

## IT Volume 3 / Issue 1 - Nominees

### Computerised Surveillance and Alerting of Nosocomial Infections

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#### Antimicrobial Resistance and Antibiotic Consumption in the Intensive Care Unit

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Hospital acquired or nosocomial infections are associated with unfavourable clinical and economic outcomes, and are especially alarming in the intensive care unit (ICU). Since ICU patients have the highest incidence rate and develop the most severe nosocomial infections, the ICU is clearly the epicentre of the problem.

The decrease in occurrence of nosocomial infections and antibiotic resistance can only be achieved by an efficient infection surveillance system. However, manual collection of data, gathered for this purpose, is retrospective, incomplete and very labour-intensive and therefore costly. The COSARA software was developed by a consortium consisting of the Department of Information Technology of the Ghent University and the ICU of Ghent University Hospital, a large 56 bed mixed tertiary ICU, with the aim to completely automate the surveillance of nosocomial infections. The product consists of two parts, namely a bedside client with patient level details and a management console with details on the ICU level.

The bedside client visualises all necessary data regarding the infections, thereby supporting the physician in his daily workflow. Unique is the linking information between nosocomial infections, antibiotic therapy and microbial data.

The COSARA management console informs ICU staff of alarming trends in the incidence of nosocomial infections, multi-resistant microorganisms and overuse of antimicrobial drugs.

This results in optimal antimicrobial therapy on multiple levels: Patient level, ICU-wide level and, if implemented nation-wide, the aggregated ICU data can provide clear information for policy support.

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