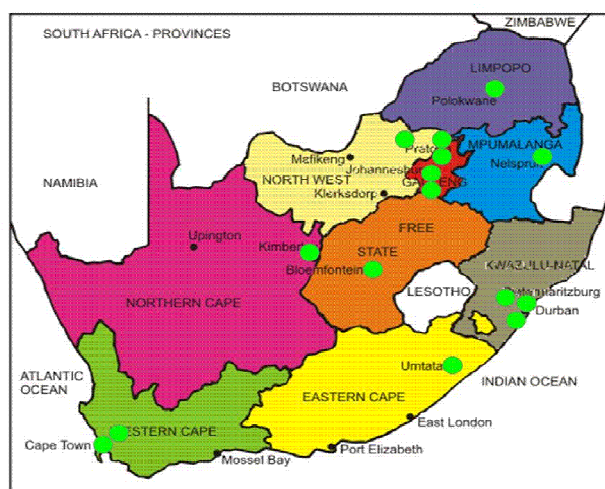




Volume 37, April 2013



## First Quarter



GERMS-SA Surveillance Officers' meeting at Genesis Conference Centre (7-8 March, 2013)

Enjoy this bumper issue of the LINK in which we look at the future of GERMS, report back on our very successful SO meeting (pg 2) and pictorially document the site visits covered these last four months (pgs 4 and 5). We also give you information on how we monitor GERMS-SA data quality (pg 6) and give you updates on our projects: the IPD case-control study (pg 7 and 8), the Health

Utilisation Survey and rifampicin-resistant TB (pg 9) and the Cryptococcal Screening Programme (pg 10) as well as our usual newsy tidbits. [Sonwabo Lindani]

### *“Germs-SA : Looking to the future”*

There are big things happening this year! Our name will no longer be an acronym. We will simply be called GERMS-SA which will include all the new pathogens under one umbrella including HIV, TB and STIs. GERMS-SA will have a laboratory-based component AND also a clinic surveillance component where we will monitor HIV- and TB-resistance and STIs. SARI and ROTA surveillance will also be incorporated into this platform as GERMS-SA becomes the NICD surveillance network.

So there will be rapid expansion at enhanced surveillance sites which will include clinic surveillance in each province. The NICD wants to expand its footprint into the provinces by hiring epidemiologists who will work closely with the NICD and the provincial Department of Health. All this is made possible by funding from National Treasury through the Department of Health. We look forward to this new adventure. [Vanessa Quan—GERMS-SA]

## **SO Meeting coverage...**

By Sonwabo Lindani

On the 6th and 7th March 2013, at the GENESIS Conference Centre, GERMS-SA hosted our first Surveillance Officer meeting for 2013. This meeting was organised by the wonderful NMSU "A team" (credit to our administrators led by Nevashan) and it did not disappoint at all.

We presented the site performances and congratulations to most of our sites for doing well and meeting the targets for 2012. We hope that this year you will work even harder .

This was a well-organised meetings with the content addressing the needs of the audience as stipulated in the evaluations by the SO's themselves. Overall , the SO's found the SO meeting very interesting and noted that it did manage to address most of their daily challenges in the clinical area . The highlights of the meeting were the SO contributions: chairing sessions, presenting data and literally taking a lead in the meeting proceedings.

Best performing SOs were showered with presents and gifts (donated by the GERMS team); this should serve as a motivation to all our SO's to work even harder.

Till we meet again in the next meeting (THEME: back to basics) keep on collecting quality data for GERMS-SA and our nested studies. Keep up the good work!



Pre-meeting test taken very seriously by Sunnyboy Njiko (left), Zodwa Kgaphola (right).





Nireskhi Naidoo giving an IPD presentation on the importance of updating of the logs and submissions on a weekly basis. Session chaired by Khasi Mawasha (SO FS) (who incidentally won the prize for Best Chairperson).

Laboratory clerks (L-R): Judith Tshabalala, Boniwe Makwakwa, Jabu Mabuyakhulu and Thembi Mthembu



Indran Naidoo (PMB) being presented the "Best Enhanced Site" award by Bulelwa Zigana

Dikeledi Lehaba (red top) receiving an award for "Best turned around site" given by Bulelwa Zigana (white top)



### **Site Visits Done for:**

1. Eastern Cape
2. Northern Cape
3. Mpumalanga
4. Klerksdorp
5. KZN

Susan, Linda, Sonwabo and Sandisiwe (inset picture on the right) conducted a site visit to Mthatha on 14-15 February 2013.



