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## A postgraduate qualification in tuberculosis—Message in a bottle

Simon Tiberi<sup>a</sup>, Alimuddin Zumla<sup>b</sup>, Mario Raviglione<sup>c</sup>, Marc Lipman<sup>d,e</sup>, Onn Min Kon<sup>f</sup>,  
Chris Griffiths<sup>g</sup>, Giovanni Battista Migliori<sup>h,\*</sup>

<sup>a</sup> Department of Infection, Royal London Hospital, Blizard Institute, Barts and The London School of Medicine and Dentistry, Queen Mary, Barts Health NHS Trust, 80 Newark Street, London E1 2ES, UK

<sup>b</sup> Division of Infection and Immunity, Centre for Clinical Microbiology, University College London, London, UK

<sup>c</sup> Global Health Centre, University of Milan, Milan, Italy

<sup>d</sup> Departments of HIV and Respiratory Medicine, Royal Free London NHS Foundation Trust, London, UK

<sup>e</sup> UKUCL Respiratory, Division of Medicine, University College London, London, UK

<sup>f</sup> Chest and Allergy Clinic, St Mary's Hospital, Imperial College Healthcare NHS Trust, Praed Street, London W2 1NY, UK

<sup>g</sup> Centre for Primary Care and Public Health, Blizard Institute, Queen Mary University of London, London, UK

<sup>h</sup> Istituti Clinici Scientifici Maugeri IRCCS, Tradate, Italy

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### ABSTRACT

The TB Cert is a distance-learning course, launched in 2019 and hosted by QMUL. The course is open to doctors, nurses, and public health workers who wish to subspecialize in TB. The course was established to elevate TB medicine to a subspecialty. We feel it is imperative to educate health practitioners from different sectors to deliver the most advanced level of care and control activities, standardize training, reduce clinical variability, and instil best practice. The course's main objectives are to provide a relevant syllabus delivered through high quality teaching from world-class experts using an innovative interactive online platform. The curriculum is based on current internationally accepted (including WHO) guidelines and recommendations. Students are taught with pre-recorded lectures and regular live online webinar discussions delivered by experts in the field. Online discussion groups, one to one teaching-to-one teaching, and mentorship are organized to promote a shared as well as a tailored experience that helps students attain the learning outcomes and achieve their expectations.

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*"If you fail to know the past you are condemned to repeat it"*  
George Stayana

In the 17th century, the English writer John Bunyan (1628–1688) described tuberculosis (TB) as "A captain of all these men of death", at a time when TB was endemic in London at a rate of 1000 per 100 000 population per year (Bunyan, 1680). The 'white plague', as TB was then called, caused a quarter of all deaths in Europe (Talbot et al., 2015). Subsequent improvements in living standards and the introduction of TB drugs and the bacillus Calmette–Guérin vaccine led to TB control, such that in the early 1980s TB was virtually non-existent in the Western world (Michelsen et al., 2014). When the World Health Organization (WHO) declared TB a global emergency in 1992, TB was considered a disease of the past by many healthcare practitioners in resource-rich countries (Zumla, 2011).

Much progress has been seen since then: the increasing TB trends of the 1990s have been reverted and mortality halved (Anon, 2015). Despite these successes, TB continues to be a global emergency in 2020, and is in the top 10 causes of death, with 1.5 million deaths recorded in 2018 (Anon, 2019a). Moreover, drug-resistant TB, which is harder to detect and treat, is present worldwide and threatens to dampen elimination efforts in many countries (Anon, 2019a).

The past decade has seen a plethora of new diagnostic tests and a pipeline of new TB drugs and regimens for drug-sensitive and resistant TB, as well as latent TB (Ignatius and Dooley, 2019). WHO recommendations for optimal TB care have changed several times and are likely to be updated frequently in the near future (Anon, 2019b). Keeping up-to-date through continuing medical education and updated courses on the latest developments is vital, especially when pursuing the new ambitious global targets established by the WHO, i.e., to reduce TB incidence and deaths at 2015 levels by 90% and 95%, respectively, by 2035 and no families to face catastrophic costs from TB by that deadline (Raviglione and Ditiu, 2013). Educational interventions and courses for the promotion of TB awareness among healthcare workers are essential for improved

\* Corresponding author.

E-mail address: [gbmigliori@fsm.it](mailto:gbmigliori@fsm.it) (G.B. Migliori).

