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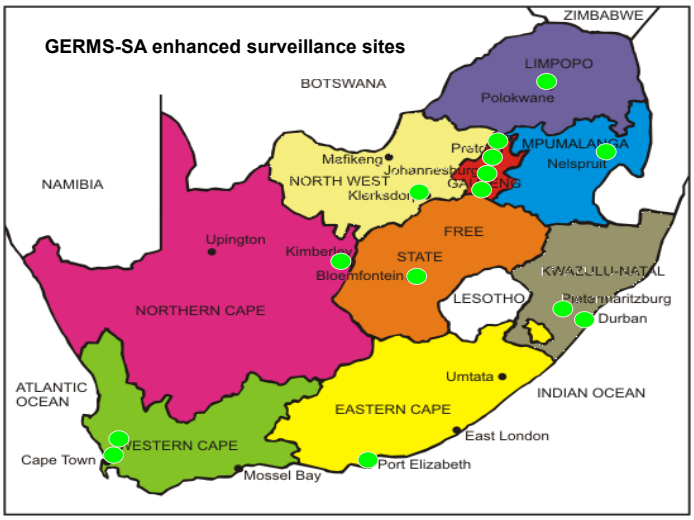


Volume 51, January 2017

Third and Fourth Quarter 2016

HAPPY 2017—may it be a wonderful and prosperous year for you!

We combined our happenings of the last 6 months of 2016 in this volume. I went back to our very first LINK (February 2003) and it was a meager two pages long. In fact our BUMPER edition (Volume 8, October 2004) was 6 six pages long and included data!

This volume covers some aspects of the PEOPLE in our surveillance programme and what GERMS means to us. We shall look briefly at the annual GERMS-SA Surveillance Officers' Meeting (pages 2-3) and the Surveillance officers' meeting for Pneumonia and Influenza like illness (ILI) Surveillance (page 11), some of the stories written by our surveillance officers about TB (pages 6 and 7), an update on the cryptococcal antigen reflex screening programme—a substantial undertaking by NDOH, NHLS and NICD (pages 8 –9) and the fun side and comings and goings in GERMS. The last two pages are a reminder of the isolates we request from laboratories.

On 19 December, one of our former GERMS sisters, Mmakgomo Dorah Rakhudu, passed on from cancer. She was a surveillance officer in Rustenburg for about 4 years and then came to NICD as a Field Project Coordinator for almost 3 years. Khasi Mawasha (surveillance officer from FS) wrote a tribute to her (page 15). Volume 51 is dedicated to Mmakgomo.

GERMS SOUTH AFRICA

GERMS-SA Surveillance Officers' Meeting

Vanessa Quan

Our annual SO meeting took place on 1-3 November at the Genesis Conferencing and Suites in Johannesburg. This was our TWENTY-FIFTH SO meeting and included training on GERMS-SA laboratory surveillance, clinic surveillance and TB community surveillance. It was organised by Cecilia Miller (who was our first surveillance officer in Cape Town and is now a Field Project Coordinator (FPC); she has attended 24 of the 25 SO meetings), and run by the FPCs. It was a wonderful success and staff were re-trained on aspects of surveillance and data quality.

