UNION EUROPÉENNE DES MÉDECINS SPÉCIALISTES
EUROPEAN UNION OF MEDICAL SPECIALISTS

Association internationale sans but lucratif International non-profit organisation

RUE DE L'INDUSTRIE, 24
BE- 1040 BRUSSELS
www.uems.eu

T +32 2 649 51 64
F +32 2 640 37 30
info@uems.eu

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Training Requirements for the Specialty of Infectious Diseases

European Standards of Postgraduate Medical Specialist Training

European Board of Infectious Diseases

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Glossary of terms

AA: Audit Assessment.

ACAT: Acute Care Assessment Tool.

CanMEDS: Guide to the framework of the essential competencies of physicians for optimal care.

CbD: Case-Based Discussion.

CESMA: Council for European Specialists Medical Assessment.

Collaborator: Physician who works effectively with other colleagues and healthcare professionals.

Common trunk: The first two years of a postgraduate training program that offers a broad experience in internal medicine for doctors training in any medical specialty.

Communicator: Physician who establishes an excellent professional relationship with patient and their families.

DOPS: Direct Observation of Procedural Skills.

EBID: UEMS Board of Infectious Diseases.

EC: European Commission.

ECE: Evaluation of Clinical Events.

EFTA: European Free Trade Association

EPA: Entrustable Professional Activity is a form of summative assessment thatallows a trainee to be certified at different levels of ability in an area of clinical activity.

ESCMID: European Society of Clinical Microbiology and Infectious Diseases.

ESGAP: European Study Group for Antimicrobial Stewardship.

ETR: European Training Requirement.

EU: European Union.

EUCIC: European Committee on Infection Control.

FTE: Full Time Equivalent.

Harmonisation: The process of creating common standards in the training of Infectious Diseases across the different European nations.

KBA: Knowledge based assessment.

IC: Infection Control.

ID: Infectious Diseases.

Infectious Diseases Specialty: The medical specialty dedicated to the diagnosis, medical treatment and prevention of Infectious Diseases.

Leader: Physician who contributes to the improvement of healthcare delivery in teams, organisations and systems.

LTFT: less than full time.

MCQ: Multiple choice questions.

MCR: Multiple Consultant Report.

Medical Expert: Physician who practises medicine within the clinical scope of practice and expertise of internal medicine.

Milestone: Progression of competencies from the onset of medical training to advanced practice.

Mini-CEX: Mini-Clinical Evaluation Exercise.

MM: Medical Microbiology.

MSF: Multi-Source Feedback.

OSCE: Objective Structured Clinical Examination.

PAS: Professional Affairs Subcommittee of ESCMID

Professional: Physician who demonstrates a commitment to patients by applying best practices and adhering to high ethical standards.

PS: Patient Survey.

PYA: Penultimate Year Assessment.

Scholar: Physician who engages in lifelong learning and professional development through on-going development.

TAE: Trainees Association of ESCMID

TO: Teaching Observation

UEMS: Union Européenne des Médecins Spécialistes; European Union of Medical Specialists.

WBA: Workplace based assessment.

PREAMBLE

The UEMS is a non-governmental organization representing national associations of medical specialists at the European Level. With a current membership of 39 national associations and operating through 43 Specialist Sections and European Boards, 14 Multidisciplinary Joint Committees and over 20 Divisions, the UEMS is committed to promote the free movement of medical specialists across Europe while ensuring the highest level of training which will pave the way to the improvement of quality of care for the benefit of all European citizens. The UEMS areas of expertise notably encompass Continuing Medical Education, Post Graduate Training and Quality Assurance.

It is the UEMS' conviction that the quality of medical care and expertise is directly linked to the quality of training provided to the medical professionals. Therefore, the UEMS committed itself to contribute to the improvement of medical training at the European level through the development of European Standards in the different medical disciplines. No matter where doctors are trained, they should have at least the same core competencies.

In 1994, the UEMS adopted its Charter on Post Graduate Training aiming at providing the recommendations at the European level for good medical training. Made up of six chapters, this Charter set the basis for the European approach in the field of Post Graduate Training. With five chapters being common to all specialties, this Charter provided a sixth chapter, known as “Chapter 6”, that each Specialist Section was to complete according to the specific needs of their discipline.

More than a decade after the introduction of this Charter, the UEMS Specialist Sections and European Boards have continued working on developing these European Standards in Medical training that reflect modern medical practice and current scientific findings. In doing so, the UEMS Specialist Sections and European Boards did not aim to supersede the National Authorities' competence in defining the content of postgraduate training in their own State but rather to complement these and ensure that high quality training is provided across Europe.

