ICU Volume 5 - Issue 4 - Winter 2005 - Cover Story:Care with IT

NICE Online for Benchmarking

Authors

On behalf of the NICE foundation

P.M. Benner, *MD*

N.F. de Keizer, *PhD*

D.G.T. Arts, *PhD*

R.J. Bosman, *MD*

Website

www.stichting-nice.org

Dr Benner and colleagues describe the online version of the Dutch National IC Evaluation (NICE) registry, which allows real time data analysis and retrieval for benchmarking.

In 1996 the National Intensive Care Evaluation (NICE) registry was established to gain insight into and improve the quality of Dutch intensive care units (ICUs). Insight into the quality of ICUs is acquired through benchmarking. Benchmarking is the process of comparing performance measures, such as case-mix adjusted mortality and length of stay, of an individual ICU to a reference, generally the national average. Currently 32 Dutch ICUs participate in the NICE registry, which contains 112 data items for each patient admitted to participating ICUs. To support the individual ICUs in the analysis of their performance, the NICE foundation has introduced an Internet-based application, NICE Online. The NICE Online application supports the benchmarking process of the participating ICUs by presenting and comparing their own patient population and performance to several standards, in real time.

NICE Online allows users to request their own customized data analyses through a four-step wizard (see table 1). An example request is shown in figure 1, with the four steps to analyse data and present a graph showing the mean length of ICU stay (function) for survivors and non-survivors (split element). The analysis compares the user's own ICU with all Dutch hospitals (benchmark reference). Readmissions to the ICU are excluded through the population restrictions. The result of the requested analysis is presented in a graph shown to the right of figure 1. In this fictitious example the columns represent the mean ICU length of stay (LOS) for survivors and non-survivors of the user's own hospital (columns 1 & 3) and all participating ICU's together (columns 2 & 4). The results of a data analysis, presented in either a graph or a table, can easily be transferred to other files, for example for management reporting purposes.

Benchmarking should be an internal quality improvement method without external (financial) consequences (Lilford et al. 2004). Within the NICE project, protecting the privacy of individual ICUs is therefore extremely important. To protect the privacy of patients and also of ICUs, a user login and password is necessary for access, data for transfer is encrypted using the Secure Socket Layer (SSL), a copy of the original NICE database without patient- or ICU-identifiable information is used instead of the centrally stored data with identifying data, and the database that can be requested is stored between two firewalls. Furthermore, some combinations of functions and comparisons are disabled, if they threaten privacy by making data identifiable.

The NICE foundation has developed an application that enables the participants of the NICE registry to perform their own analyses online. NICE Online offers its users a high degree of freedom, while the privacy at patient and hospital level is guaranteed. Through NICE Online, individual ICUs can analyze their relative performance, providing insight into quality of care, which is a prerequisite to quality improvement.

Published on : Fri, 21 Oct 2011