

NICD 2008

National Microbiology Surveillance Unit

BACKGROUND

The National Microbiology Surveillance Unit (NMSU) aims to contribute to the control of bacterial and fungal diseases, determined to be of public health importance in South Africa, through the development and coordination of laboratory-based surveillance systems which provide strategic information for public health action. The objectives of the NMSU are to coordinate, direct and provide capacity for the activities of the well-established GERMS-SA surveillance programme and coordinate and/or provide capacity for collaborative research studies to assist in the understanding of research questions arising from surveillance projects.

ACTIVITIES, HIGHLIGHTS AND ACHIEVEMENTS

GERMS-SA SURVEILLANCE PROGRAMME

GERMS-SA is a national, laboratory-based surveillance programme for bacterial and fungal diseases of public health importance. More than 15,000 laboratory-confirmed cases are reported through this system

annually. The NMSU directs and coordinates the surveillance programme in collaboration with other units within the NICD: Enteric Diseases Reference Unit (EDRU), Epidemiology and Surveillance Unit, Mycology Reference Unit (MRU), Parasitology Reference Unit (PRU) and Respiratory and Meningeal Pathogens Reference Unit (RMPRU). A full description of surveillance activities of the GERMS-SA programme is contained within the Annual Report 2008.

GERMS-SA SURVEILLANCE SITE VISITS

In 2008, surveillance site visits to 17 laboratories in 5 provinces provided an opportunity for NICD staff to engage with laboratory and hospital staff participating in the surveillance programme.

GERMS-SA COORDINATION MEETINGS

The NMSU coordinated the GERMS-SA surveillance programme by convening the following meetings involving local and international collaborators:

- Surveillance Officer meeting, 13-14 March 2008
- Surveillance Officer meeting, 13-14 November 2008
- Principal Investigator meeting, 5-6 November 2008
- Steering Committee meeting, 6 November 2008

Table 1: GERMS-SA surveillance site visits, 2008

Date	Province	Laboratory	Hospital
1 April 2008 2 July 2008 31 July 2008 26 August 2008	Gauteng	NHLS Natalspruit NHLS Far East Rand NHLS Helen Joseph NHLS Pretoria Academic	Natalspruit Hospital Far East Rand Hospital Helen Joseph Hospital Pretoria Academic Hospital
9-10 September 2008	Limpopo	NHLS Mankweng NHLS Polokwane NHLS Potgietersrus NHLS Jane Furse NHLS Tzaneen	Mankweng Hospital Polokwane Hospital Potgietersrus Hospital Jane Furse Hospital Tzaneen Hospital
2 July 2008 14-16 July 2008	Mpumalanga	NHLS Ermelo NHLS Shongwe NHLS Rob Ferreira NHLS Barberton	Ermelo Hospital Shongwe Hospital Rob Ferreira Hospital Barberton Hospital
7 March 2008	North West	NHLS Rustenburg	Rustenburg Provincial Hospital
13-14 May 2008	Western Cape	NHLS Tygerberg NHLS Greenpoint NHLS Groote Schuur	Tygerberg Hospital - Groote Schuur Hospital



Figure 1: Staff of the NHLS laboratories at Far East Rand (left) and Helen Joseph (right)

GERMS-SA PUBLICATIONS

The NMSU compiles and distributes regular surveillance publications to the participating laboratory network and other stakeholders. These are available on the GERMS-SA website.

- Annual Report 2007
- Quarterly Laboratory Reports: Q1-2008, Q2-2008, Q3-2008, Q4-2008
- Enhanced Surveillance Site Operational Reports Q1-2008, Q2-2008, Q3-2008, Q4-2008
- Link Newsletter: Volume 20 (August 2008), Volume 21 (December 2008)

RESEARCH PROJECTS

The NMSU collaborated with other NICD units on the following projects during 2008:

- PCP surveillance case data, 2006-2008
- Paediatric cryptococcosis in South Africa, 2005-2007: a comparison with adult cryptococcal disease
- High levels of HIV-coinfection in adults with invasive pneumococcal disease, South Africa, 2003-2006
- Emergence of levofloxacin-non-susceptible pneumococci in children associated with treatment for multidrug resistant tuberculosis in South Africa
- A case-control study to determine risk factors (including HIV infection) for acquiring meningococcal disease and carriage in 3 provinces of South Africa
- Predictors of non-reporting to a national laboratory-based surveillance programme in 2007
- Active laboratory-based surveillance for invasive and non-invasive shigellosis in South Africa, 2003 - 2007: predominant serotypes may guide vaccine development
- Characterisation of invasive isolates of *Salmonella enterica* serovar Typhimurium in Gauteng, South Africa, 2006-2007
- The microbiological characterisation on non-typhoidal salmonellosis in invasive strains in South Africa between 2003-2007

- Nosocomial salmonellosis analysis of invasive cases occurring in South African hospitals over an 18 month period (2007-2008).