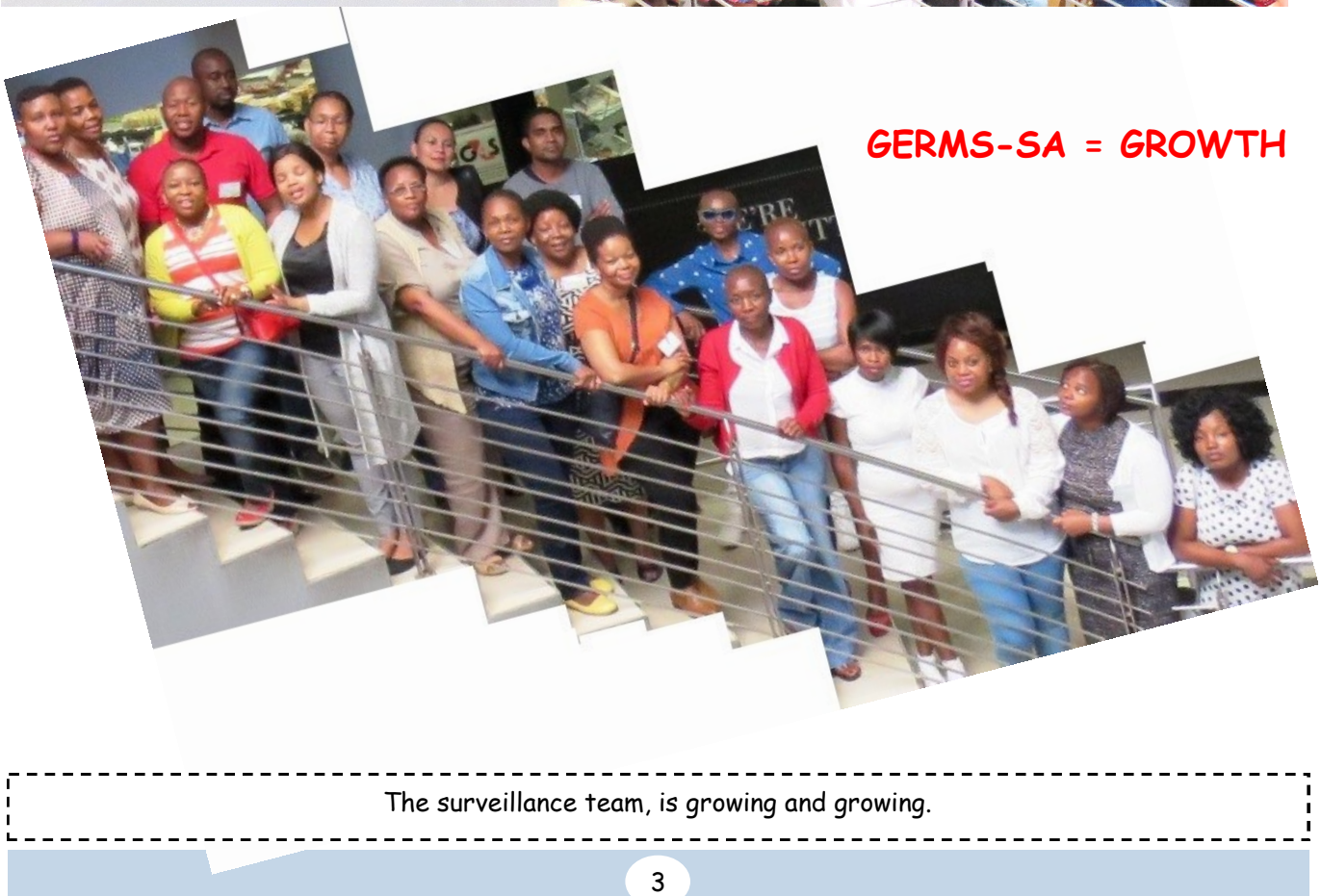
Vanessa, Susan and Linda are creating a *über* leadership team.

Cecilia facilitating a session with Vanessa and Susan

Sunnieboy (FPC for MP and KZN) coordinating a simulated TB interview with Kgash (MP CSA) as the interviewer and Ntombizandi (EC CSA) as the patient.

Breakaway planning for ongoing debriefing sessions at sites (Vusi, John, Dikeledi and Opthia from Tshwane)

GERMS-SA Surveillance Officers' Meeting continued



GERMS-SA = GROWTH

The surveillance team, is growing and growing.

This is what it means to be part of the GERMS-SA team

Tsakane Nkuna, project administrator

•**Excellence** - Improve my performance continuously and strive to be the best in everything I do.
•**Teamwork** - Work together, to meet the needs of our team and to help our projects to grow.
•**Integrity** - Communicate openly and honestly and build relationships based on trust, respect and caring.
•**Quality** - Committed to excellence in everything we do and strive to deliver value to GERMS-SA. We adhere to ethical standards.
•**Accountability -** Take full responsibility for our activities and are accountable for our work. We honour our commitments and take pride in our work.
•**Time management** – To do my things immediately than to wait for the last minutes.
•**Following up** – Always follow up on my sent request emails and documents.
•**Learning and growth** – Trainings are provided at GERMS-SA to improve our skills and growth.
•**Fun** - I believe funniness is essential to success. We celebrate achievements e.g. Baby showers, Birthdays etc.

Thandeka Skosana helping out in Kimberley Hospital

Susan Meiring

GERMS-SA is all about team work and it is really encouraging when one team member is willing to relocate to another province for a month to help out when another is away.

