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## The message on malaria is clear: progress has stalled

Nick White and colleagues<sup>1</sup> refer to World Malaria Reports published by WHO since 2015.<sup>2-4</sup> Their understanding of the malaria burden estimation methods, presented in Annex 1 of each report, is inaccurate. Their interpretation of the results is misleading. The WHO Global Malaria Programme has provided clear and compelling narrative based on the best available data and methods.

The methods for estimating malaria cases have not changed since the publication of World Malaria Report 2015.<sup>2</sup> However, in accordance with best practices, as the volume and resolution of input data improves, the estimates change each year across the time series.

To estimate malaria deaths in sub-Saharan Africa, where 98% of global malaria mortality occurs, the WHO Maternal and Child Epidemiology Estimation group quantifies a cause of death fraction based on verbal autopsy data for most causes of deaths of children younger than 5 years. In 2021, WHO published new estimates of cause of death fraction using a Bayesian approach,<sup>3</sup> leading to an increase in the point estimate for malaria with minimal effect on the trend. The comparison of changes in the malaria deaths of 2000 versus 2019, between the old and new methods, are 45% versus 38%.<sup>3-5</sup>

If the global malaria incidence and mortality rate in 2000 were applied to populations at risk annually to 2020, the investments made over the past 20 years would have contributed to an estimated 11 million lives saved and 1.7 billion cases averted since 2000.<sup>4</sup> In sub-Saharan Africa alone, there could have been an estimated 360 million cases in 2020, instead of the current estimated 219 million cases. Simply comparing the 241 million cases estimated at

baseline in 2000 and 2020, the first year of the COVID-19 pandemic, misses these important perspectives.

Since 2015, however, progress has stalled, and the reasons are complex. In sub-Saharan Africa, more people live in areas of risk of malaria, where funding has plateaued, coverage of vector control interventions has flattened or declined, and access to quality care is inadequate. Available tools are compromised by biological threats. The message is simple. Investing now, efficiently, and equitably in malaria and health systems can lead to a great return and will guard against future threats.

Finally, we need to move gradually away from model-based estimates to data. The solution is clear—a considerable investment in improving surveillance, civil, and vital registration systems.

AMN is the lead author of WHO's World Malaria Report. PLA is the immediate former director of the WHO Global Malaria Programme and led the World Malaria Report editorial committee. PLA also had oversight of the reports and was responsible for the global dissemination of its key results.

\**Abdisalan M Noor, Pedro L Alonso*  
anoor@who.int

Global Malaria Programme, WHO, 1211 Geneva, Switzerland

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## An urgent plea for surgical care in Lebanon

Economic collapse, civil unrest, and an accelerating brain drain are mounting crises provoked by long-standing corruption in Lebanon. Aggravated by COVID-19 and a devastating port

explosion, Lebanon, once one of the prominent health-care hubs in the Middle East and north African region, can hardly remain afloat.<sup>1</sup> With worsening shortages of medical supplies, mass physician migration, and absent governmental support, Lebanon's health sector is reaching a new rock bottom each day.

One of the most affected components of Lebanese health care is surgical care. Lebanese surgeons were typically well trained, receiving their surgical training in Lebanon followed by fellowship training abroad before returning home. They were battle-tested by the civil war, and sought by patients from all corners of the Middle East and north African region. Given the current situation however, experienced and early career surgeons alike are fleeing the country in search of more favourable opportunities. Consequently, surgical care and training in Lebanon have been deeply affected, forcing medical students to seek surgical training abroad, curtailing any potential for building local capacity, and setting the stage for a bleak future for surgical care in Lebanon.

From the patients' perspective, the picture looks grimmer. Patients with inadequate resources are rationing health care with a focus on survival. Individuals who do have the resources to travel abroad face often-insurmountable hurdles to obtain visas. The 2017–19 Global Burden of Disease data underscore the collapse of Lebanese surgical care.<sup>2</sup> Considered the three most performed operations, appendectomy, cholecystectomy, and hernia repairs prevent substantial morbidity and mortality when timely performed. In Lebanon, percent change of disability-adjusted life-years attributable to appendicitis (1.97%), gallbladder disease (4.11%), and hernias (4.41%) are already increased when compared with the Middle East and north African region (–0.53% for appendicitis, 1.73% for gallbladder disease, and 3.70% for hernias). These grim figures might be farcical



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