Chapter XV

Quantitative and Qualitative Methods: Added Value in Evaluating Electronic Patient Records

Mirjan van der Meijden
Elkerliek Hospital, The Netherlands

Abstract

Contrary to what would be expected, the increasing application of patient care information systems hardly resulted in well-defined, methodical purchase or development and implementation trajectories. Together with the lack of thorough evaluations in daily practice, this was an important motivation to the development, implementation and evaluation of the studied electronic patient record. It is a problem that both successful and failed electronic patient record projects are seldom evaluated. This is a problem, because failures and successes can provide relevant information about system qualities, system requirements, important aspects of implementations, and so forth. A second problem is that the methods to evaluate are not yet fully developed as well as the content of evaluations. Clearly, this impedes evaluation practices. To contribute to solutions for
both problems we did a case study in the field of neurology. We developed, implemented and evaluated an electronic patient record for stroke with qualitative and quantitative methods. The evaluation started before the development phase and ended after a trial period in daily practice. It was based on an evaluation framework (van der Meijden, Tange, Troost, & Hasman, 2003). The results of the evaluation showed that the previously described framework was applicable in evaluating electronic patient records. It was possible to assess attributes that represented the quality of record keeping, the impact on daily work, the opinions of nurses and physicians about electronic record keeping and the experiences of management. The analysis of these attributes provides insight in why the electronic patient record was successful in some aspects and was less successful in others. They also showed that the combination of questionnaires, interviews, chart reviews and observations in an evaluation provided deeper insight in reasons for use or non-use of an electronic patient record than one single method would have. Results collected with one method can supplement result– regarding the same subject–collected with another method.

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**Introduction**

Documenting intake data, progress notes, and test results is an important aspect of the healthcare process. It is disliked by many healthcare professionals who regard it to be a burden. Collection and documentation of data start the moment a patient enters the hospital; often the same data are documented on a number of different forms and for different reasons. Financial purposes, managerial purposes, and most and for all, delivery of care require adequate and timely data about individual patients or patient populations. Particularly, developments like shared care require that collected data are easily available to all healthcare professionals involved. Paper patient records, although having many advantages, do not suffice, then. Electronic records can provide the essential functionality of (multisite) availability, of timeliness, and so forth, and can be of additional value provided they fit their users’ practice (Dick & Steen, 1991). In addition, electronic records can be beneficial for the quality of care (Tang, 1999).
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