

We cannot deny that these are significant achievements. Nevertheless, there is still much to do. Despite the commitment by many governments to provide combination therapies to tackle malaria, logistical problems and government ineptitude stand in the way of getting the treatment to everyone who needs it. Likewise, the number of children sleeping under bed nets is far short of the number needed. Just as seriously, the lack of laboratory capacity for the monitoring of treatment programmes remains a vexing problem. Malaria is commonly misdiagnosed, and millions of dollars are wasted on expensive combination therapies for patients who are malaria-free.

The campaign against HIV/AIDS is also fraught with difficulties. The widespread availability of antiretroviral drugs and CTX has led to the emergence of forms of HIV that are resistant to HAART, and to several common bacteria that are resistant to CTX. This threatens to undermine the progress achieved thus far against the disease. Furthermore, despite efforts by the World Health Organization (WHO), the United Nations Joint Programme on HIV/AIDS (UNAIDS), the Global Fund to Fight against AIDS, Tuberculosis and Malaria, the William J. Clinton Foundation, the Bill & Melinda Gates Foundation, the US President's Emergency Plan for AIDS Relief and others, 70% of those living with HIV/AIDS in developing countries had yet to receive HAART in 2007.

**WHERE TO**

So, where do we go from here? What is crucial is that the scientific and medical communities in developing countries demonstrate assertive leadership to spur governments to confront the challenges of infectious diseases.

The key tasks are as follows: to maintain and expand the benefits that have been achieved in the treatment and prevention of malaria and AIDS; to draw attention to diseases that do not share the same spotlight, such as leprosy, sleeping sickness, filariasis, bubonic plague, cholera, meningitis and Ebola; and to champion the rights of all people in the developing world to receive adequate health-care. It is important to caution both donors and government agencies that the increased attention being paid to malaria, HIV and TB must not be allowed to overshadow neglected diseases or other initiatives vital to preparing for epidemic diseases.

One priority should be to make HAART and ACTs available to patients in all regions, which would include adequate provision for children. This would require strengthening the laboratory capacity of rural clinics to enable them to provide the treatments and establishing regional laboratories to monitor drug resistance. We must work with HIV and malaria control programmes to identify alternative drugs to replace CTX in the light of antibiotic resistance, and we must collaborate with national governments to delay the emergence of ACT

resistance. At the same time, we must stockpile alternative anti-malarial drugs for use in the event of escalating ACT resistance. Moreover, to control water-borne diseases, we must rebuild dilapidated sanitation and wastewater systems with the help of municipal and district health-care authorities and develop new technologies for water purification in areas where fresh water is scarce.

As scientists, we must take advantage of the improved political climate for direct foreign investment by entering into joint ventures, technology-licensing agreements and investment opportunities for the local manufacture of HAART, ACTs, vaccines, diagnostics and water-purification systems. Instead of serving as junior partners in research initiatives and clinical trials created by our colleagues in the developed world, we must take the lead in developing new interventions for the control of infectious diseases. Public-health officials too can provide more effective leadership in disease control by acquiring new skills that draw on goal-orientated strategies common in the business world.

**ON OUR OWN?**

The scientific and medical communities in the developing world will stand trial in the court of public opinion as culpable accomplices if the voiceless and powerless continue to die of preventable diseases. We have a moral obligation to condemn stridently the inertia and lethargy of national governments in providing health-care to the needy. We must never be silenced by the constant refrain, "There are no funds". Governments in the developing world have money. Yet public health too often takes a back seat to other 'concerns', including perks and privileges for political leaders, and military ventures that divert funds from critical social and economic needs.

Combating infectious diseases in the era of globalization requires new skills and proactive leadership by health-care professionals in developing countries — abilities and qualities that we, in the developing world, must develop and apply on our own. ■

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**VIEWPOINT | Abdul Waheed Khan**

**It is the knowledge (not digital) divide that matters**



A symbiotic relationship exists between science and technology and advances in information and communications technologies (ICTs). On the one hand, mathematics, physics and engineering have helped to propel the ICT revolution. ICTs, in turn, have spurred global advances in science and technology capacity, especially in the developing world. Thanks to advances in ICTs, knowledge has never been easier to process, share and analyse. Having said that, it is important to note that the issue is not 'how' but 'what' information is communicated. That is why I prefer to use the term 'knowledge divide' instead of 'digital divide'. In Africa today, radios continue to be an important means of communication, far more so than the Internet, which is available to less than 1% of the population. If we view the challenges of communication from the perspective of knowledge acquisition, then there is indeed a silver lining in recent efforts to provide the poorest with the tools they need to acquire information for improving their economic and social well-being. It took, for example, 125 years for 1 billion people to have access to fixed phones. Yet, it took just 20 years for cell phones to reach the same level of use. By 2007, cell-phone subscriptions had skyrocketed to 3 billion. Internet use is growing at an even faster pace. The number of Internet subscribers reached 1.2 billion people in 2006, less than 15 years after it was introduced to the public. While it is true that 70% of Internet users live in high-income countries, usage is also dramatically expanding in developing countries. China, for example, recently surpassed the USA to become the world leader in Internet use with over 250 million subscribers. Many of the underlying trends in ICTs are encouraging. Infrastructure costs are falling. Devices are becoming smaller, more portable and user friendly, while simultaneously displaying greater capacity and versatility. This adds up to a promising future for communications across the globe, including in developing countries. If history is any guide, the new and old information technologies (including print, radio and television) will work together to create an intricate global information-delivery system. The key question is not whether we will be able to deliver information, but whether the information we deliver will help to improve peoples' lives. Content and context, not the medium by which it is delivered, will largely determine whether the information revolution will help to create a global revolution in economic and social well-being.

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