Thandeka at a Northern Cape TB clinic

From 18 July to 23 August 2016 Thandeka Kosana went to Kimberley to relieve Matsheko Siyaka, our only surveillance officer in the Northern Cape, who had to undergo surgery. Below Thandeka shares some of her experiences during that time away from home in the Free State.

"My experience in Kimberley hospital was all in all good, but also a very sad time, as my mother sadly passed away shortly before I left. I never thought that I could do it but I thank God that I did. Kimberley Hospital is very small compared to Pelonomi and Universitas Hospitals and this made the transition easier. Matsheko had also orientated me quite well, and the laboratory staff were very friendly and helpful.

"The only challenge I had was finding my outstanding TB patients, but through hard work and determination I managed to trace and enrol 80% of them. Language was not a problem because I can speak a bit of Afrikaans and Tswana. I am grateful for the challenge as it was a learning experience and eye opening working at a different site."

Nuraan Paulse, GERMS-SA Field Project Coordinator, had the following to say about Thandeka's time in Kimberley: "I am happy to say that Thandeka really went the extra mile. She managed to trace about 80% of the TB patients which were outstanding from 1 June until now. Given that she started here in Kimberley on 18 July, 19 TB patients were successfully followed up, out of a total of 24."

Thank you so much Thandeka for being willing to help out. We are also grateful that Matsheko had a speedy recovery and could return to work without a huge backlog to overcome.

GERMS-SA = Team Work

Thandeka interviewing a TB patient

A look at Tuberculosis and drug resistant TB in the workplace

Susan Meiring

Recently the GERMS surveillance officers were required to submit an assignment exploring their own personal risk of being exposed to and contracting tuberculosis. They were asked to read and answer questions from a journal article looking at the risk of Health Care Workers contracting TB.

GERMS-SA = LEARNING

Below are some extracts from stories written by three SO's describing their personal experiences with tuberculosis amongst patients and colleagues whilst working in South African hospitals.

Mr TB does not discriminate – he's a model South African citizen

(by Kate Bishop)

Nelson Mandela once said, "We pledge ourselves to liberate all our people from the continuing bondage of poverty, deprivation, suffering, gender and other discrimination." In South Africa, we dream of a nation that is free of discrimination. So, let me introduce you to Mr TB - a very quiet, humble, and unassuming guy. But Mr TB is a model South African citizen, who is a shining example of giving fair and equal opportunity to all. Mr TB does not discriminate against anyone, and he deserves our respect. Yet, we often forget that he is around visiting, and only find out about his visits afterwards. He enjoys visiting people across the broad spectrum of our rainbow nation. He visited my friend's baby in crèche, a friend from church who works for a group of architects, a pregnant mother, a colleague, the vagrant on my street, and countless more. But no one enjoys it when Mr TB visits. Instead of unity, he brings isolation. Instead of freedom, he brings bondage to a tough treatment regime. He brings heartache, suffering, and steals years of your life. We need to remember that Mr TB is visiting, and prepare for his visits by telling others about him. Once again, South Africa needs to stand together in unity, and take notice of Mr TB.

The stigma of TB in the workplace

(by Lesley Ingle)

A year ago, whilst working as a professional nurse at a local clinic, a colleague was diagnosed with TB. He had been coughing for a while and also noticeably losing some weight. As his colleagues, we should have showed concern and mentioned something but the fear of insulting him kept us quiet. Once diagnosed he was given time off, and his colleagues all had to be screened. The district TB coordinator arrived at the clinic unannounced early one morning while we were having our weekly meeting. This was to ensure that all staff members were present. There were a few who were uncomfortable with the thought of being tested. They did not say so but their behaviour was a giveaway. Excuses were made that they could not cough up any sputum. Eventually everyone submitted sputum and we all waited for the results.

