

International Collaboration Boosts Research On Antibiotic Resistance



A four-year project entitled 'TAILORED-Treatment' is aimed at establishing a successful strategy to enhance the effectiveness of antibiotic treatment, lowering any potential therapy side-effects and limiting the rise of antimicrobial resistance in patients. Coordinated by the Netherland's Erasmus MC, Rotterdam it is funded with € 6.000.000 by the European Union.

Antibiotics have played a significant role in the fight against infectious diseases over the past seven decades, however they are now the world's most misused drugs. This has allowed the progress of a broad range of antibiotic resistances, representing one of the biggest threats to global health.

At the center of the TAILORED-Treatment scheme is a clinical study conducted on hospitalised adults and children suffering from respiratory tract and/or bloodstream infections. Innovative diagnostic techniques will be employed to produce proteomic, transcriptomic, microbiome and genomic data. This information will be gathered in a single database to recognize unique interactions characteristic to both patients and their infections. The discovery of novel biological markers of infection will aid the development of new computer tools that will allow physicians to better individualise the antimicrobial therapy they prescribe to patients.

The prevention of growth and spread of antibiotic resistant bacteria is significantly aided by tailoring the appropriate antibiotic treatment to the pathogen actually causing disease (if any). Time is of essence though, as one of the essential challenges faced by clinicians is determining which (if any) antibiotic therapy should be administered in the 12 to 48 hour period before an infection's causative factor is known.

Additionally, an incorrect antibiotic therapy, or not giving one at all, could lead to the patient's death, whereas an indiscriminate use of these drugs for the treatment of cases non-responsive to antibiotics such as viral and fungal infections may cause growth of antimicrobial resistance and development of avoidable side-effects.

Identifying a method to help clinicians tailor the prescriptions of antimicrobial treatment to individual patients would be a major step towards the project's aims.

Source: [AlphaGalileo](#)

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