



In Conversation with Dr Kobus Herbst

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In this edition of *The SAPRIN Connection* we speak to Dr Kobus Herbst, Director of SAPRIN.

Dr Kobus Herbst is Director of the [South African Population Research Infrastructure Network \(SAPRIN\)](#) and also the Director of Population Science at the [Africa Health Research Institute \(AHRI\)](#). Roopa Moodley, SAPRIN's Public Relations Manager delves into his illustrious career as she unpacks how a medical doctor pivoted into computer science and carved a career using his rare skillset to make invaluable contributions to public health in South Africa.

Kobus is a medical doctor who obtained his qualification from the University of Pretoria in 1979. His interest in computers began in the late

1970's when he visited Professor Dev Griesel's laboratory at the Institute for Behavioural Sciences at the University of South Africa (UNISA). He soon realised he did not want to pursue a career in clinical medicine and went on to obtain a MSc in Bioengineering, with distinction from the University of Cape Town (UCT) in 1988. He acquired a post-graduate diploma in health services administration from the University of Pretoria and in 1994 was awarded his FFCH (SA) in Public Health Medicine from the College of Medicine.

In 1991 he became a Community Health registrar at Medunsa and worked with Dr Nicholas Crisp, then Regional Director at the National Department of Health for the Northern Region. Kobus is credited with developing the Regional Health Management Information System (ReHMIS) which created an inventory of public hospitals and clinics with staffing, service utilization, expenditure and geolocation. With funding from the Independent Development Trust, where his Programme Officer was Dr Gwen Ramakgopa, ReHMIS was eventually implemented throughout the country creating the first detailed inventory of all public health care facilities. ReHMIS highlighted the stark inequalities in public health service provision pre-1994.

During his travels to Tintswalo Hospital in Acornhoek, Bushbuckridge for ReHMIS, Kobus met Professors Steve Tollman and Kathleen Kahn. Steve expressed his desire to create a Health and Demographic Surveillance System (HDSS) in Bushbuckridge around the village of Agincourt. Kobus went on to develop the information system for Agincourt and provided subsequent support. He co-wrote the first publication on the [Agincourt HDSS](#) and his fascination with HDSS was born.

Kobus went on to help Dr Marianne Alberts establish Dikgale DSS (now known as [DIMAMO Population Health Research Centre](#)) and Dr Geoff Solarsh to start the Africa Centre for Population Studies (now [AHRI](#)). He then joined Africa Centre for Population Studies where he established the information systems and worked from 2003 to 2017



in the capacity of Deputy Director and became the Chief Information Officer at AHRI from 2017 until 2020.

His involvement in the HDSS space continued to grow and with Steve and other African scientists he was instrumental in creating the INDEPTH network of HDSS. INDEPTH aimed to develop the standards and approach to managing the data from the longitudinal studies. Kobus was the Principal Investigator (PI) for INDEPTH data systems and assisted various HDSS with their systems.

In 2007 Kobus received a grant from the Wellcome Trust to establish the iShare Data Repository which standardised and made available data from 29 HDSS. Kobus explains that one of the features of HDSS is the ability to document mortality and life expectancy changes. Using this data Kobus provided some of the earliest evidence of the impact of widespread anti-retroviral treatment on all-cause mortality decline, cause-specific mortality changes and increase in life expectancy. In collaboration with Peter Byass, he contributed to developing and validating automated cause-of-death assignment based on verbal autopsies.

HDSS as a research platform was gaining momentum and caught the attention of the former Department of Science and Technology (DST). A network of HDSS nodes was identified as a potential national research infrastructure. In 2015, following a business plan and proposal, together, with Professor Mark Collinson, Kobus was nominated to co-lead the development of SAPRIN with Mark. He was appointed as Director of SAPRIN in 2018. In 2020 their work was honoured when Kobus and Mark received a National Science and Technology Forum award.