At the European level, the legal mechanism ensuring the free movement of doctors through the recognition of their qualifications was established back in the 1970s by the European Union. Sectorial Directives were adopted and one Directive addressed specifically the issue of medical Training at the European level. However, in 2005, the European Commission proposed to the European Parliament and Council to have a unique legal framework for the recognition of the Professional Qualifications to facilitate and improve the mobility of all workers throughout Europe. This Directive 2005/36/EC established the mechanism of automatic mutual recognition of qualifications for medical doctors according to training requirements within all Member States; this is based on the length of training in the Specialty and the title of qualification.

Given the long-standing experience of UEMS Specialist Sections and European Boards on the one hand and the European legal framework enabling Medical Specialists and Trainees to move from one country to another on the other hand, the UEMS is uniquely in position to provide specialty-based recommendations. The UEMS values professional competence as “*the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served*”[1]. While professional activity is regulated by national law in EU Member States, it is the UEMS understanding that it has to comply with International treaties and UN declarations on Human Rights as well as the WMA International Code of Medical Ethics.

This document derives from the previous Chapter 6 of the Training Charter and provides definitions of specialist competencies and procedures as well as how to document and assess them. For the sake

of transparency and coherence, it has been renamed as “Training Requirements for the Specialty of Infectious Diseases”. This document aims to provide the basic Training Requirements for the specialty and should be regularly updated by UEMS Specialist Section and Boards to reflect scientific and medical progress. The three-part structure of this documents reflects the UEMS approach to have a coherent pragmatic document not only for medical specialists but also for decision-makers at the National and European level interested in knowing more about medical specialist training.

INTRODUCTION

Ideally every EU member state recognizing the specialty should have a professional specialist society of Infectious Diseases. Manpower planning and forthcoming quantitative training facilities are the responsibility of the national medical association on the advice of the Infectious Diseases specialty group. The specialty of Infectious Diseases should be represented in the national medical association in each EU country.

The Central Monitoring Authority of the specialty of Infectious Diseases is the UEMS Board of Infectious Diseases (EBID) within the Section of Infectious Diseases (http://uems-id.eu/) which, in consultation with the Professional Affairs Committee of the European Society of Clinical Microbiology and Infectious Diseases (ESCMID: www.escmid.org), produces guidelines for training in the specialty and produces a training programme blueprint to be filled in with the specific aspects of the training, pertinent to the individual EU member states.

The Section and Board of Infectious Diseases were first established in London on 11 Sep 1998 and subsequently published a core curriculum and outline of requirements for training programmes in Infectious Diseases as “Chapter 6” of the UEMS Charter on Postgraduate Training for Communicable Diseases, renamed to Infectious Diseases in 2013. This has been reviewed and updated yearly until 2016.

The current standard is derived from this but has undergone considerable changes to reflect standards promoted by the Council for European Specialists Medical Assessmentof UEMS (CESMA: https://www.uems.eu/areas-of-expertise/postgraduate-training/cesma) and changes in the clinical roles of infectious disease specialists in Europe. It is recognised that the practice of Infectious Diseases differs across EU member states and that the degree of overlap with Medical Microbiology and with other specialties such as Gastroenterology/Hepatology and Respiratory Medicine also varies across member states.

Training centres are recommended to apply for the status of ESCMID Collaborative Centre, which will enable and promote the exchange of trainees within the European Union and UEMS member countries.

The Specialty of Infectious Diseases in Europe

The specialty was originally designated as Communicable Diseases within UEMS in Annex V of the Directive 2005/36/CE, but this designation was officially changed to Infectious Diseases in 2013 by directive 2013/55/CE. The specialty is variably recognised as a separate specialty in 22 countries and as a subspecialty within General Medicine in 6 countries. There is considerable overlap of training and expertise with Medical Microbiology (including the related specialties such as Medical Virology), particularly in the areas of infection control and antimicrobial stewardship. The specialty is

evolving from inpatient practice within stand-alone isolation hospitals dealing with community acquired infections to inpatient care based in a larger general hospital setting, combining these functions with direct care and consult activity for a wide variety of infections, particularly in immunosuppressed patients. There is usually substantial outpatient clinic practice and consult activity on other units or in other hospitals. In units based in the general hospital setting there should be close collaboration with medical microbiology and in many larger centres the two specialties may share combined clinical and administrative bases. This evolution is occurring at variable pace in differing member states and well-regarded centres of excellence in infectious diseases exist in some countries despite lack of official recognition of the specialty at national level. In some countries, specialists still have responsibility for care of children with infection, but Paediatric Infectious Disease is now increasingly recognised as a separate designated specialty in many countries.[1,2]