Laboratory staff in  
East London NHLS  
Lab (14 February  
2013)

Sonwabo, Kimberley clinic nurses,  
Linda and Matsheko in Kimberley on 11  
March 2013



## Site Visits continued...



Clinicians and nurses at Rob Ferreira, Nelspruit, site visit on 14 March 2013



RK Khan NHLS Microbiology Team, KZN site visit

## GERMS-SA Audits: From data quality management to laboratory evaluation

Nevashan Govender

According to *Wikipedia: The Free Encyclopedia*, the universally accepted definition of an audit is an evaluation of a person, organisation, system, process, enterprise, project or product. The term most commonly refers to audits in accounting, internal auditing and government auditing. However, similar concepts also exist in project management, quality management, water management and energy conservation. At GERMS-SA we have been conducting audits on a formal basis since 2007 with the primary objective of an audit being to assess the quality of the data sample and not the individual laboratory's systems or performance. Other objectives of GERMS-SA audits are:

- To ensure that all isolates for GERMS-SA surveillance are being reported to the respective reference laboratories
- To ascertain the percentage of missed isolates to monitor representativeness and efficacy of national surveillance
- To use the percentage of those missing to ascertain a 'correction factor', to be used in data dissemination and publications
- To aid laboratories which may have difficulties in any of the steps of collection of data

Surveillance audits are essential quality control measures to ensure that data collected via the GERMS-SA programme for the respective reference laboratories are representative. Audits are conducted on a quarterly basis in a cumulative manner (four times in a year). The GERMS-SA coordinators have access to the Corporate Data Warehouse (CDW) where all DISA Lab and TrakCare Lab entries are captured onto a central repository. Using the CDW we are able to search for all organisms isolated at each NHLS lab and compare those to the records we have. We are then able to determine which isolates were not submitted to the reference laboratories and we call these "audits". We then use the audit data to supplement what we have and to subsequently generate our quarterly reports, i.e. Quarterly Statistics and Enhanced Surveillance Site Operational Report. However, it is more useful to have the isolate for further characterisation therefore **we encourage all NHLS labs to remember to submit all GERMS-SA isolates (pg 14)**. The higher the percentage of audits identified for any NHLS laboratory the poorer the image of that particular laboratory. Although the primary objective of an audit is not to assess the individual laboratory's systems or performance, it is one of the objectives. We are sure nobody wants to have consistently high audit numbers, have poor quarterly statistics and be considered a poorly performing lab in terms of surveillance...or do they? Either way we're watching you!

**Invasive pneumococcal disease (IPD) case-control study update**

Claire von Mollendorf

The invasive pneumococcal disease (IPD) case-control study is well into its third year of enrollment. To date (17 April 2013) the surveillance officers have screened 976 children < 5 years of age with IPD for the case-control study. Of these children 824 were screened for the PCV-7 study and 152 for the PCV-13 study. Out of the nearly 1000 children screened, 575 children were age-eligible for the study (423 for the PCV-7 and 152 for the PCV-13 study) and only 32 of these eligible children were not successfully enrolled into the study. The numbers enrolled per site are shown in tables 1 and 2.

In total 465 cases have already being closed in the study (371 for PCV-7 and 94 for PCV-13). Overall closed HIV-negative cases have an average of 5 controls and HIV-positive cases 3.8 controls.

As shown in the progress graph the numbers of HIV-infected cases enrolled into the PCV-13 component of the study are lower than projected. We have added additional new sites to try and help with enrolment numbers.

