**The Minor Tropical Medicine & International Health at the Erasmus MC Rotterdam**

 The Minor concept was derived from the intention for more demand-driven education following the restructuring of higher education in 1999 by 29 European ministers of education. All students at the Erasmus University are required to complete a minor and this is organized in the 3rd and final year of the Bachelor programme.

All faculties organize minors; these can be either deepening within the students’ field of study or aimed at broadening the horizon within their faculty but outside the study, at another faculty within the EUR, at another faculty or even abroad.

The minor comprises 15 ECTS; the duration is fixed at 10 weeks and all minors take place at the same time of the year (3 September to 9 November in 2012).

Within the Erasmus Medical Centre 30 minors are organized across the field of medicine.

Among these the Minor Tropical Medicine & International Health was developed. In this Minor the demonstration of the contrast between the practice of medicine in a resource-rich and resource-limited settings is the central theme, in particular how medicine can be practiced with limited diagnostic and therapeutic means. This is demonstrated for the primary, secondary and tertiary health care level. Throughout the course the social and cultural aspects of working in the tropics are addressed.

The students are selected though an interview in which they defend their motivation to do this attachment. It is compulsory that they have passed the exam of the teaching block in infectious diseases.

All students are given an amount of E1200 by the University to be used for study related activities; the ticket for example is paid from this. The host institution receives E90 per student per week.

The total attachment is 10 weeks; the first three weeks are common for all groups and include class room teaching in clinical tropical medicine, including the big three HIV, TB and malaria as well as the Neglected Tropical Diseases, emerging diseases, dermatological conditions and the non-communicable diseases (diabetes, hypertension, heart failure). Other lectures include public health and primary health care, the millennium development goals, hygiene and sanitation, corruption and international relations. As Tropical Medicine as this is practiced in some countries includes neurology, a crash course is organized as this normally follows in the third year after the Minor attachment.

Ample time is allowed for giving information about the country selected; vaccinations are done; issues around PEP are discussed.

The minor started in 2010 with 3 countries (Zambia, Malawi and Surinam); in 2011 this was expanded with Kenya and Indonesia and in 2012 Bangladesh and Brazil were also added. In 2012 the total number of students was 80; a maximum of 11-12 students per country is allowed.

**The Minor in Malawi as an example**

The Minor in Malawi starts with 3 weeks Internal Medicine at the Department of Medicine at the College of Medicine and the Queen Elizabeth Central Hospital. It is organized as an Introduction course in Tropical Medicine. The students have access to all departmental activities. A typical day starts with the morning-handover where the whole department meets; new admissions and difficult cases are discussed. On Mondays and Thursdays there is the Consultant ward round and in the afternoon there are clinics to attend such as the Antiretroviral clinic, the chest clinic, diabetes, neurology or renal clinics. During lunchtime there may be the weekly journal club, the monthly clinical ART meeting, or the New England journal of Medicine case. There is also a weekly RIP (research in progress) meeting. Time is spent at the new AETC, the Accident and Emergency treatment Centre, where all patients who present to QECH are triaged according to urgency of care needed and after assessment and initial diagnosis and treatment directed to the appropriate ward. There are formal lectures that cover the most important conditions in the department, such as respiratory infections, sepsis, neurological syndromes.

This is followed by a three week attachment in Nkhoma, a mission hospital run by the South African church. Here the students join the department of community health; the whole field of community health as this is relevant for the region is discussed; theoretical sessions are followed by practical sessions. Most popular is the learning-by-living in which the students spent time at a peripheral health centre, as the guest of the local nurse or other health worker. In the morning they attend the always very busy clinics and encounter health care at the most primary level of care. Other sessions include a visit to a village where a women’s group is met and issues on family planning and HIV transmission are discussed with the women in the village. The students do an assignment on a public health topic which they present for the department on the last day.

In the last week all students are back in Rotterdam and a session is held in which they report about their experience. They present their experience per country and there is a Symposium on Developmental Aid for which external speakers are invited. On the last day, there is an exam.

**Critical appraisal**

By the course organizers

The Minor period is fixed in the third year of the Bachelor Programme. The students are relatively young and have not completed their bachelor studies; e.g. the neurology block. While they had a clinical skills course, they do not have formal clinical exposure. In fact the first patient contacts in which they themselves examine and assess a patient are during this minor, in the field. This is also true for making patient presentations. Nevertheless, the first experience from the last 3 years is that they have learned a tremendous lot and are conversant with the problems of practicing medicine in resource-limited settings.They have acquired a balanced view on how medicine can be practiced in a resource-limited environment. The objectives of the course are met.

While some students have experience of travel to a tropical environment, for others it is the first exposure to tropical conditions. No problems with adaptation have been encountered in these first 3 years; travelling and closely working together in a group no doubt helps here. In addition, the self selection process may play a role.

By the host institutions

The host institutions do their best to meet the course outline and on average make the students feel welcome. Some of the minors that have encountered teething problems have now improved. Some host institutions felt the students are to junior and needed guidance on how to behave and dress.

The students

In the first 2 years the TM&IH minors proved to be among the most popular of all the minors. The period abroad is highly appreciated and for many it proved to be a tremendous learning experience; some indicated clearly that it had helped them to decide whether they should pursue a career as a tropical doctor. Others were grateful for the learning experience both from a medical and cultural point of view.

In conclusion the minor TMIH had a good start and is now well established in the curriculum.

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