



Titel:

Informatics tools for Infection Control using Genome Sequencing, Patient Location and Infection Parameters

Abstract:

Hospital acquired germs like MRSA and VRE cause up to 20.000 deaths per year in Germany alone. Fast decisions to prevent spreading and knowledge about transmission chains can therefore save lives.

The university hospital of Münster (UKM) participates in the Use case "infection control" of the German "HiGHmed" consortium to tackle these problems.

It is intended to support clinical hygiene by developing a system that integrates cues from patient location, infection parameters, microbiology reports and genetic sequencing to generate warning messages that could speed up and ease decision making.

Epidemiological connections like a shared room or ward, along with second-degree contacts form a basic network of possible transmission. Standard infection parameters like fever, CRP and white blood cell count can support to detect possible infection clusters as well as differentiate between infection and colonization. Microbiology reports with optional antibiograms and genetic sequencing are then employed to improve accuracy of suspected transmission chains.

It is planned to evaluate whether this warning system can speed up reaction times and reduce workload for clinical hygienists compared to the current processes. Furthermore, the system might assist to uncover previously undetected transmission events.