The number of specialists in Infectious Diseases (ID), Medical Microbiology (MM) and the overlapping discipline of Infection Control (IC) varies widely across Europe and in different sizes of hospitals. A recent ESCMID publication[3] included data from 567 hospitals, of which 384 (82%) were in Europe. 58% had dedicated infectious disease beds, which were more commonly provided in Eastern Europe. Dedicated ID consult services were present in 64%, MM in 72% and independent IC services in 71%. Overall there was a median of 1.12 Full Time Equivalent specialists in ID and MM combined per 100 hospital beds, rising to 1.44 in hospitals with dedicated infectious disease beds. This included 0.18 FTE Infection Control specialists per 100 hospital beds. Formal training was provided respectively for ID 72%, MM 80% and IC 58%. The importance of multispecialty working, particularly in Infection Control, was emphasised but other staff such as specialist nurses and antibiotic pharmacists were not enumerated in detail. These findings underscore the importance of infection services and the need for uniform standards of training and practice across Europe.[4]

This complex evolution of the specialty of Infectious Diseases has been summarised in other key publications[5,6,7]. There is close collaboration between the UEMS Sections/Board of Infectious Diseases and the relatively new Section/Board of Medical Microbiology, with attempts to harmonise curricula wherever possible. Both sections have promoted the recent creation of the UEMS Multidisciplinary Joint Committee (MJC) in Infection Control. Joint training in Infectious Disease and Medical Microbiology is only compulsory in one country (Turkey) and optional in the UK. In the UK, the first 2 years of specialist training are now shared between ID and MM. Otherwise, a shorter period of training in MM is essential within the whole Infectious Disease curriculum in all countries. There is close collaboration with the ESCMID, particularly the Professional Affairs Subcommittee (PAS)[8], the Trainees Association of ESCMID (TAE), European Committee on Infection Control (EUCIC)[9] and ESCMID Study Group for Antimicrobial Stewardship (ESGAP)[10]. ESCMID is the main specialist society for both specialties within Europe and has sponsored 4 major workshops on training in infectionspecialties since 1999 in conjunction with UEMS sections, in addition to dedicated symposia and workshops on training matters at the annual Conference of the Society (ECCMID). Working papers and publications from these meetings can be accessed via the ESCMID website[11]. The urgent need to improve standards in antimicrobial stewardship and infection control in all areas of healthcare is recognised by all infection specialists and the new curriculum has been revised to take this into account. An understanding of Public Health is integral to specialist practice but joint training is not defined.

Tropical Medicine is a related specialty that is independently recognised by a small number of national regulatory bodies but not at UEMS level. This may encompass practice outside Europe in resource poor settings, as well as specialist expertise in the care of patients with imported exotic infections and related specialist laboratory expertise.[12] In most of Europe Tropical Medicine is a subspecialty of Infectious Diseases. The Infectious Disease curriculum outlines the competencies expected of all Infectious Disease specialists in managing imported infections in

travellers and migrants and in providing pre-travel advice. It suggests some optional requirements for trainees seeking specific recognition as having additional expertise in Tropical Medicine, but does not elaborate on these in detail.

Monitoring of national recognition of the specialty, implementation of the previous specialty «Chapter 6» and the numbers of trainees in specialist training has been carried out on a yearly basis by the Section and Board, sometimes complemented by similar surveys performed through ESCMID[2]. Current and future monitoring will be through combined efforts. There is still substantial variation across Europe in both the structure of specialist practice and the timing and amount of training in General Medicine expected of a trainee seeking to become an Infectious Disease specialist. This is also reflected in the different structures of dedicated specialist societies in each member state.

Trainee (TAE) surveys of conditions and aspirations for ID/MM trainees in Europe have recently been published[13,14,15], assessing conditions among different European countries. These emphasized: the perceived need for better coordination and harmonization of training across Europe; the need for consistent, fair and transparent methods of assessment of progress during training; adequate time for training/learning as well as service work; the need for proper training for supervisors; and provision for trainee feedback on performance of trainers and training programmes.

The European model(s) of training can be compared to the Australasian combined model, which is variously implemented in different states in Australia, and North American models of training[16]. Infectious Diseases is a recognised clinical specialty or subspecialty in most European countries, in Australia and New Zealand, the United States of America, Canada, most countries in Central and South America and in the Middle East. Although training programmes are heterogeneous in different European countries, the Infectious Diseases Section of UEMS is working to harmonise them. In 1998, the EBID recommended a 6-year training period, similar to that of other medical specialties, including 2 years of general internal medicine training and 2 years of specific training Since then the emphasis has shifted from mandated duration of training programmes to requiring the provision of a programme that allows for adequate learning opportunities for the trainee and assessment that the trainee has achieved the designated competencies to practice at specialist level.