Everyone was anxious because there were those amongst us who had been coughing for a while but we never had the courage to suggest testing.
The results came back 3 days later and the report was somewhat expected. Two of our staff members had not written their names on the request forms and whether this was deliberate or not, we wouldn't know. One staff member was found to have TB and she was one of those who had left off her name on the lab request form.
So why do people not jump at the chance of being diagnosed sooner and start treatment? **Stigma**. This is the one thing that keeps people from enjoying long and healthy lives, fear of being an outcast and being talked about behind your back.
TB has long been associated with HIV and being diagnosed with TB would lead people to believe that one is also HIV positive. A person will then delay seeking medical help and only do so when the disease is at an advanced stage, making recovery almost impossible. These trends we see daily in our patients. They come for TB testing and when you call them a day or two later to come for the results they promise to come as soon as possible but never show up. The phone call is confirmation for them that there is in fact TB but it is the process of starting treatment that alarms them more. What will people say? This irrational fear becomes greater than the desire to live a long and healthy life.

The difficulties tracing patients with confirmed TB.

(by Matsheko Siyaka)

I had one patient Mr HG, he tested at 3 different facilities and I only managed to find him at the third clinic.
He is a foreign national who felt that the HCW did not treat him fairly because he is a foreigner.
He gave different addresses and no telephone number when he goes to the clinic, and when the result is available he cannot be found at the given address. The clinic administration staff do not probe for the correct information.
I decided to inform the remaining clinics about him by name and surname only because I did not have any information about him, and one of the vigilant sisters at a clinic spotted him when he went to consult there and managed to get all the lacking information so that when the results were available he could be traced. All his test results were positive!
I finally managed to interview him, and he gave me all the reasons that made him feel unwanted.
Doctors at the MDR unit admitted him, I assisted in getting social development to give him food parcels and in getting him a grant through SASSA. I gathered information from the two departments, and gave him the names of persons to ask for.
Drug resistant (DR) TB tracing is very complicated, especially when administration does not take correct details, patients do not have identification documents, home- based tracers are not covered to have contact with DR TB patients, and family members deny knowing such a person because they are ashamed and do not want to be stigmatized.

What's happening with cryptococcal meningitis?

Nelesh Govender

A major milestone in reducing AIDS deaths – NHLS/ NICD implements reflex laboratory screening for cryptococcal antigenaemia across South Africa

[From: NICD – Centre for Opportunistic, Tropical and Hospital Infections]

On 1 October 2016, NHLS/ NICD implemented the world's largest national laboratory screening programme to detect cryptococcal disease, an AIDS-defining opportunistic infection, at an earlier point in its trajectory and thus reduce AIDS deaths by pre-emptive antifungal treatment. Linked to baseline CD4 count testing of patients entering (or re-entering) the antiretroviral treatment (ART) programme, a projected 250 000 HIV-infected patients with a CD4 count below 100 cells/µl will be screened for cryptococcal antigen (CRAG) annually. The CRAG screen-and-treat intervention is known to save lives: along with early ART adherence support, this intervention reduced all-cause mortality by approx. 30% among patients with a CD4 count <200 cells/µl in a large clinical trial. The intervention thus aligns directly with the UNAIDS over-arching goal to reduce global AIDS deaths to less than 500 000 by 2020.

The NHLS/ NICD achievement of national reflex CRAG screening was the culmination of a nationally-coordinated effort over many years by a large group led by the NICD and the National Department of Health (NDOH) whose activities included:

- -Determination of the unacceptably persistently high burden and mortality associated with HIV-associated cryptococcal meningitis, despite much improved coverage of ART over the last decade (NICD GERMS-SA surveillance).
- -Advocacy for the CRAG screen-and-treat intervention at international, national and provincial levels.
- -Piloting implementation and large-scale field evaluations of reflex and provider-initiated laboratory CRAG screening approaches in parallel.
- -Construction of a detailed cost-effectiveness model comparing the abovementioned two CRAG laboratory screening approaches. Reflex CRAG screening was ultimately found to be simpler, more cost-effective, allowed for almost universal screening coverage and potentially saved more lives.
- -Development of a detailed clinical algorithm for cryptococcal disease which could be seamlessly integrated into the HIV care cascade. This was adopted by the NDOH in 2014 and has been subsequently included in the Standard Treatment Guidelines/ Essential Medicines Lists for all healthcare levels.
- -Development and downward cascading of skills-based training workshops for management of cryptococcal disease to healthcare workers.
- -Evaluation of several CRAG assays in the laboratory for use in the screening programme.
- -Setting up the TRAKCARE laboratory information system to flag remnant blood specimens that require a CRAG test and create automated work lists
- -Intensive training of CD4 laboratory personnel based on SOPs and on-site assessment of laboratory work flow
- -Development of a national laboratory proficiency scheme (PTS) for CRAG testing. The first batch of PTS samples were distributed to NHLS CD4 laboratories in November 2016. This scheme will be managed by the NHLS quality assurance department with technical support provided by NICD.

