

CSIR NEXTGEN HEALTH

MEDICAL DEVICES, DIAGNOSTICS AND VACCINES IMPACT AREA

ABOUT MEDICAL DEVICES, DIAGNOSTICS AND VACCINES IMPACT AREA

South Africa has a quadruple burden of disease (HIV/ TB, non-communicable, maternal and child mortality, and injuries). The global Point-of-care (POC) diagnostics market is projected to reach US\$72 billion by 2027, growing at a CAGR of 10.8%. More than 90% of the medical devices and other health care products in SA are imported, increasing the burden on the economy as over 85% of the population is dependent on the public health system. While the CAGR for plant vaccine is estimated at 6.1% and key drivers contributing to this growth include: the need for local capabilities in vaccine development and production to strengthen regional health security; increased demand for (protein) meat and other livestock products; as well as the need for disease control affecting humans and livestock for consumption.

The Medical Devices, Diagnostics & vaccines Impact area is premised on "One Health" Approach, with the focus of developing local technologies in Diagnostics and Vaccines targeting Human, Animal and Zoonotic diseases relevant to South Africa and continent. The group will integrate digital technologies for surveillance, reporting and epidemiology in support of South Africa/ Africa's healthcare system.

The veterinary vaccines and diagnostics group, which focuses on vaccine research using bacteria and plant-based expression systems, and developing point-of-care molecular diagnostic kits (including lab-on-chip and point-of-care solutions) for veterinary, aquaculture and zoonotic diseases.



The human molecular diagnostics and omics group, which focuses on developing a thriving local medical device and diagnostic industry, through the use of in-house microsphere technology for novel workflows and sample preparation and point-of-care diagnostic assay development for infectious diseases, as well as proteomics for clinical research, including proteomics data science with tailored data interpretation for drug discovery, identification of biomarkers and new-age diagnostics.

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