In practice, several countries in Europe have continued since 1998 to provide successful training programmes in infectious diseases shorter than 6 years in length, and this situation is unlikely to change. In this document, EBID and the Infectious Diseases UEMS Section recommend that a training programme should be provided that provides adequate supervised training in general medicine and infectious diseases and formal assessment of trainee competenceies at the end of training to confirm his or her ability to practice independently and supervise others in infectious diseases. The *indicative* minimum length of training needed to achieve this is at least 5 years (preferably 6 years), depending on the training content of individual programmes and the ability of individual trainees to achieve all the defined competencies.

The concept of Competencies in Practice and Entrustable Professional Activities is important but is not as fully developed in this document as it is in the Internal Medicine curriculum.[17]

I. TRAINING REQUIREMENTS FOR TRAINEES

1. CONTENT OF TRAINING AND LEARNING OUTCOMES

1.1 GENERAL ASPECTS OF TRAINING

In order to become a trainee for the speciality of Infectious Diseases the candidate has to be a qualified medical doctor. Procedures for recruiting medical doctors, who have fulfilled the requirements for basic medical training leading to an EC recognized medical diploma, must be transparent.

Teachers and training institutions or other responsible bodies select and appoint trainees in accordance with the established national selection procedure. This selection must be in open competition and on an equal opportunity basis.

The principle of training and assessment is that the trainee should be documented to have developed a set of defined competencies enabling him or her to independently function at specialist/consultant level by the end of training. Theoretical and practical training will follow an established programme approved by the National Authorities in accordance with national rules and EU legislation as well as with UEMS/EBID recommendations. At EU level, the UEMS Section and the EBID recommend that the general description of Higher Medical Training for Infectious Diseases should have a training programme that will include agreed periods undertaken in the management of community acquired infections and the management of imported infection, both as in patient and out-patient, and healthcare associated infection.

Attachment to a Clinical Microbiology department is also necessary during the training to enable the trainee to acquire the ability to use the laboratory appropriately and to interpret data originating from such departments. Involvement in the management of patients with implant associated infections, immunocompromised patients (for example HIV infection, transplant patients) and a period of involvement in an Intensive Care Unit will be obligatory. Research will be regarded as an integral component within the training programme. It is recognised that in some countries infectious diseases is practised with clinical responsibility for patients in a ward and in others it may be more on a consultation basis, but the underlying principles included in this training programme should be relevant to both styles of training.

Whenever possible, trainees should be encouraged to participate in clinical or laboratory-based research related to Infectious Diseases, including taking necessary time out of the clinical training programme if prospectively agreed by local and national training authorities.

In addition to providing specific training for the Infectious Diseases specialist, the training in Infectious Diseases provides a generic programme for specialists who may practice in a variety of infection related disciplines for example tropical medicine, HIV medicine, infection control antimicrobial stewardship, and aspects of public health medicine.

This document refers to specific competencies for an Infectious Diseases Physician. Generic competencies which apply to both Internal Medicine and Infectious Diseases are also provided in detail the European Training Requirements for the Specialty of Internal Medicine and should be included in the overall training programme.[17]

In some countries, adult Infectious disease specialists still have responsibility for care of children with infection, but Paediatric Infectious Disease is now increasingly recognised as a separate designated

specialty in many countries. All competencies described in this document pertain to care of adult patients, while care of children with infection is outlined in the Paediatric Infectious Disease Training Programme.[1,2]

1.2 KEY GENERAL PROFESSIONAL COMPETENCIES

The key areas of general professional competencies required of an Infectious Disease specialist are the same as those for all physicians. These have been summarised in the ETR of Internal Medicine[11] using the CanMEDS role headings and are reproduced here[18].