COLLABORATIONS

The GERMS-SA Surveillance Programme

- Loekie Badenhorst, MBBCh, FCPATH (SA) Micro, Universitas Hospital/ NHLS
- Kosie le Roux, MBBCh, Universitas Hospital/ NHLS
- Andrew Rampe, Dip Med Tech, Rustenberg Hospital/ NHLS
- Pieter Jooste, FCPaed (SA), Kimberley Hospital
- Ken Hamese, FCPaed (SA), Polokwane/ Mankweng Hospital
- Jacob Lebudi, Business Manager, Rob Ferreira/ NHLS
- Greta Hoyland, Dip Med Tech, Rob Ferreira/ NHLS
- Yacoob Coovadia, MBBCh, FCPATH (SA) Micro, Inkosi Albert Luthuli Hospital/ NHLS
- Sindiswe Sithole, MBBCh, Inkosi Albert Luthuli Hospital/ NHLS
- Sumayya Haffejee, MBBCh, FCPATH (SA) Micro, Grey's Hospital/ NHLS
- Halima Dawood, FCP (SA), Grey's Hospital
- Anwar Hoosen, MBBCh, FCPATH (SA) Micro, Steve Biko (Pretoria) Academic Hospital Complex/ NHLS
- Kathy Lindeque, Dip Med Tech, Steve Biko (Pretoria) Academic Hospital Complex/ NHLS
- Maphoshane Nchabaleng, MBBCh, MMed (Pathology) Microbiology, Dr George Mukhari Hospital/ NHLS
- Siseko Martin, MBChB, Tygerberg Academic Hospital/ NHLS & University of Stellenbosch
- Elizabeth Wasserman, MBChB, MMed (Path) Microbiology, Tygerberg Academic Hospital/ NHLS & University of Stellenbosch
- Olga Perovic, MD, FCPATH (SA) Micro, Charlotte Maxeke (Johannesburg) Academic Hospital/ NHLS
- Charles Feldman, MBBCh, FCP (SA), PhD, Charlotte Maxeke (Johannesburg) Academic Hospital/ NHLS
- Sandeep Vasaikar, MD, Nelson Mandela Academic Hospital/ NHLS

Vivek Bhatt, MD, Nelson Mandela Academic Hospital/ NHLS

Jeannette Wadula, MBBCh, FCPATH (SA) Micro, Chris Hani Baragwanath Hospital/ NHLS

Alan Karstaedt, MBBCh, FCP (SA), Chris Hani Baragwanath Hospital

Andrew Whitelaw, MBBCh, FCPATH (SA) Micro, Groote Schuur Hospital/ NHLS

Adrian Brink, MBBCh, FCPATH (SA) Micro, Johannesburg, Ampath National Laboratory Services

Maria Botha, MBBCh, FCPATH (SA) Micro, Johannesburg (Metalbox), Ampath National Laboratory Services

Suzy Budavari, MBBCh, FCPATH (SA) Micro, Johannesburg (Sunninghill), Ampath National Laboratory Services

Mark Cruz da Silva, MBBCh, FCPATH (SA) Micro, Johannesburg (Metal Box), Ampath National Laboratory Services

Xoliswa Poswa, MBBCh, FCPATH (SA) Micro, Johannesburg (Pomona), Ampath National Laboratory Services

Inge Zietsman, MBBCh, FCPATH (SA) Micro, Johannesburg, Ampath National Laboratory Services

Juanita Smit, MBBCh, FCPATH (SA), Lancet laboratories

CAPACITY BUILDING

WITS PUBLIC HEALTH REGISTRAR TRAINING PROGRAMME

Student: Elvira Singh, MBBCh

Project: HIV-infection is associated with increased risk of meningococcaemia and higher case fatality rates in South Africa

Duration: January to June 2008

Student: Andre Rose, MBBCh

Duration: July to December 2008

FELLOWSHIP PROGRAMME: 2008-2009 O.C. HUBERT STUDENT FELLOWSHIP IN INTERNATIONAL HEALTH

Student: Katherine Le, MD

Project: Overview of GERMS-SA, Analysis of PCP surveillance data (GERMS-SA)

Duration: 23 May to 8 June 2008

Supervisors: Nelesh Govender/ Vanessa Quan/ Desiree du Plessis

Infectious Diseases Sub-speciality Training

Students: Adrian Kreuzsch, FCP (SA) and Sarah Stacey, FCP (SA)

Duration: 1 week (November 2008)