-Public health planning and resource allocation, specifically to ensure that fluconazole was procured, ordered and made available at all healthcare levels.

-Development and recent launch of a laboratory dashboard for CRAG screening which is fully integrated into the HIV VL/CD4 "all ages" dashboard. The national CRAG dashboard primarily provides information on two key indicators: CRAG screening coverage and CRAG+ prevalence, both stratified by patient ART exposure and laboratory screening approach.

-Development of weekly results for action (RFA) reports for registered end-users (primarily district and facility managers and clinicians). RFA reports are formatted as line lists of patients with a positive CRAG test (who need urgent follow-up) and line lists of patients who have a CD4 count <100 cells/µl but no CRAG test (and thus require this to be ordered).

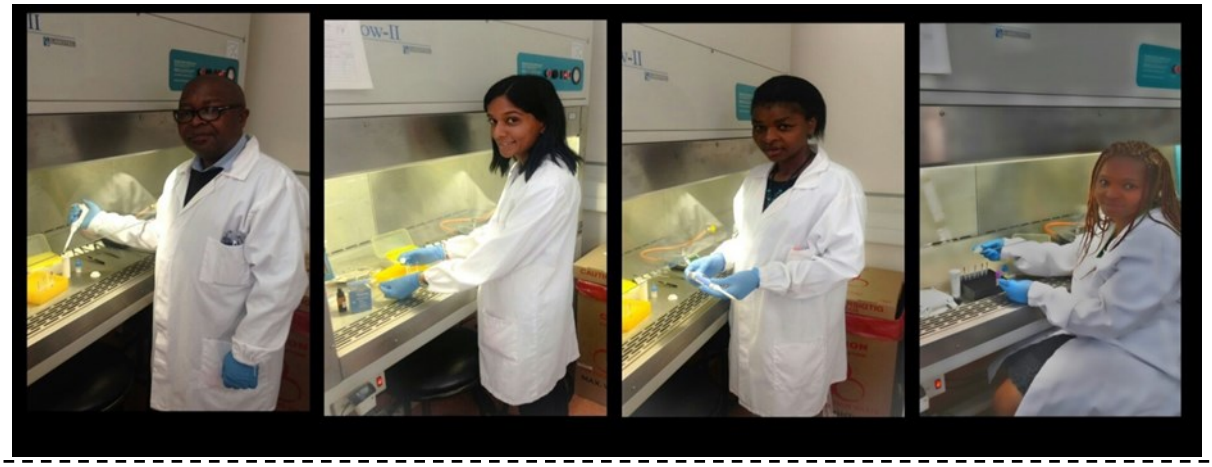
Future directions for the CRAG screen-and-treat programme

Through a NIH R01 grant, NICD will be evaluating the impact of the national reflex CRAG screening programme on patient survival in clinic-based field surveys over the next five years. In particular, this study will be well placed to determine the programmatic impact of same-day ART initiation, recommended by some provinces, on outcomes among those with advanced HIV disease.

Several interventions will be explored to optimise implementation of the CRAG screen-and-treat programme, including intensive refresher healthcare worker training with novel methods of delivery, patient education, enhanced delivery of laboratory results to clinicians and risk stratification of patients by piloting semi-quantitative CRAG testing on reflexively tested blood specimens

NICD will provide technical assistance to PEPFAR partners to "roll out" the CRAG laboratory dashboard to district level

The CRAG screen-and-treat intervention is contingent on retention of a baseline CD4 count test in the ART programme. This group will continue to advocate for early identification of the high-priority population with advanced HIV disease and provision of a raft of interventions to screen for and prevent opportunistic infections such as TB, cryptococcosis and PCP.



NICD Mycology Reference Laboratory processing mycology samples, including the CRAG lateral flow assay

Nelesh Govender, Co-Head of COTHI, National Institute for Communicable Diseases, was also interviewed by The Conversation.—see webpage for interview
http://theconversation.com/a-new-meningitis-screening-test-could-help-cut-south-africas-hiv-aids-deathtoll-69452

GERMS-SA around the country - Cape Town

Susan Meiring

Red Cross War Memorial Children's Hospital 60km walk/run Relay Race

On Thursday, 17 November 2016, the GERMS-SA enhanced surveillance and pneumonia surveillance team from Cape Town entered into an epic 60km relay race in celebration of the 60th birthday of the Red Cross War Memorial Children's Hospital, Cape Town.

