

WORKING GROUP EWAIT - EARLY WEB-BASED ANTI-INFECTIVE TREATMENT

Joint Working Group Section POIC and Infection

This Working Group was founded to support the multidisciplinary international collaboration of dedicated experts in the field of early adequate anti-infective treatment and computer based decision support systems (CDSS).

In terms of an early and safe use of antibiotics in severe infections an international research group was founded to evaluate the use of a CDSS system in an European research project:

EARLY E-GUIDED USE OF ANTIBIOTICS RELATED TO RESISTANCE DATA (EGUARD)

(see below, intended for EU FP7 funding)

Introduction

In the EU severe infections are one of the leading causes for deaths in the intensive care unit. Infections due to the emergence of resistant germs are associated with high mortality rates in patients worldwide. Experts highlighted consistently the importance of infection control programs and treatment strategies. Despite all efforts that have been made to improve effective consumption of resources especially in the hospital in-adequate usage of antibiotic agents is known to reach up to 50% of all prescriptions (Davey et al. 2005). Antibiotics are regularly prescribed without sufficient evidence of infection or detection of a pathogen. On the one hand, delayed therapies increase mortality in intensive care patients today but on the other hand, antibiotic overuse increases resistance rates threatening therapy options of tomorrow (Kumar et al. 2006). The delay between diagnosis of infection and adequate antibiotic therapy varies between mean 12.5 – 26.5 hours (Iregui 2002, Kumar 2006), although early and adequate antibiotic treatment has been confirmed as an independent predictor for outcome in severe infections (Ibrahim 2000, Kollef 1999).

To advance especially early, save and sufficient anti-infective treatment new approaches for decision support in the ICU should be developed. Based on the ability to merge information in dependency to relevance for special scenarios this technique has the potential to help clinicians with bedside decision making based on current evidences. Computer assisted decision support (CDSS) has already been shown to incorporate the impact to change management of specific infections in different scenarios (Evans et al. 1998, Samore et al. 2005, Schurick et al. 2005, Garg et al. 2005). But none of these systems were available for public access as further development independently from industrial interest is a difficult task. Further on, systems focussing on antimicrobial therapy do need continuous development to keep current state of the art.

Program description

Pre-existing local, national, and international Guidelines has been transferred into a user-friendly electronic format. The program can quickly provide information regarding diagnosis, therapy and local resistance patterns and provides a basis for individual therapy decision making process. The system is designed for empirical therapy recommendations and includes (re-) evaluation of diagnose, adapted diagnostic procedures needed for the specific focus and patient related risk factors.

Through its web-based format the program is bedside accessible and can be easily updated if new evidence is available.

Aims

The working group EWAIT focus on further development of existing CDSS technology previously named "ABx". The EWAIT – group supports expansion of system functions e.g. the possibility to include adaptation on local requirements of participating hospitals. This technical workflow is paralleled by efforts to improve evidence basis of recommendations made in the program.

Head

[Claudia Spies](#) - Berlin, Germany

Research activities

EARLY E-GUIDED USE OF ANTIBIOTICS RELATED TO RESISTANCE DATA (EGUARD)

- **Project background:**

- Novel global balanced measures for an early and safe use of antibiotics in severe infections: Cutting costs and mortality
- Early and targeted anti-infective treatment
- Coordinated safeguard to prevent the delayed and long-term use of broad spectrum antibiotics in severe infection
- Investigations and enhancement of the implementation of European evidence based guidelines into clinical practice
- "globalisation of infection": International adjusted recommendation on anti-infective treatment adapted to the national resistance patterns and specific needs
- Computer assisted decision support system (CDSS): e-guided web-based program of antibiotic treatment (ESICM WG EWAIT)
- Symptom related bedside tool: Enables physicians to find the appropriate empirical anti-infective treatment in short order at any time and location
- Increase the adherence to evidence-based guidelines in anti-infective therapy up to more than 70%
- European board of experts and scientists serve for the implementation of European evidence based guidelines in antibiotic treatment related to local resistance patterns and act as an urgent European response panel
- an alert and early intervention system concerning current epidemic or pandemic infection requirements