As a summary we list the general competencies of an Infectious Diseases Specialist

- A medical expert
- A communicator
- A collaborator
- A leader
- A healthcare advocate
- A scholar
- A professional

1.3 SPECIALTY SPECIFIC OBJECTIVES

Learning outcomes

The principle of training and assessment is that the trainee should be documented to have developed a set of defined competencies enabling him or her to independently function at specialist/consultant level by the end of training. The Training Programme in Infectious Diseases aims to produce practitioners who:

- exhibit appropriate attitudes and communication skills in dealing with colleagues and patients, including:
  - showing respect and compassion towards the sick
  - showing respect towards colleagues and junior staff
  - abiding by the values of honesty, confidentiality and altruism
  - maintaining competence throughout careers
  - improving care by evaluating its processes and outcomes
  - providing care irrespective of age, gender, race, disability, religion, sexual orientation, social or financial status
- have effective team working and leadership skills
- by appropriate use of history, clinical examination and investigation can perform the core assessment required for all physicians practising in Infectious Diseases
- are able to establish a differential diagnosis of patients presenting with clinical features of Infectious Diseases
- are able to apply sufficient knowledge and skill in diagnosis and management to ensure safe independent practice in Infectious Diseases
- can apply knowledge of the appropriate basic sciences relevant to Infectious Diseases
- can develop management plans for the “whole patient” and have a sound knowledge of appropriate treatments including health promotion, disease prevention and long-term management
- fully appreciate and know how to use the multi-disciplinary team approach to management of infection within the hospital and community, including a recognition and understanding of application of public health management

- have achieved a firm grasp of basic research methodology and are able to participate in and initiate research activity
- have been exposed to 'management'. This should include attendance at agreed courses and committee experience.
- are familiar with administrative duties relevant to modern consultant practice in the specialty.
- can use skills of lifelong learning to keep up-to-date with developments in Infectious Diseases
- can be effective teachers
- are able to manage time and resources to the benefit of their patients and colleagues

Specialty specific objectives are:

- To achieve clinical competence at consultant level in the assessment, investigation, control, diagnosis and management of community acquired infection in inpatient and outpatient settings
- To achieve competence at consultant level in the diagnosis, investigation and management of chronic infections such as tuberculosis, hepatitis B and C, and HIV
- To be able to work and liaise with a multi–disciplinary team in the management of patients with infectious diseases who require palliative and terminal care
- To achieve clinical competence at consultant level in the assessment, investigation, control, diagnosis and management of healthcare associated infections in inpatient and outpatient settings
- To become competent in all aspects of the management of antibiotic use and antimicrobial stewardship including antimicrobial stewardship leadership
- To obtain clinical competence at consultant level in the assessment, investigation, control, diagnosis and management and promotion of infection prevention and control
- To be conversant with all aspects of infection control (where possible by being co-opted onto the Infection Control Committee).
- To obtain competence at consultant level in the management of the non– HIV immunocompromised patient
- To achieve competence at consultant level in the diagnosis, investigation and management of imported infection and in the provision of advice on prevention of travel related infection, including immunisation
- To obtain an understanding of infection related problems and the complexity of dealing with health problems in migrants
- To obtain an understanding of prevention of spread of infection in both community and to obtain an understanding of clinical epidemiology as it applies to general public health and outbreak prevention and control
- To obtain competence in the implementation of vaccination programmes for patients
- To obtain an understanding of microbiological techniques (including allied disciplines such as virology) and their interpretation in Infectious Diseases and to understand the process and constraints around laboratory usage and reporting
- To obtain an understanding of research methodology and to critically appraise evidence and studies
- To achieve competence at consultant level in clinical audit and quality improvement programmes related to infection

The full list of specific competencies with detailed explanation about knowledge, skills and behaviour for each heading is elaborated in European Curriculum of Infectious Diseases appended to this document.

1.4 ASSESSMENT

At the conclusion of the training programme, the proficiency of a trainee to practice as an Infectious diseases specialist should be established. To be confident that a trainee has acquired the necessary competencies, developmental progression during training should be monitored and assessed. To this end, milestones and linked entrustable professional activities (EPAs) have been provided to guide decisions about which professional activities have become entrustable during and at the completion of training; such decisions are based on multiple (specific and observable) workplace-based assessments (WBA's) carried out using a range of assessment tools over time; the acute admission to a medical unit is an example of a particularly important milestone in the progression of the trainee towards independence that can be entrusted with an EPA.

For more detailed description of milestones and EPAs we refer to the internal medicine ETR.

2. ORGANISATION OF TRAINING

2.1 SCHEDULE OF TRAINING

2.1.1 DURATION of TRAINING

At least 5 years (preferably 6 years) postgraduate training is usually required in order to achieve the necessary competencies, of which of 2 years must be in Internal Medicine which forms the "common trunk". The 2 years of Internal Medicine training may precede the Infectious Disease training component or may be provided concurrently, depending on the structure of programme delivery at national and local level. This overall length of training is indicative, as the primary objective is for the trainee to have achieved all the necessary competencies outlined in the curriculum.