The race started at 6am with teams of doctors, nurses and administration staff hanging up their stethoscopes and slipping on their running shoes to embark on the first of 23 laps around the Rondebosch Common. It turned into a gloriously hot and windy Cape Town summer day with beautiful views of Table Mountain and Devils Peak, as we all sweated our way around the common. Our team did very well and finished all our laps by 2pm, long before the 6pm cut off time. Much fun was had by all and despite some sun burn and a few stiff legs the next morning we all enjoyed the comradery and interaction on our laps around the common.

GERMS-SA = FUN!

Annual surveillance officer meeting for pneumonia and influenza like-illness (ILI) surveillance programme, 8-9 December 2016

Sibongile Walaza

The annual surveillance officers' (SO) meeting for the pneumonia and influenza-like illness (ILI) surveillance programmes was held on the 8th to 9th December 2016. The purpose of the meeting was to conduct refresher training for the surveillance team covering key aspects of the projects and performance areas that require improvement; provide updates on project-related changes and present results from the projects. The meeting also provides an opportunity for the different teams to socialise with each other and share challenges and strategies that have been successful. The format of the meeting included presentations and interactive practical sessions. On the morning of the 1st day, site teams and the data team participated in a combined session where different staff members from the Centre for Respiratory Diseases and Meningitis provided updates on the following projects:

Pneumonia surveillance
Infant burden study
Maternal influenza vaccination
Influenza-like illness (ILI) and suspected pertussis surveillance
Nosocomial study

The afternoon session covered sample collection, HIV testing and management, and data collection and capturing. The second day included a question and answer session which was facilitated by human resources (HR) practitioner, introduction to RSV pilot study and PHIRST study, medical terminology and completion of case investigation forms. Lastly a practical session on data queries was conducted. For this exercise surveillance officers were divided into small groups and each group was given case record forms which had errors and they were asked to identify the errors. The groups took turns to give feedback and provide solutions on how to avoid the errors and suggest checks to complete before sending the forms for capturing. This session generated a lot of discussion and afforded an opportunity for the teams to ask questions and clarify any misunderstanding regarding data quality and expectations from NICD.

Introducing new staff

Vanessa Quan

GERMS-SA has hired additional staff to improve on data quality.

GERMS-SA = Quality

Profile of Mokupi Manaka — Project Manager GERMS-SA

Originally from Limpopo Ga-Mashashane, I am currently staying in Soweto and I am a mother of 2, a boy and a girl. I am a Professional nurse with a Diploma in Nursing (General, Psychiatry, Community and Midwifery) attained from Chris Hani Baragwanath Nursing College. I am from clinical trials background and I have extensive experience in research, coordination of studies and staff management. I started as a research nurse with Wits RHI working for a Microbicide Development Programme. I moved to PHRU as a study coordinator for a study that was looking at the prevalence of TB in pregnant women in Soweto clinics. I later joined GERMS-SA as a surveillance officer working at CHBAH. My ambitious nature propelled me to become a Field project coordinator for NICD's Centre for Respiratory and Meningitis (CRDM, SARI programme) where I was overseeing sites in KZN, Gauteng and NW. I left NICD to become a study coordinator at The Empilweni Services and Research Unit (ESRU) at Rahima Moosa Mother and Child Hospital, where I was running a study on early (birth) PCR in exposed babies, latency and early provision of antiretroviral drugs in these babies (Observational studies and Clinical trials).

When the opportunity presented itself to become a Project Manager for GERMS-SA I took it because I believed that I possessed relevant qualities and knowledge plus expertise gained throughout my career in clinical trials, research and management to take GERMS-SA to the same level as clinical trials if not better.

I am very excited about coming back to NICD. I am looking forward to managing, coordinating and taking GERMS-SA to a new level in terms of quality improvement which is going to lead to a lot of teaching and training. I am also looking forward to working with this amazing team and I know together we are going to make it.

Some sites will have met with Mokupi already, she is out and about assessing and evaluating sites and staff so that the quality of GERMS data will improve.