- **Project partners:**

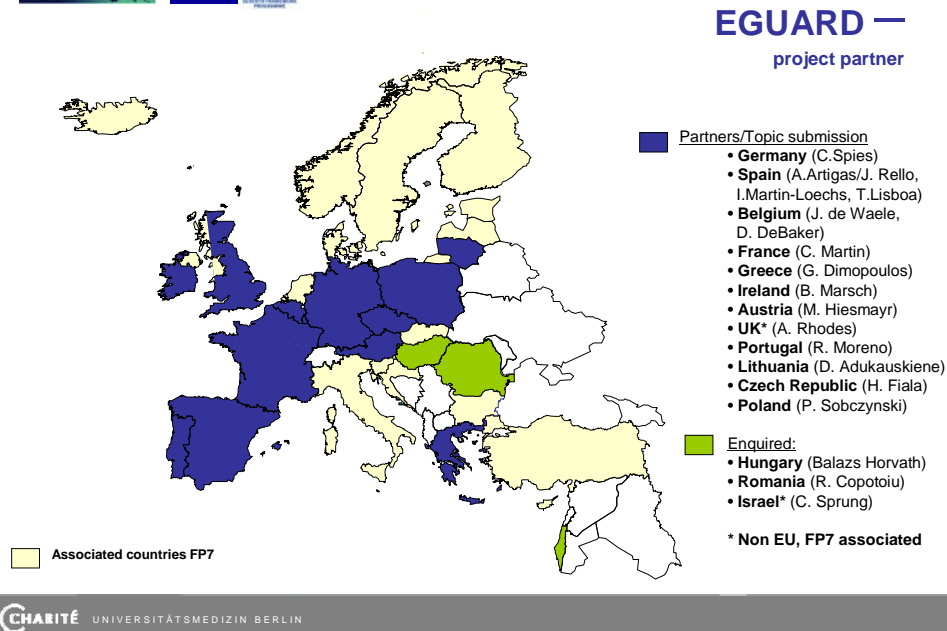


Figure 1: Project partners (state Oct. 2009)

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- **Further steps:**
 - 13th Oct. 2009 EWAIT/EGUARD- meeting Vienna: ESICM annual congress, 15.30-17.30 p.m. BM 4, ACV, Red level-2nd floor ([meeting agenda](#) see below)
 - Oct.-Dec. 2009: First draft of study design including primary and secondary parameters, working packages, financial and statistic aspects for the former discussion on the project.
 - January 2010 EGUARD High impact workshop Brussels („accompanying measures”)
 - March 2010 EWAIT/EGUARD- meeting Brussels: ESICM: Infection and POIC-Section
 - Sept. 2010 EGUARD- meeting Berlin: HAI der DGAI
 - Oct. 2010 EGUARD- meeting Barcelona: ESICM annual congress
- **Meeting agenda upcoming EWAIT/EGUARD meeting:**

13th Oct. 2009 EWAIT/EGUARD- meeting Vienna: ESICM annual congress, 15.30-17.30 p.m. BM 4, ACV, Red level-2nd floor:

 - WG EWAIT, Welcome (C. Spies, Berlin)
 - The web-based program in the national use:
Update and current national impact, English version of the program (S. Tafelski, Berlin)
 - EWAIT Research activities: The EGUARD project (L. Kaufner, Berlin)
 - Discussion on EGUARD benchmark work packages, study parameter, study design (L. Kaufner, Berlin)
 - ESICM Support, National intentions on EGUARD – Members (E.g. C. Martin, Marseille)

Useful Links – Program Login free available

Please click here to get Login account to the English platform of current CDSS: >>[Addendum 2](#)<<