2.1.2 STRUCTURE of TRAINING

General Internal Medicine - 2 years 'common trunk' which is elaborated in European Training Requirements for the Specialty of Internal Medicine

Speciality training at least 3 years - Infectious Diseases. At least 6 months should be spent attached to/working in an approved Clinical Microbiology Department. There is possible extra training for tropical medicine as required.

At least 2 years should usually be spent in an approved post, which meets the above requirements of the curriculum. It must include both inpatient and outpatient care. It is desirable that trainees have at least one year training in a dedicated inpatient ID department. A maximum of one year of training outside the European Community at a recognised training centre approved prior to the period of training by the specialist national authority will be acceptable.

The time taken to achieve all these competencies will vary between trainees, and to some extent the local training programme. Durations of training recommended are indicative minimum amounts of time that would require by a trainee to have adequate training exposure to complete training.

Courses according to specific areas of expertise or competence driven could be proposed, case-by-case, according the applicant's carrier schedule.

Joint Training with General Internal Medicine:
This may be undertaken and will have to be in accordance with guidelines produced by the National Authorities to meet European requirements.

Joint Training with Microbiology:
This may be undertaken and will have to be in accordance with guidelines produced by the National Authorities to meet European requirements.

Additional training in Tropical Medicine:
This may be undertaken as an optional add-on to Infectious Disease training as permitted by National Authorities. Elements of this might include:

- A period of supervised clinical training and experience in tropical settings
- Attendance at a recognised course leading to extra qualifications in tropical medicine eg Diploma in Tropical Medicine
- Other specific training in clinical parasitology and similar disciplines
- A period of training in a designated European centre with tropical expertise
- Experience and training in international public health and emergency response
- Postgraduate research relating to tropical medicine

Additional training with other specialties
Some national programmes may allow for dual training together with another specialty such as Intensive Care Medicine or Public Health. This may be undertaken and will have to be in accordance with guidelines produced by the National Authorities to meet European requirements.

Less than full time training (LTFT)

Trainees who are unable to work full-time are entitled to opt for less than full time training programmes. EC Directive 2005/36/EC requires that:

- LTFT shall meet the same requirements as full-time training, from which it will differ only in the possibility of limiting participation in medical activities.
- The competent authorities shall ensure that the competencies achieved and the quality of less than full-time training are not less than those of full-time trainees.

LTFT trainees should undertake a pro rata share of the out-of-hours duties (including on-call and other out-of-hours commitments) required of their full-time colleagues in the same programme and at the equivalent stage.

EC Directive 2005/36/EC states that there is no longer a minimum time requirement on training for LTFT trainees. In the past, less than full time trainees were required to work a minimum of 50% of full time. With competence-based training, in order to retain competence, in addition to acquiring new skills, less than full time trainees would still normally be expected to work a minimum of 50% of full time.

The total length of specialist training will need to be extended appropriately for less than full time trainees to be able to have sufficient training exposure to achieve all necessary competencies.

2.2 CURRICULUM OF TRAINING

The full curriculum of competencies to be acquired is appended to this document (Appendix A). Within each general heading, the competencies required are defined within the three headings of Knowledge, Skills and Professional Behaviour with Assessment methods assigned to specific topic.

2.3 ASSESSMENT AND EVALUATION

Theoretical and practical training will follow an established programme approved by the National Authorities in accordance with national rules and EU/EFTA legislation as well as with UEMS/EBID recommendations.

Trainees should be provided with written details of the training programme and curriculum at the start of their training and be made aware of how to access these and any changes that may occur eg on relevant national and EU websites.

The trainee should be allocated a trainer who will support them throughout the training programme in addition to local training supervisors who may oversee individual components of the training programme. Opportunities should be available to change the primary supporting trainer if this becomes necessary.

The trainee should be provided with details and timetable of all local and national requirements for assessment at the start of training, with yearly reviews as detailed below.

Assessment and documentation of skills and professional behaviours comprises knowledge-based assessments, workplace-based assessments (WBA) and a logbook/e-portfolio.

An e-portfolio is used to document the achievements and the progress of the trainee throughout the training period[19]. Progress is guided by the milestones reached and the linked EPAs.

All trainees should keep a log book/e-portfolio in which progress, assessments and yearly reviews are documented and confirmed. This will form the basis of review for regular formative reviews of progress and final assessment for specialist accreditation. The format of logbook/e-portfolio is currently determined by national authorities, and may be in paper form or electronic, but should be standardised at a national level.

