Chapter 11
Measuring Safety of Care

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ABSTRACT

Patient safety initiatives have been launched in a number of countries, mostly focusing on problem identification, learning and improvement. However, so far there has been little focus on monitoring outcomes and surveillance of development of patient safety at the organizational and system level. As a consequence, we still do not know the extent of adverse incidents or patient safety problems, just as we do not know whether the measures introduced have in fact led to improvement. The perspectives of implementing use of e.g. indicators, audits and questionnaires for systematic risk management is, that it will be possible to continuously estimate the prevalence and incidence of patient safety quality problems. The lesson learned in quality improvement is that it will pay back in terms of improvement in patient safety. For this purpose validated methods are needed.

INTRODUCTION

In the 1990s, a number of prevalence studies measuring adverse incidents were carried out in the USA and Australia. The studies gave a snapshot of the prevalence of adverse incidents, which was estimated to be 4% and 17% respectively. Since then, prevalence studies have been carried out in a number of European countries as well, generally finding prevalence rates around 10% (de Vries et al., 2008). The differences in findings reflect differences in the methodological approach used in the studies. This type of study can provide a snapshot of safety of care, typically based on knowledge from review of patients' charts - a highly laborious task, which is generally only performed once. Continuous, systematic monitoring of the frequency and nature of safety of care incidents is hardly ever performed.

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Measuring patient safety focuses on making visible the potential and the actual risks of harm to patients respectively. Various methods are available to measure specific aspects of patient safety locally. The methods are well-known from quality assurance management and usually relate to auditing, questionnaire surveys, and in recent years also indicator monitoring.

Already in 2004 the Committee of Ministers and The Council of Europe made a number of recommendations regarding patient safety (Council of Europe, 2004). One recommendation was to develop reliable and valid indicators of safety of care; this recommendation was enhanced in a new recommendation in 2009, stating (Council of Europe, 2009):

- "to develop a set of reliable and comparable indicators, to identify safety problems, to evaluate the effectiveness of interventions aimed at improving safety and to facilitate mutual learning between Member States; account should be taken of the work done at national level and of international activities such as the Organization for Economic Co-operation and Development (OECD) healthcare quality indicators project and the Community Health Indicators project;
- to gather and share comparable data and information on patient safety outcomes in terms of type and number to facilitate mutual learning and inform priority setting, with a view to helping Member States to share relevant indicators with the public in the future".

It has been documented that measuring performance and outcomes can improve the quality of care (Mainz et al., 2004). Such measuring has supported accountability and transparency, helped to make judgments and set priorities, enabling comparison over time, between providers and of effectiveness of interventions (Mainz, 2004; Mainz & Bartels, 2006). Accordingly, specific measures for systematic surveillance, risk management, monitoring and development of safety of care and patient safety activities are needed (Council of Europe, 2004).

The purpose of this chapter is to give an overview of some aspects of measuring patient safety, and the strengths and weaknesses of the measuring methods applied.

BACKGROUND

The patient safety approach rests on the assumption that many and complex weaknesses at the organizational as well as at the clinical level together may cause an adverse incident, and that they constitute a complicated cause-effect relationship that may shed some light on why incidents occur.

Recently, a general concept has been proposed. It illustrates the complexity of measuring patient safety by including a good deal more points of measuring than usually found in quality assurance, see Figure 1. The concept is based partly on Donabedian's concept of measuring structure, process and outcome, partly on Reason's theory of latent and active errors leading to potential or actual risks of harm to patients. A patient may be harmed by active errors caused by errors arising when an intended plan is performed, or by lack of action. Latent errors are characteristics of or events in the system or organization that increase the risk of active errors. Examples of latent errors at system level include decisions made regarding technology, training and education, communication, work environment and work procedures (Leape & Berwick, 2005).

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