

# South African Medical Journal

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## South Africa's first century

For better or for worse, the date 31 May will remain embedded in the annals of South African history. On this date in 1902 the second Anglo-Boer War officially ended, and in 1910 the four British colonies of the Cape of Good Hope, Natal, Transvaal and the Orange Free State united to form a single country under British dominion. Bar this event, these colonies would have traversed separate historical trajectories eventually leading to four independent sovereign states. Ironically, the name South Africa (and the ZA international country code) harks back to Paul Kruger's Zuid-Afrikaanse Republiek, itself an amalgamation of several tiny Afrikaner republics in the territory that came to be known as the Transvaal. Finally, on 31 May 1961, South Africa was declared a republic, with Hendrik Verwoerd exulting 'God regeer!' (God reigns!).

31 May 2010 therefore marked South Africa's 100th birthday. And as President Jacob Zuma acknowledged in his State of the Nation address of 11 February 2010, the formation of Union was a watershed event uniting the land, the cultures, the languages and the people of this region into one country destined to become Africa's economic and intellectual powerhouse. Zuma went on to muse that 'As we mark this centenary later in the year, we should reflect on how far we have travelled as a country.' But in fact there was no such celebration or reflection – no fireworks, balloons, parades or speeches. Even the press was oddly coy.

The ambivalence is not difficult to understand. The Union constitution entrenched the disenfranchisement of black people, despite vigorous lobbying that included a visit by a black and white delegation to the Imperial government in London. Two years later, the Native (later African) National Congress was born. Then in 1913 the Union parliament passed the Natives Land Act to expropriate 97% of the land for exclusive white occupation and ownership. These two moves – black disenfranchisement and land dispossession – laid the foundations and set the scene for what was to become a tempestuous contest between black and white interests, thankfully culminating in the 1994 democratic dispensation.

These original sins aside, however, South Africa's first century witnessed some truly stunning achievements in the fields of medicine and health: world-class medical schools; a public health system that, despite its racialised design, saw many endemic infectious diseases eliminated or brought under control; and a first-class research capability that made striking contributions to global medical knowledge and produced many 'world firsts', from the lowly pregnancy 'frog test' devised in South Africa in 1928 (the standard pregnancy test right up to the 1950s) to the first heart transplant in 1967 and, most recently, the development of a microbicide vaginal gel to protect against HIV infection.

South Africa's contributions to medical science in its first century are perhaps best reflected in the spectacular achievements of the

South African Institute for Medical Research (SAIMR). Back in the early goldmining days, the Chamber of Mines was deeply concerned about the impact on productivity of the high mortality rate among mineworkers, particularly the 'foreign natives' recruited from other southern African territories. By 1902/03, the *monthly* death rate from pneumonia and other respiratory infections had reached an astonishing 250 per 1 000 mineworkers. Yet it was not until 1912 that the SAIMR was mooted to deal with this problem in an organised and co-ordinated manner. Ironically, the SAIMR's imposing Herbert Baker-designed building and initial equipment were procured with funds accumulated by the Witwatersrand Native Labour Association from the sale of blankets and clothing to black recruits.

The SAIMR conducted critical research to elucidate the role of silica mine dust in 'miner's phthisis' and tuberculosis. J C Wagner and colleagues were the first to uncover the connection between asbestos exposure and mesothelioma. The SAIMR soon expanded its original mandate to include public health issues affecting South Africans of all colours. Its researchers conducted the first large field studies on malaria, and pioneered indoor spraying against mosquitoes, a practice soon adopted globally. Breakthrough research on blood transfusions enabled the treatment of haemolytic disease of the newborn. John Higginson and George Oettle devised large-scale cancer epidemiological techniques, hailed and adopted by the World Health Organization.

The SAIMR developed special expertise in vaccine and snake antivenom research and production. It co-developed the polio vaccine with US collaborators and later, when an oral version became available, John Gear rolled out the first-ever population-wide oral vaccination campaign. He later founded the National Institute for Virology, which has since booked research triumphs of its own. Other exceptional SAIMR work focused on conditions such as schistosomiasis, cholera, the plague, haemorrhagic fevers, hypercholesterolaemia and more.

This year, South Africa hosted what was by all accounts the most successful FIFA World Cup in the history of the tournament, and in the process ignited a warm and fuzzy feeling of togetherness among South Africans – a fitting celebration, albeit by serendipity, of a century born in conflict, and concluded in odds-defying reconciliation.



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