As a minimum, trainees should have a documented annual formal review with at least two trainers to review progress and documentation of their progress during the preceding year. This should be a formative process in which the needs of trainees and specific forward training requirements are identified for actioning by the relevant training programme director. It may also be appropriate for extra periods of training to be recommended for trainees in difficulty, or in extreme cases for training to be suspended.

A more comprehensive review of training achievements should take place approximately one year before the expected completion of training. This penultimate year assessment (PYA) should ensure that progress has been made as expected and should clarify which elements of training still need to

be addressed in the final year. It provides an opportunity to recommend extension of the training period if this looks necessary. It may be helpful to involve an independent trainer from a different ID training programme.

Trainees should be supported by regular formal formative assessments throughout their training, with feedback and discussion from a variety of trainers. The number and extent of these will be determined by national authorities and may include workplace-based assessments or more formal examinations.

Validated systems of workplace-based assessment (whether formative or summative) should be used throughout the period of training (for example multisource feedback, directly observed procedures and mini CEX) and review of these should form part of the annual formative review of trainee progress. The conduct and format of such workplace-based assessments examinations should follow guidelines on standards and conduct as published by CESMA/UEMS. However, use of WBAs can be limited by logistic constraints and the amount and types used will differ between countries and national authorities[20]. Definitions of Work Place Based Assessments are provided in the Appendix B.

Detailed lists of assessment methods that might be suitable for assessing specific areas of competence can be found in the Curriculum. These are advisory, not mandatory.

A formal summative examination may be required by some national authorities, which also determine the format and timing of such examinations. The conduct of such examinations should follow guidelines on standards and conduct as published by CESMA/UEMS.

It is anticipated that the European Diploma in Infectious Diseases will be developed in due course. This exam could be accepted as equivalent for certification. Trainees that have finished training programme and established ID Specialists would be eligible for such examination.

2.4 GOVERNANCE

2.4.1 MONITORING AUTHORITY

The European Board of Infectious Diseases (EBID) is composed of representatives of the European Union of Medical Specialities (UEMS) Specialist Section of Infectious Diseases. The UEMS Specialist Section of Infectious Diseases instituted the EBID on 11 September 1998. At national level the training in infectious diseases is regulated by National Authorities, which set standards in accordance with national rules and European Union/European Free Trade Association (EU) legislation as well as in accordance with the recommendation of the UEMS/European Board of Infectious Diseases.

2.4.2 RECOGNITION of TEACHERS and TRAINING INSTITUTIONS

The National Authorities are responsible for selecting and approving training institutions and teachers at national levels in accordance with national rules and EU legislation as well as in accordance with UEMS/EBID recommendations. A system of accreditation of European training centres at EU level by the EBID has not been established for infectious diseases.

2.4.3 QUALITY ASSURANCE

The National Authorities are responsible for setting up at national level a programme for quality assurance of training and of teachers and training institutions in accordance with national rules and EU legislation as well as in accordance with UEMS/EBID recommendations.

2.4.4 MANPOWER PLANNING

The National Authorities in co-operation with national professional and/or scientific organisations in Infectious Diseases are responsible for developing a manpower planning policy at national level which aims at balancing demand and training for infectious diseases physicians in the EU/EFTA member state concerned. The National Authority should lead manpower planning in individual member countries with the help of EBID as required.
In the evaluation of manpower planning and hence in the estimation of a ratio for trainees to trainers, the following considerations must include:

- The country demographics
- The number of hospital beds in the units
- The number of teachers/trainers (with different weighting for full-time and for part-time trainers)
- The projected expansion of the service

As this ETR supports freedom of movement of specialists in Europe, it is suggested that the evaluation of the needs could be performed on a European basis in the future.

2.4.5 RESPONSIBILITIES OF THE TRAINEE

Trainees have responsibility to maintain professional registration to practise medicine as required by their national authoritiy, to maintain appropriate professional indemnity and to practise with professionalism within the legal framework of their training environment. They should accept personal responsibility for their own training programme including attendance at mandated training sessions, fulfilling formative and summative assessments in a timely fashion and maintaining appropriate log books/e portfolios.

II. TRAINING REQUIREMENTS FOR TRAINERS

1. PROCESS FOR RECOGNITION AS TRAINER

1.1 QUALIFICATION OF THE TEACHERS

The chief of training in any training institution or programme must be a recognised specialist in Infectious Diseases and have been practising in the speciality for at least 5 years after specialist accreditation. The teachers and staff must have expertise covering a broad range of infectious diseases practice.

1.2 TRAINING PROGRAMME

Infectious diseases training for any individual trainee must be co-ordinated by an individual person or body. There should be a training programme with a regular formal review for the trainee on a minimum of an annual basis.