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**Table 1**  
TB Certificate Modules.

Module	Brief aim and description
Introduction to TB	Comprehensive overview of TB, covering the history, disease pathogenesis, epidemiology, prevention, diagnosis, and management of drug-susceptible TB.
Risk Factors and Risk Groups	In-depth review of specific and challenging aspects surrounding the clinical management of TB, including rehabilitation, post TB infections, palliative care, and holistic care. Students will review the effects of smoking, alcohol, diabetes, and HIV, as well as the specific impact of TB in children and the elderly.
Multidrug-resistant TB (MDR-TB)	Comprehensive overview of MDR-TB, with an emphasis on epidemiology, diagnostics, and treatment regimens. In addition, students will learn to design and evaluate treatment regimens, with particular focus on new and re-purposed drugs, side effects, and therapeutic drug monitoring. Students will obtain an understanding of programmatic and clinical aspects of the management of MDR-TB and appreciate the complexities surrounding the management of MDR-TB at the local, national, and international levels. In addition, students will devise and evaluate plans for the management of MDR-TB patients.
Public Health <sup>a</sup>	Comprehensive overview of the public health aspects of TB with an emphasis on the theory, guidelines, and exercises used to practice the concepts taught. Students will be taught about national TB programmes and develop knowledge related to strategic planning and managing TB outbreaks. Students will develop knowledge to conduct some epidemiological and public health tasks, and complete coursework to develop skills in critical evaluation and a written presentation.
Research and Development in TB <sup>a</sup>	This module provides preparation for performing research in TB. Topics covered will include theory and priority areas for prevention, diagnosis, and treatment. Students will also evaluate how to review the literature, develop protocols, conduct trials, and design a research project. Finally, students will develop a basic understanding of research ethics, research methods, study design, and statistical methods. The module will include coursework to consolidate these skills.

<sup>a</sup> Elective module.

identification of active and latent TB, as well as for the implementation of new tools for the management, control, and elimination of TB. Continuing education is part and parcel of global TB control and elimination initiatives (Griffiths and Sturdy, 2007; Cabral et al., 2017).

While there are several established TB training programmes, few if any give a specific postgraduate qualification to address this disease separately, even though such a qualification was discussed as early as the 1920s (Philip, 1922; France, 1920). The Queen Mary University of London (QMUL) Certificate in TB (TBCert) aims to provide just that through an international concerted effort, creating a world-class offering that can be accessed remotely from any corner of the globe.

The TBCert is a distance-learning course, launched in 2019 and hosted by QMUL, a Russell Group university. The course is open to doctors, nurses, and public health workers who wish to subspecialize in TB.

The course was established following a perceived need to elevate TB medicine to a subspecialty. We feel it is imperative to educate health practitioners from different sectors to deliver the most advanced level of care and control activities, standardize training, reduce clinical variability, and instil best practice. The aim of the certificate programme is therefore to establish an internationally recognized qualification in TB that may serve both as an exit examination for higher specialist trainees and a desirable qualification for senior health workers such as nurse leads and TB programme managers.

It aims to reduce variation in clinical practice through the use of recognized international standards, and provide a certified benchmark that demonstrates knowledge and considerable competence in TB. The courses main objectives are to provide a relevant syllabus delivered through high quality teaching from world-class experts using an innovative interactive online platform.

The curriculum is based on current internationally accepted (including WHO) guidelines and recommendations. Students are taught with pre-recorded lectures and regular live online webinar discussions delivered by experts in the field. Online discussion groups, one-to-one teaching, and mentorship are organized to promote a shared as well as a tailored experience that helps students attain the learning outcomes and achieve their expectations.

The TBCert is currently composed of three mandatory modules (Introduction to TB, Risk Factors and Risk Groups, and Multidrug-resistant TB) and one of either Public Health, or Research and Development (Table 1). These modules will be updated iteratively so that they are always 'in date'.

TBCert covers the essential requirements required for all TB specialists wishing to further their knowledge, practise in the field, and also develop research interests or public health skills.

We are currently concentrating our efforts on providing the course in different languages tailored to TB-endemic countries where we believe the TBCert will make a difference. Your collaboration and support are most welcome!

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#### Ethical approval

Not research, not required.

#### Conflict of interest

The authors declare no conflicts of interest.

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