webKess - first experiences with the German webbased IT-system for nationwide surveillance of nosocomial infections

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Background In 1997 the German national reference center for surveillance of nosocomial infections established the hospital infections surveillance system (KISS, based on the American National Nosocomial Infection Surveillance System, NNISS)[1]. In December 2005, more than 300 hospitals from Germany and Austria were participating in KISS. In the beginning of 2005 a new webbased IT-application replaced the former IT-system.

Objective To compare the experiences moving from a offline surveillance system (KESS-Classic, [2]) in the year 2003 to a webbased system (webKess) in 2005.

Methods These IT-systems support the KISS components for surveillance of NI in ICUs and surveillance of surgical site infections. The former IT-system consisted of data entry software in the hospitals and a large IT-infrastructure in the data center (DC). The hospitals had to send the data out of the data entry software via email to the DC. The DC created the analysis reports for the KISS members every 6 months. In webKess the user can enter, validate and analyse surveillance data immediately. We compared the quantities of hospital units and the amount of records, e.g. patient days, participating in KISS. We also analyzed the workload of both systems.

Results The data security is implemented on different levels: 1. physical, 2. on the network layer, 3. in the operational system and 4. in the application. Logfiles enable the analysis of user behavior. The usage of KESS-Classic finished at the end of 2004. Since the beginning of the year 2005 a webKess account is mandatory for all KISS members. The quantities in 2004 are influenced by the new IT-system, so Table 1 compares key values of KISS between the years 2003 and 2005. The routine IT workload with the KESS-Classic system averages 32 manweeks a year. In webKess we have to calculate 26 manweeks for routine work. This contains maintenance activities like code optimizing, bugfixing and the analysing of logfiles. The workload to create the analysis reports for the members and for the reference data is highly reduced (Table 1). The support requests increased for 2005.

Conclusions The migration process of the KISS-members to the new IT-system has finished. The IT-workload is nearly the same but the content of the work changed. The amount of time needed for bugfixing will decrease next year. The support requests increased because the users are not familiar with the new application. The IT-group in the DC has more time for developing new features. The users give a positive feedback about webKess.

	2003 (KESS-Classic)	2005 (webKess)
ICUs	302	346
ICU patient days	2,837,798	3,874,399
Surgical wards	301	345
Operational procedures	322,050	423,032
IT-workload for routine work	32 manweeks	26 manweeks
Workload for periodic data management work	24 manweeks	2 manweeks
Support-Requests	174	286

Table 1 – Comparison of KISS quantities

Literatur

[1]   Gastmeier P, Geffers C, Sohr D, Dettenkofer M, Daschner F, Ruden H. Five years working with the German nosocomial infection surveillance system (Krankenhaus Infektions Surveillance System). Am J Infect Control 2003;31(5):316-21.
[2]   Behnke M, Eckmanns T, Rüden H. Implementation of an IT System for the Support of a Hospital Infection Surveillance System. In: Lecture Notes In Computer Science 2002; Vol. 2526. London, UK: Springer; 2002. 177-185.