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# International Journal of Infectious Diseases

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## On the first World Field Epidemiology Day, honoring our disease detectives on the front lines



*“Everything we face has a history, and everything we do has a future”*

William “Bill” Foege, co-founder The Task Force for Global Health

The commemoration of the first World Field Epidemiology Day arrives at a time when vaccines, treatments and evidence-based knowledge about SARS-CoV-2 have blunted its impact. It also marks almost two years into the professional and deeply personal journeys of field epidemiologists with regard to the COVID-19 pandemic. Field Epidemiology Training Programs (FETPs) have been truly indispensable in the fight against COVID-19. The start of the pandemic was a time to act, develop and apply guidelines. More than a year later, new variants have emerged and are prompting new questions and new challenges for field epidemiologists. Despite the uncertainties and the steady decline in funding for disease surveillance, preparedness and response efforts over the last decade, FETPs are unwavering in their mission to protect the health of their populations, and to collaborate with others to achieve common public health goals.

With this special issue, we honor the strength, resilience and hope of our field epidemiologists on the front lines; highlight FETP cross-sectoral approaches to reducing disease impact on livelihoods and economic development; and seize the opportunity to advocate for effective, sustainable FETPs worldwide and for further strengthening the discipline of field epidemiology.

Al-Sakkaf et al. bring awareness to the deep structural vulnerabilities of the Yemeni health system, which has been debilitated by years of conflict, and to the challenges field epidemiologists face to implement COVID-19 preparedness and response measures in the midst of misinformation and stigma. (Al-Sakkaf et al., 2021) Fighting misinformation through the dissemination of sound science has proven to be as critical as other measures in public health and health security. This supplement includes field epidemiologists' reflections on countering the infodemic in the COVID-19 era through the smart use of social media tools for health communications and rapid professional exchanges. (Hammer et al., 2021) Smaghi et al. examine barriers and enablers to COVID-19 swabbing among healthcare workers (HCWs) in Papua New Guinea (PNG). The authors conducted a telephone survey, a methodology employed for the first time in PNG, for the collection of national data. Their findings show that HCW stigmatization is a widespread, under-recognized problem posing a major obstacle to achieving PNG national testing targets. (Smaghi et al., 2021) Reis et al. explore the

dynamics of COVID-19 transmission in prison settings in Brazil and the growing risks for older inmates. Correctional and detention facilities are epicenters for infectious diseases and an integral part of the public health response to COVID-19. The authors conducted their investigation at a time when reports on the impact of COVID-19 outbreaks in prison settings were unavailable. Their recommendations not only had an immediate impact on correctional health practices in Brasilia, they also shed light on the difficulties faced by HCWs in promoting health in this context. (Gouvea-Reis et al., 2021) The positive impact of preparedness reflected in Vietnam's COVID-19 experience is examined by Quach et al. Their results reinforce the notion that well-practiced COVID-19 control and mitigation actions and an equipped workforce are critical to containment efforts. (Quach et al., 2021)

The spread of African swine fever (ASF) to every continent in the world with the recent detection of the first case of ASF in the Americas underscores the need for appropriate field epidemiology surveillance capacity and coordination for early detection of the disease in both domestic and wild animals, and the implementation of comprehensive contingency plans. (FAO Regional Office for Latin America and the Caribbean 2021) Lessons derived from a cross-sectoral investigation of an outbreak of ASF in domestic pigs in South Africa conducted by Amar et al. could not have been more timely. (Amar et al., 2021) One Health approaches are vital for designing and implementing effective disease management. (Kelly et al., 2020) Deficiencies in its application may have been responsible for the recent geographical spread of Kyasanur Forest Disease, a tick-borne, neglected zoonosis affecting poor forest communities in India as described by Bhat et al. (Bhat et al., 2021)

The science of field epidemiology has evolved over the past decade with the use of new techniques and approaches to outbreak investigation. Mulchandani et al. describe the application of whole-genome sequencing and market research panel-generated controls on the investigation of an *E. coli* outbreak in the United Kingdom. (Mulchandani, 2021) With the rapidly evolving nature of epidemics, there is a need to fully integrate knowledge and skills from a number of areas including (but not limited to) One Health, ethics, social sciences and emerging technologies into the critical planning and response to epidemics. This and other recommendations are discussed by Martin and Fall who make a strong case for a strategic approach and expanded partnerships to tackle FETPs' long-standing challenges. (Martin and Fall, 2021)

Field epidemiologists, in collaboration with international organizations, have long been supporting countries with limited capac-

ity with evidence-based advice and interventions such as surveillance evaluations and outbreak investigations. The investigation of a necrotic skin infection epidemic conducted by Subissi et al. in the Democratic Republic of São Tomé and Príncipe, a country with a high burden of climate-sensitive diseases and limited health care capacity, demonstrates that FETPs are a community singularly dedicated to improving health systems locally and worldwide. (Subissi et al., 2021)

On September 7, we reflect on the role and value of field epidemiologists in securing population health, and we are encouraged by their extraordinary commitment to the profession. We must recognize the cost of undervaluing prevention and preparedness and relentlessly advocate for FETPs that are better equipped for the challenges posed by twenty-first century epidemics. We remain deeply grateful to our FET programs, fellows and graduates who received the call for papers with great enthusiasm and interest. Thank you for increasing the visibility of your programs, your work and your contributions to global health security.

### Acknowledgements

This supplement is a result of the collaborative effort between TEPHINET Network and Global Scientific Collaboration Program and FETPs across the world. Our appreciation goes out to all who participated in the defining of TEPHINET's scientific publishing strategy and to TEPHINET and The Task Force for Global Health leadership for recognizing the value of this initiative, and for their invaluable support.

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