Foreword

South Africa (SA) is one of 34 malaria-endemic countries that are currently targeting elimination of the disease. This supplement of the *SAMJ* documents SA's remarkable public health achievement in moving from malaria control to the threshold of elimination (zero local transmission in a defined geographical area). Nevertheless, SA's malaria programme still needs to travel some distance before it attains its goal of elimination by 2018. The articles in this supplement pay tribute to sterling efforts by dedicated persons who contributed and guided policies and interventions, not only in SA, but also elsewhere on the African continent and globally. These pioneering efforts deserve high-level recognition. The key lesson from early malaria control is that hard-won gains are rapidly lost when important control measures are curtailed, especially in low-transmission settings. Progress on every front, and at every level, is fragile. Malaria is a disease that can take full advantage of any lapse in investment, vigilance or control.

Coetzee *et al.*[1] provide an extensive historical account of malaria-control interventions, with a focus on vector control through indoor residual spraying (IRS) with effective insecticides – including DDT, albeit in the face of severe criticism from the international community. The use of surveillance techniques and evidence-based treatment, which inform current policies, is also described. Probably the most important lesson over the years has been the need for constant vigilance and surveillance of vectors and parasites. Where these have faltered, increased transmission has been seen, sometimes dramatically so, as in the 1999/2000 epidemic.

Maharaj *et al.*[2] describe the epidemiology of malaria for the period 1995 - 2012, showing a significant reduction in reported cases since 2000. They relate the key factors associated with the decline in cases – a consequence of the re-introduction of DDT, a change to artemisinin-containing combination treatment (ACT), and the adoption of regional malaria-control strategies in SA, Swaziland and Mozambique, through the Lubombo Spatial Development Initiative (LSDI). While malaria notifications have been relatively stable between 2008 and 2012, it is encouraging that local transmission has declined, with imported cases now contributing the majority of these notifications. Importation of malaria cases from neighbouring countries poses a significant threat to malaria elimination efforts in SA, because of the presence of receptive vectors and the vulnerability of communities in susceptible areas.

Brooke *et al.*[3] discuss vector control, with the main focus on IRS – the backbone of the SA malaria control programme for several decades. They highlight the dominant vector species and their distribution, and the relevant insecticide resistance patterns. Emphasis is placed on the need for routine vector surveillance, highlighting the vigilance of the malaria programme in the year 2000 in detecting the re-appearance of *Anopheles funestus* and its resistance to pyrethroid insecticides after the use of DDT had been stopped. They also provide useful recommendations for surveillance and monitoring of insecticide resistance.

Frean *et al.*[4] deal with malaria diagnosis, a prerequisite for effective case management. They provide an account of the various options for malaria diagnosis in general, but also focus on two important diagnostic tools for malaria in SA – rapid diagnostic tests (RDTs) and microscopy. The key message is that quality assurance for malaria diagnostic tests is pivotal to good case management and to ensure accurate measuring of programme indicators and interventions. New diagnostic tools and strategies to support active surveillance programmes, critical for malaria elimination, are mentioned.

Upke *et al.*[5] focus on treatment, detailing how effective drug policy has reduced malaria morbidity and mortality; in particular, the shift from monotherapy to ACT for the management of uncomplicated malaria. They discuss new strategies to interrupt the chain of transmission through active surveillance and treatment in the field.

Groepe *et al.*[6] deal with health promotion and advocacy for malaria control. The health promotion strategy lies at the heart of ensuring that communities are cognisant of malaria and that they understand that the disease is preventable and treatable. This strategy is often not given due prominence in disease control programmes. The authors provide an in-depth account of the role health promotion has played in malaria control over the past decade, and propose recommendations for areas that require strengthening to support malaria elimination.

The final article[7] describes the epidemiological stages of the WHO malaria elimination continuum and SA's progress along it. The authors identify the operational, financial and technical gaps required for the elimination of malaria in SA, and propose solutions for mitigating these.

SA has come a long way in fighting malaria. This supplement is a useful reference for those keen to learn lessons from the past, and key issues that need to be addressed to move from malaria control to elimination in SA. These are: targeted approaches to vector control; strong programmes for detection of parasite and vector resistance; active surveillance; ensuring that the chain of transmission is broken; regional and cross-border malaria control initiatives; and maintaining advocacy and political commitment for the malaria programme. The benefits of elimination of the disease in SA lie in demonstrating the country's ability to tackle a significant public health problem, the positive impact on socioeconomic conditions and health of persons living in affected areas, and increasing the tourism potential of the country.

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