A Software Solution for Neonatal Nosocomial Infections Monitoring

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Introduction

During their hospital stay in neonatal intensive care unit, newborn infants can be victims of several nosocomial infections. To improve the monitoring and prevention of such infections in this population, we developed the ASI-NOSO software solution which allows following up patients state regarding nosocomial infection during his hospital stay. Actually, the data's are recorded on the paper form and then transcribed into Excel Spreadsheet tables for simple statistical analysis use.

1. Methods

In order to be accessible by all users, the software was developed as a 3-tier application uses the client/server computing model (.NET technologies and SQL Server). In addition, it allows an easy upgrade of the software for authorized workstations. The solution allowing to record all information about patients and the new infections as well as the diagnostics and treatments provided. All stored data are also available continuously through a tool specifically dedicated to the statistical analysis of data.

2. Results and Discussion

Through automatically generated queries, the user can interrogate the database, analyze data and extract needed information for the evaluation of the activity of microorganisms leading to infections. For example, analyses and information from this software has indicated that the infection’s incidence density for central venous catheters in the maternity of Lille has been increased from 4.4 in 2008 to 16 in 2013. In reaction, healthcare providers are actually trying to find solutions to fight against this type of infections. In order to improve such infection risk detection, we are actually working on algorithms allowing to generate alarms and to find risk factors in such a case.

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