1.3 TEACHER/TRAINEE RATIO

The ratio between the number of qualified Infectious Diseases physicians in the teaching staff and the number of trainees should provide for adequate close personal monitoring of the trainee during his/her training and provide adequate exposure of the trainee to the training. This ratio should be no less than 1:1.

The trainee should, at each stage of training, have a nominated educational supervisor responsible for overseeing the training and writing a report on progress to inform the annual review.

1.4 CORE COMPETENCIES FOR TRAINERS

Trainers should promote the skills and specialty specific objectives outlined in section 1.3 and should be in good standing with their national medical registration authority.

They should receive formal training in postgraduate teaching and assessment as set out by national authorities and by UEMS. As a minimum, this should include elements of:

- Teaching on the job (eg in clinic, on wards)
- Teaching individuals, in small groups and in didactic lecture formats
- How to use formative assessment methods to support trainees
- How to identify and support trainees in difficulty
- Use and documentation of workplace-based assessments used in the national programme
- How to write examination questions and use these and other formal examination methods

2. QUALITY MANAGEMENT FOR TRAINERS

The programme director should review the programme on an annual basis, taking into account feedback by both trainers and trainees. The assessment should include operational issues such as timelines and completeness of delivery of programme components and assessments, and qualitative issues including standards of trainer and trainee performance.

A mechanism should be in place for annual feedback by trainees on delivery of the programme and trainer performance. There should be a clear mechanism for any necessary remedial action without compromising the trainees concerned.

Trainers should maintain their own clinical competencies and competencies as trainers, including updates as required by national authorities or in response to yearly programme reviews.

2.1 TRAINEE FEEDBACK ON IMPLEMENTATION OF THE ETR AND CURRICULUM

There should be a mechanism for provision of anonymous trainee feedback mechanism by eg anonymously filled online questionnaire at the end of each rotation or every year. The questionnaire could include topics such as on induction to the job, teaching, training, supervision, working environment, support and overall satisfaction with the training programme. The trainee would be able to raise concerns if any with a free text option. In addition, provision should me made for the

trainee to raise concerns about training during the annual review of progress, with detriment to the trainee.

III. TRAINING REQUIREMENTS FOR TRAINING INSTITUTIONS

1. PROCESS FOR RECOGNITION AS TRAINING CENTRE

Training institutions will be inspected and approved by national authorities. At EU level they may in future be recognised as a European training centre for Infectious Diseases by the EBID, when such an accreditation scheme has been developed.

1.1 SIZE OF THE TRAINING INSTITUTION

The main training institution must be of sufficient size to offer the trainee practice and full range of experience of infectious diseases. Training in smaller centres will require rotations to ensure broad clinical experience. Some centres may not be able to provide experience in certain specific areas of training such as HIV, tuberculosis, hepatitis, travel medicine/tropical infectious diseases. In such cases a period of attachment to another department will be required to ensure that competencies in these areas are obtained. It is recognised that in some member countries the infectious diseases service is mainly consultation based whereas in others it is holistic with full responsibility for in-patient as well as out-patient care.

Training institutions must have two or more specialists in Infectious Diseases providing the trainee with an opportunity to work with different trainers. Allied specialities should be present within the institution to enable the trainee to gain experience in the multi-disciplinary approach to patient care.

1.2 REQUIREMENTSFOR EQUIPMENT AND ACCOMMODATION

The training programme and institution should provide access to modern sources
of relevant information including both written materials such as journals and textbooks, and internet access to similar sources of information. This may include local (unit based) or institutional libraries.

Trainees should have access to advice on design and participation in research projects related to their training, either within their institution or by arrangement with appropriate partner institutions.

2. QUALITY MANAGEMENT WITHIN TRAINING INSTITUTIONS

2.1 QUALITY ASSURANCE of the TRAINING INSTITUTION

The training must take place in settings which offer a high-quality service. The training institution should have an internal system of medical audit or quality assurance. The training centre should have

established ethical committees and pharmaceutical and therapeutics committees. Inspection visits of training institutions by the National Authorities should be conducted on a regular and structured manner.

2.2 TEACHING INFRASTRUCTURE of the TRAINING INSTITUTION

The trainee should have protected time and opportunity for research, practical and theoretical study.

There should be opportunity to attend clinical and research courses as appropriate to their training. Access to adequate national and international professional literature should be provided as well as space and equipment for practical training, research and other clinical skills.

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APPENDICES

Appendix A
Curriculum with detailed competencies

Appendix B
Summary of assessment methods