

**EUROPEAN NETWORK ON IMPORTED INFECTIOUS DISEASE**

**SURVEILLANCE (TropNetEurop).** *T Jelinek<sup>1</sup>, R. Behrens<sup>2</sup>, A. Björkmann<sup>3</sup>, M. Cochran<sup>4</sup>, A. Matteelli<sup>5</sup> for TropNetEurop. <sup>1</sup>Department of Infectious Disease and Tropical Medicine, University of Munich, Germany. <sup>2</sup>Travel Clinic, Hospital for Tropical Diseases, London, UK. <sup>3</sup>Department of Medicine, Unit of Infectious Diseases, Karolinska Institutet, Karolinska Hospital, Stockholm, Sweden. <sup>4</sup>Seccion de Medicina Tropical, Hospital Clinic, Barcelona, Spain. <sup>5</sup>Clinica di Malattie Infettive e Tropicali, Universita di Brescia, Italy.*

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**Objective and Expert Achievements**  
The major objective of this venture is to establish and maintain the European Network on Imported Infectious Disease Surveillance (TropNetEurop), an electronic network of clinical sites related to imported infectious diseases. The network is designed to effectively detect emerging infections of potential regional or global impact at their point of entry into the domestic population. Sentinel Surveillance reporting is carried out by participating sites by use of a standardised and computerised reporting system. Immediate transmission of anonymised patient and laboratory data to the central database assures timely detection of senti

nel events. TropNetEurop can serve as convenient tool to alert Public Health authorities and trigger further cluster investigation. The comprehensive collection of data on notifiable and not-notifiable infectious diseases in travellers make it possible to identify needs for further surveillance and investigation and provides the potential for future case-control studies by identification of specific risk factors. Furthermore, advantages and hidden pitfalls of the currently used systems of notifiable diseases in Europe can be evaluated by TropNetEurop. In addition, specific research projects are initiated by the network steering committee, the coordinating site or by participating sites themselves.

*Primary objectives of TropNetEurop are:*

- 1) to construct and maintain a collaborative research network of clinical sites in Europe dealing with imported infectious diseases; and
- 2) to establish and maintain a clinical network for effective sentinel surveillance of imported infectious diseases in Europe.

*Secondary objectives of TropNetEurop are:*

- 1) to create European consensus for clinical guidelines for diagnostic and therapeutic procedures in imported infectious diseases;
- 2) to identify emerging pathogens by sampling returning international travellers, immigrants and foreign visitors;
- 3) to add information and accuracy to the current, divergent European system of disease notification;
- 4) to provide grounds for cluster investigation and intervention strategies by Public Health authorities; and
- 5) to provide the basis for permanent research collaboration of infectious disease centres in Europe.

**Institutional Profile and Partners**

The network is headed by a network coordinator and a steering committee (five members) that have been elected for

two years by all site managers. Network partners have been selected under aspects of a wide coverage in Europe with inclusion of major travel clinics as well as inpatient and outpatient sites serving international migrants, asylum seekers, professional travellers and tourists. The network is defined as a constantly changing and growing entity. Therefore, further collaborating sites may be included over time and some partners listed now might decide to leave the network. Several partners have a history of joint publication with each other and many have previously served as co-investigators in multicentre projects. Participants of the network have been chosen carefully from a group of clinics that have acquired ample experience in collaborating together in a wide array of scientific studies within the last years. Therefore, although the selection of collaborating partners does not provide complete coverage of all European travel clinics, TropNetEurop has the advantage to build up an existing links and knowledge between the collaborating partners from the beginning. The network grows steadily over time. With additional reporting sites, full coverage of travel clinics can be reached. The system of partnership within the network is based on different levels of participation: a) all sites collaborate

as information receiving sites (epidemiological information is distributed regularly by the coordinating site) with option to report single, unusual sentinel events from their clinic; b) all

reporting sites collect standardised surveillance data on imported malaria, dengue and schistosomiasis; and c) all sites have the possibility to participate in one or more research projects.

## **DETECTION OF OUTLIERS IN THE RESULTS OF EXTERNAL QUALITY ASSESSMENT**

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Outliers in external quality assessment programs are results that do not belong to the main population of results. Outliers occur frequently in external quality assessment results and are caused by method dependent matrix effects, analytical imprecision, analytical bias or blunders. One purpose of external quality assessment programs could be described as to identify the errors among the results. An error in this context is defined as a result with an unacceptable deviation from the target concentration of the quality control material. The consensus mean of the main population of results from the appropriate method group is used as the target concentration. If a reference method value is available any difference between the consensus mean and the reference method value will then be

explored afterwards according to (1). In other words, to detect errors/outliers you have to calculate the location and dispersion of the distribution of results. In order to do that accurately, you have to detect and exclude the outliers. This is in principle a circular procedure and in the following the different ways of dealing with it will be outlined.

All the following procedures should be preceded with an inspection of the results, excluding the absurd errors, e.g. use of incorrect units yielding results thousand times higher than expected.

### **A priori identification of outliers**

For small numbers of results no completely consistent method exists. For the traditional method, using the mean  $t3 \cdot SD$  (and