Today SAPRIN consists of six HDSS nodes (three rural and three urban). A seventh node will be welcomed shortly. Speaking on the importance of SAPRIN, Kobus explains that communities are complex and dynamic. Populations are impacted by numerous factors such as life cycle, diseases, migration, socioeconomic aspects and even climate. “The HDSS is really the only way of understanding in detail the different factors that impact on health and well-being and then provides you with a place where you can evaluate different interventions and measure whether those interventions have the desired impact, so you do that through trials, experiments but you can also do that by looking at policy changes and seeing what the impact of policy changes is,” he said.

Kobus recollects several notable highlights during his time at SAPRIN. He describes the agreement by the 3 existing HDSS nodes to a common protocol as a significant milestone. It took him and Mark around two years to reach that point. The launch of DIMAMO Population Health Research Centre is his second highlight. It was gratifying to see the HDSS progress from having no centre to infrastructure being built and occupied because of SAPRIN funding. The award of the first urban nodes, GRT-INSPIRED and C-SHARP in response to the drawbacks of rural only nodes was a crucial achievement. Lastly, the release of the first harmonised dataset in 2019 from the three rural nodes was a remarkable feat.

Unfortunately, the INDEPTH network became defunct leaving a void for HDSS nodes, particularly on the African continent. It had been a valuable platform for sites to come together and share experiences. Related to INDEPTH was the Alpha Network, bringing together longitudinal cohorts conducting HIV surveillance. This critical network provided data to UNAIDS to model and monitor the HIV epidemic. Concerns about the sustainability of this type of longitudinal population cohorts set in motion a process for the African Population Cohort Consortium (APCC). Kobus and a group of African collaborators won a contract from the Wellcome Trust to lead the [formative phase of the APCC](#). Kobus led this work jointly with Dr JP Ochieng’- Odero and later Dr Evelyn Gitau. The [APCC blueprint](#)

was accepted by 45 African population cohorts in May 2024. Kobus was elected as the interim steering committee chair of the APCC and is sourcing funding to implement the APCC.

It comes as no surprise that Kobus has and continues to serve on numerous bodies. He is currently a member of the Scientific Steering Committee of International HundredK Cohort Consortium and a member of the H3Africa Data and Biospecimen Access Committee.

It is difficult to encapsulate the extent of Kobus' work in one article but it would be remiss not to mention that as head of Community Health in Limpopo, he conceptualized and developed a Uniform Patient Fee Schedule (UPFS), which was approved as policy in November 2000 and promulgated in most provinces by June 2001. The UPFS is still used in all public health hospitals.

Around this time he was commissioned by Judge Kathleen Satchwell to calculate the cost of medical and rehabilitation care for road accident victims in public hospitals. Kobus's work on the National Health Reference Price List began following a Competition Commission finding against the price lists developed by the Representative Association of Medical Schemes (RAMS) and the South African Medical Association (SAMA). With support from the Medical Schemes Council, he developed a reference database of medical fees and a costing model, which was published as a set of guidelines in the Government Gazette in 2008.

Kobus is a proponent of capacity development and views himself as an artisan who is passionate about creating tools that allow people to carry out research. Kobus explains, "SAPRIN can be described as one such tool but more specifically, the data tools and products that allow people to have better access to information that they can use to further their own scientific careers and answer research questions that they have. So, if you look at the work that I have done with iShare, AHRI and SAPRIN, it is all about making data accessible to students and other scientists to further their careers."

His deep commitment to contributing towards building the next generation of scientists is also evident by the various lecturing positions he has held including; Honorary Professor at the University of Limpopo, Associate Professor at the Wits School of Public Health, Senior Lecturer at the Department of Public Health Medicine UKZN based at the Africa Centre and Honorary Associate Professor in the Department of Community Health of the Nelson Mandela School of Medicine, University of KwaZulu-Natal.

Kobus' vision for SAPRIN is, "A research infrastructure that hosts and facilitates impactful science where the results of that science make a positive difference to the lives of people. Not only in the nodes but for the community at large, in South Africa, in the continent and wider. We need to use this incredible platform to have insights that will be significant for a greater, larger population."