur. Information can be lost, and undesired events may occur (8).

Patient-safety culture and non-culture

In addition to such context-specific factors, a lack of an appropriate patient-safety culture is regarded as a contributory cause of undesired events (9). «Patient-safety culture» and «patient-safety climate» are

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partly overlapping concepts, and in the literature they are often erroneously used interchangeably.

We can regard patient-safety culture as a sub-component of the organisational culture, and it can be interpreted as a set of shared ideas, values, rules, norms and attitudes to patient-safety issues in the organisation.

Patient-safety climate can be regarded as a snapshot of the patient-safety culture, and this concept is used to describe how the personnel perceives the way patient safety is being addressed in the workplace (9).

Measurements of the patient-safety climate

Measurements of the patient-safety climate among operative personnel can be undertaken to gain a deeper understanding of the patient-safety culture in the air ambulance services (9). Such measurements will be able to provide us with a snapshot of the culture in the organisational units studied. Strengths and weaknesses can thus be identified, interventions can be implemented and change can be monitored over time.

We believe that in this manner we can improve the safety of the patients and reduce the incidence of adverse events.

The first author has initiated a PhD project funded by the Norwegian Air Ambulance Foundation to study human factors in adverse events in the air-ambulance services and the patient-safety climate in the organisation.

Conclusion

There is a pronounced need to improve patient safety in the air ambulance services, as in the Norwegian health services as a whole. The potential for improvement of patient safety is likely to be highest in the most risk-prone services. A survey of the patient-safety climate is a proactive strategy which may provide valuable insight into areas that have a potential for improvement.

Profound changes in attitudes are required at all levels in the health services, including at the pre-hospital level. Interdisciplinary efforts to improve patient safety must be regarded as an investment, and not as a financial burden.

We need change – and we need it now!

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