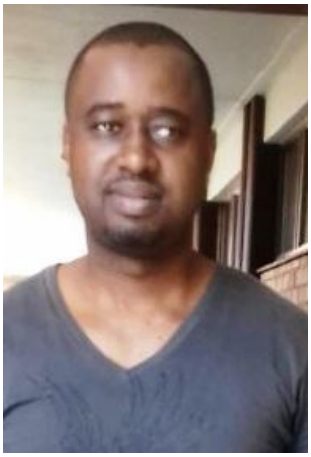
Profile of Amanda Shilubane—Field Project Coordinator COTHI

I was born in Daveyton, Gauteng and raised in Mpumalanga in a small township called Thulamahashe . I am a mother to an amazing boy called Karabo. I am a people's person, kind-hearted and love travelling. I am an Enrolled Nurse who qualified at Ann Latsky Nursing College. I joined NICD in June 2013 as a Surveillance Officer where my duties entailed identifying cases, completing case report forms by interviewing patients or reviewing medical and lab reports, following up patients in the wards and enhanced clinics and hospitals to ensure that they received the correct treatment according to the Cryptococcal Screen and Treat algorithms.

Now I'm currently employed as a Field Project Coordinator starting from 01 November 2016. My role is to check CRFs for the correctness of data, quality and consistency and generate data queries for the site surveillance staff, perform audits, coordinate projects and research targets, perform site visits in all provinces, train, develop and manage staff to ensure they have the skills required by the organisation. Before I joined NICD I was working for DOH at Tambo Memorial Hospital.

What I love about my current role is the opportunity to learn and grow and to work on different projects and organisms; analysing the data to ensure high quality to maintain the integrity of the program.

Profile of Manqoba Shandu—field project coordinator COTHI



My name is Rodney Manqoba Shandu, preferably Manqoba, born and grew up in northern KZN in a small town called Eshowe. I have studied at Mbongolwane nursing campus for two years and achieved an Enrolled Nurse certificate. I then worked in Eshowe District Hospital as a staff nurse for three years I furthered my studies at the University of Kwa-Zulu Natal (UKZN) for another two years and achieved a Professional Nurse Diploma. I continued working at Eshowe hospital for four years as a professional nurse in a surgical unit and participated in Circumcision Campaigns and surgery within Uthungulu health district. I also studied an Ophthalmology Science Diploma at UKZN School of Nursing based in Edendale Hospital (PMB) for a year then went back to practise as an ophthalmic nurse in Eshowe Hospital Eye Clinic and supported the surrounding Primary Health Care clinics with eye services.

I joined NICD COTHI on the 1st of November 2016 as a Field Project Coordinator. I am checking case report forms for accurate data collection from surveillance officers, supporting and educating surveillance staff.

I enjoy my work, so far, as it is a new era for me with new experiences compared to my previous employments. I'm hoping to improve as a person and as a professional, and I'm excited since my job involves my strong point of belief in professionalism and quality assurance.

New beginnings and fond farewells

Vanessa Quan

Emily Sikanyika, above centre, project administrator for GERMS-SA and particularly the Provincial Epidemiologist Team, was surprised at her baby shower. She celebrates here with the Division of Public Health Surveillance and Response: GERMS-SA, Outbreak Response and Provincial Epidemiologists.

Emily gave birth to a girl on 12 October 2016. Her name is Miracle. Picture taken at 2 and half months old.

Our Durban SO Thobeka Simelane Shandu with baby boy Lisu born on 5 November 2016. Note Thobeka's head scarf (from our team building event at Gold Reef City December 2014.

Cape Town GERMS-SA and Pneumonia Surveillance — saying goodbye to Yeki from the Pneumonia surveillance team.

Sad goodbyes — A tribute to Mmakgomo Dorah Rakhudu

2008 when Mmakgomo joined us as a SO in Rustenburg

2011 SO meeting: Mmakgomo and Khasi

She was a loving and very strong person who cared a lot about her job and family. One thing that I will always remember about Mmakgomo is her positive attitude during her illness, she strongly believed that her health was in God's hands and didn't want anyone to pity her or feel sorry for her. Her wish was to get well and go back to work. She was grateful for the nursing care she received.

If each one of us realised that our time here is so short, that to darken it with quarrels, futile arguments, not forgiving others, discontentment and fault finding attitude would be a waste of time and energy.

