

The National Institute for Communicable Diseases HIV Virology Section



Translating science
into global health impact

A resource of knowledge and expertise in regionally relevant communicable diseases to the South African Government, to the Southern African Development Community (SADC) countries and the African continent



Division of the National Health Laboratory Service

The National Institute for Communicable Diseases (NICD) is a national public health institute of South Africa, providing reference microbiology, virology, epidemiology, surveillance, and public health research to support the government's response to communicable disease threats. The institution assists in the planning of policies and programs to support and respond to communicable diseases.

The Centre for HIV and STIs (CHIVSTI) has a strong track record in the research disciplines of HIV virology, HIV immunology, HIV/STI epidemiology, HIV/STI diagnostics and HIV-STI interactions. CHIVSTI addresses the challenges of HIV and STI diseases through various programs. The CHIVSTI consists of four sections: HIV virology; cell biology; HIV molecular and serology; sexually transmitted infections section.

The HIV virology section is a globally accredited laboratory responsible for performing validated end-point antibody tests for the HIV Vaccine Trials Network, including passive and active vaccination regimens. A major research focus of the laboratory is to understand how HIV broadly neutralizing antibodies (bnAbs) develop (including virology, immunology, and immunogenetics), as bnAbs that block a wide range of HIV variants are crucial to achieving a protective HIV vaccine. The section also engineers antibodies and expression systems for the delivery of antibodies. Research involves studies of both infected and vaccinated individuals.

The NICD is categorized as a top-class scientific institution of international standard. The public health foundations of the NICD govern the direction of research performed at facilities through technology

development and intervention-driven research. The aim of the research conducted at the NICD is to address queries and offer information surrounding micro-organisms.

The NICD has capacity for disease surveillance, training, outbreak response, research, proficiency testing schemes, and diagnostic services.

The institute is an expert advisory body which provides specialist advice during outbreak situations, as well as offering laboratory support where required. Today, the NICD is continuously analyzing and interpreting data collected from laboratories and research and providing feedback to all relevant parties.



NICD HIV Virology Section team

Laboratory capacity

The NICD has specialized units, which provide clinical and molecular surveillance. These laboratories aim to perform rapid, accurate diagnostic tests for research, critical disease surveillance information, and patient management. The NICD is also available to the African continent as a necessary research laboratory and institutional resource. Diagnostic services, reagents and biological materials, and NICD training facilities are made available to fellow African countries to strengthen the current African surveillance laboratory network.

People

The HIV Virology section consists of nine postgraduate students, three post-doctoral fellows, seven research assistants and four staff scientists. The team is led by Penny Moore Ph.D., reader/associate professor and the DST/NRF South African Research Chair of Virus-Host Dynamics at the University of the Witwatersrand and the National Institute for Communicable Diseases.

IAVI-supported activities

Early infections and clinical outcomes cohort (Protocol C) – A study to evaluate clinical, laboratory, immunologic and viral markers of disease progression in volunteers with recent HIV infection to prepare for activities relevant to the execution of preventive HIV vaccine efficacy trials. The USAID-supported Protocol C¹.

¹ <https://www.iavi.org/our-work/clinical-epidemiology-research/hiv-epidemiology?view=article&id=415:protocol-c&catid=60>

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IAVI gratefully acknowledges the generous support provided by the following major donors:



Biomedical Advanced Research and Development Authority (BARDA) | Foundation for the National Institutes of Health | National Institute of Allergy and Infectious Diseases | amfAR, The Foundation for AIDS Research | The Buimerc Group | Broadway Cares/Equity Fights AIDS | Cancer Research UK | The City of New York, Economic Development Corporation | Congressionally Directed Medical Research Program (DoD) | GSK | The Hearst Foundations | Keith Haring Foundation | Merck & Co., Inc., Kenilworth, NJ, USA (known as MSD outside the USA and Canada)

And many other generous individuals and partners around the world

As of October 2021