

Annelies Wilder-Smith

Although now a Professor of Emerging Infectious Diseases at the London School of Hygiene and Tropical Medicine, Annelies Wilder-Smith did not seek out a career in emerging infectious diseases. Her career goal had always been tropical and travel medicine, “but emerging infectious diseases came to me”, she tells *The Lancet Infectious Diseases*. She faced the first severe acute respiratory syndrome (SARS) outbreak when living in Asia in 2003. “When COVID-19 emerged, I asked my husband: why must we go through a SARS-like outbreak twice in our lifetime?”

Born in Singapore, her family returned to Europe for her father’s career and she grew up in the Netherlands and Germany. “I’d always wanted to be a doctor since age 10 and wanted to return to Asia one day”, recalls Wilder-Smith. After finishing her medical training in Germany, she and her husband neurologist Einar Wilder-Smith researched leprosy in Papua New Guinea and Nepal, to identify household contacts at highest risk of later developing the disease. The next stop was China, where they worked as volunteer doctors in Sichuan for 2 years, before settling in Singapore. “Singapore is a unique location in Asia that allowed me to initiate various NGO projects in India and China”, explains Wilder-Smith.

The couple stayed in Singapore for 18 years, raising their two children and developing their careers. Wilder-Smith completed her training in tropical and travel medicine with specialization in public health. She was soon appointed head of the Traveller’s Vaccination Clinic in Singapore, along with becoming professor in public health at the National University of Singapore, and later at the Lee Kong Chian School of Medicine. After just one month in post, she encountered an outbreak of rare meningococcal disease in Hajj pilgrims returning to Singapore from Saudi Arabia. In a landmark study published in *BMJ*, Wilder-Smith established that household contacts of returning pilgrims were at increased risk of meningococcal disease, since vaccinating the pilgrims protected them but did not prevent nasopharyngeal carriage and hence onward transmission.

Another major focus of her work has been dengue, a disease that was rising in prevalence in Singapore while most other tropical diseases were in decline. She researched the epidemiology of dengue in travellers, the drivers of geographic spread, and invested many years of her career studying dengue vaccines. She led a large European Commission funded research project in Asia and Europe to develop new tools for the surveillance and control of dengue, coined “DengueTools”, a 5-year-project that gave her the experience and contacts to quickly respond to the next viral disease causing international anxiety: the closely related Zika virus. Wilder-Smith later won another grant from the European Commission to lead a Research Preparedness Network for Zika in Latin

America and Europe, called “ZikaPLAN”. Wilder-Smith now chairs *The Lancet* Commission on dengue and other Aedes-transmitted viral diseases, and co-chairs *The Lancet Infectious Diseases* Commission on pandemic preparedness.

“My research on the effect of emerging diseases such as SARS, meningococcal disease, dengue, and Zika on international travellers was probably instrumental in being elected President of the International Society of Travel Medicine”, she believes. She served in leadership roles within the society for more than 10 years. “We can learn a lot about emerging diseases in travellers, and travel medicine has combined my professional curiosity with my passion to travel.”

Reflecting on the early beginnings, she points out that in 2003, “my world was changed forever by the arrival of SARS in Singapore. SARS was sudden, scary and fast. It killed colleagues, some of them my own friends. We fought for every life”, she recalls. “In Singapore, we swiftly and aggressively implemented all the public health measures that are now so well-known for COVID-19. The first SARS equally shut down the economy, and transport, but we were successful in containing it.”

Now 17 years after SARS, and living in Europe again (in Luzern, Switzerland), Wilder-Smith is working on the response to COVID-19. During a teleconference in early January 2020, she listened to a Chinese colleague describe this new disease. “It sounded exactly like the first SARS”, she says. “All my alarm bells went off.” She wishes that western Europe and the USA had responded earlier. “I wanted us to crush it, as we did with SARS, but I was being accused of creating panic.” She is currently focusing all her efforts on being consultant to WHO’s Immunization and Vaccination Department to advance various vaccine candidates. “We really need several of these vaccines to be successful, to leverage upon the different vaccine characteristics and their advantages”, she explains. She concludes that “How our societies respond to the current COVID-19 health, economic and political crisis will determine the moral underpinning of the next generation.”

“Having worked closely with Annelies in co-ordinating large global research consortia on infectious diseases, it’s impossible to miss her high-energy approach to team-building and her determination to drive productivity”, says Peter Byass, professor of global health at Umeå University, Sweden. “Infectious disease specialists with a truly global outlook like Annelies are important players in today’s world, and her contributions in this field, plus her mentorship of younger colleagues, are significant.”

Tony Kirby