Let us cherish friends and family. Let us be respectful, kind and forgiving to each other. Let us be filled with gratitude and gladness because no one knows the duration of this journey.

Her beautiful smile will be missed. May her soul rest in perfect peace.

2015 SO meeting - Mmakgomo visited us to tell us how she was recovering from her stroke. She was on disability.

General Information for Surveillance Laboratories

ALL laboratories to send ALL isolates below

Enhanced laboratories have additional isolates to submit— see over the page.

GERMS-SA: ALL laboratories please submit the following bacterial or fungal pathogens to the National Institute for Communicable Diseases (NICD) on Dorset transport media with a TrakCareLab/private laboratory report or send specimen tube/blood culture bottle if uncertain of identification and/or no isolate available (contact lab).

Pathogen	Specimen	Lab tests	NICD Centre/Lab
• *Streptococcus pneumoniae* • *Haemophilus* spp. • *Neisseria meningitidis*	All normally-sterile site specimens, e.g. CSF, blood, pleural fluid, peritoneal fluid, pericardial fluid, joint fluid, tissue, etc.	Culture positive **OR** Consistent Gram stain **OR** Latex positive	CRDM (011 555 0315)
• *Salmonella* Typhi • ††*Vibrio cholerae*	Any specimen	Culture positive	CED (011 555 0333/4)
• *Candida* spp. **(all laboratories)**	Blood culture only	Culture positive	COTHI - MRL (011 555 0384)

††*Vibrio cholerae* isolates from human and non-human (environmental) specimens must be reported to NDoH.

Should your laboratory suspect an OUTBREAK of *Shigella* spp, non-typhoidal *Salmonella,* diarrhoeagenic *E.coli,* non-cholera Vibrio, *Campylobacter* or *Listeria* spp please contact and submit isolates to the Centre for Enteric Diseases (011 555 0333). Please also call the NICD Outbreak Response Unit to alert them (011) 5550392/0542 or (011) 386 6354

To order a new batch of Dorset Transport Media, please call CRDM at telephone 011 555 0315. For surveillance questions, please call GERMS-SA at telephone 011 386 6234.

In addition, certain sites are requested to send *Staphylococcus aureus* and Carbapenem-Resistant Enterobacteriaceae (CREs) to NICD.

All enhanced surveillance laboratories are requested to send *Cryptococccus* spp isolates for January to March (inclusive).

Pathogen	Specimen	Lab tests	NICD Centre/Lab
Cryptococcus spp. (Please send **cultured** isolates January to March **2017** inclusive)	Any specimen Private labs: Please only send a Lab form to the laboratory for case counting ESS laboratories: Please inform the SO about cases (January - March inclusive)	Culture positive **OR** CrAg test positive **OR** CSF India ink positive	COTHI - MRL (011 555 0384)
**Staphylococcus aureus*	Blood culture only	Culture positive	COTHI - AMRL (011 555 0342)
^Carbapenem Resistant Enterobacteriaceae (CRE): • *Citrobacter* spp. • *Enterobacter* spp. • *Escherichia coli* • *Klebsiella* spp. • *Morganella* spp. • *Proteus* spp. • *Providentia* spp. • *Salmonella* spp. • *Serratia* spp.	Blood culture only	Culture positive **AND** Non-susceptible (intermediate or resistant) to any of the carbapenems: ertapenem, meropenem, imipenem and/or doripenem	COTHI - AMRL (011 555 0342)

* Charlotte Maxeke Johannesburg Academic, Steve Biko Pretoria Academic, Helen Joseph , Groote Schuur, Tygerberg

^ FS: Universitas/Pelonomi
GP: Chris Hani Baragwanath Academic, Charlotte Maxeke Johannesburg Academic, Helen Joseph/Rahima Moosa, Dr George Mukhari and Steve Biko Pretoria Academic
KZ: Grey's, Northdale/ Edendale, Inkosi Albert Luthuli/King Edward Hospital, Addington and RK Khan

To order a new batch of Dorset Transport Media, please call CRDM at telephone 011 555 0315.
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This newsletter was compiled and edited by Susan Meiring and Vanessa Quan, Division of Public Health Surveillance and Response. Please send any queries, recommendations or contributions to: Vanessa Quan vanessaq@nicd.ac.za; Tel: **011 386 6012**