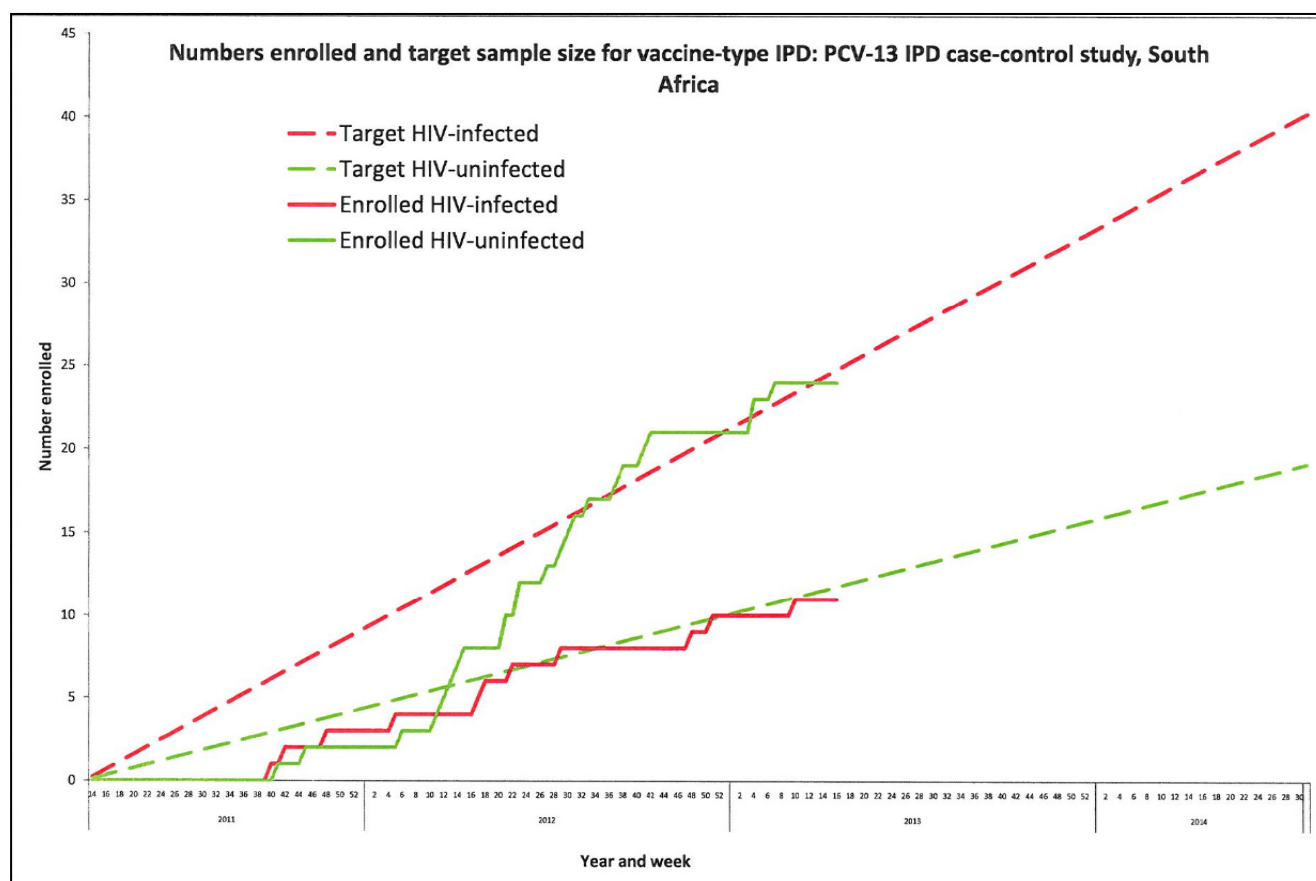
Table 1: Number of open and closed cases and controls by site and HIV serostatus, PCV-7 IPD case-control study, South Africa, as on 17 April 2013

Facility	Closed				Open			
	HIV-negative		HIV-positive		HIV-negative		HIV-positive	
	cases	controls	cases	controls	cases	controls	cases	controls
Addington	15	60	3	12	0	0	0	0
Charlotte Maxeke	23	116	15	55	0	0	1	2
Chris Hani Baragwanath	41	196	20	92	1	1	3	6
Edendale/Greys	9	42	5	24	0	0	0	0
George Mukhari	8	39	2	13	0	0	0	0
Kalafong	6	31	7	26	0	0	0	0
Kimberley	14	56	8	24	0	0	1	0
King Edward	4	16	3	7	1	0	0	0
Mankweng	2	11	1	5	0	0	0	0
Natalspruit								
Nelson Mandela	6	29	2	4	2	3	1	0
Northdale								
Pelonomi/Universitas	17	94	4	11	0	0	0	0
Polokwane	3	16	1	2	0	0	0	0
Rahima Moosa	26	134	19	85	0	0	1	1
Red Cross/ Groote Schuur	38	202	11	33	1	4	1	3
RK Khan	4	23	9	31	0	0	5	10
Rob Ferreira	1	4	3	7	1	0	2	3
Rustenberg	5	22	3	9	0	0	0	0
Steve Biko/Tshwane	4	17	8	22	1	2	0	0
Themba	3	17	0	0	0	0	0	0
Tygerberg	15	66	3	8	0	0	0	0
Total	244	1191	127	470	7	10	15	25



Table 2: Number of open and closed cases and controls by site and HIV serostatus, PCV-13 IPD case-control study, South Africa, as on 17 April 2013

	Closed				Open			
	HIV-negative		HIV-positive		HIV-negative		HIV-positive	
	cases	controls	cases	controls	cases	controls	cases	controls
Addington	2	10	0	0	0	0	0	0
Charlotte Maxeke	8	45	2	8	3	5	0	0
Chris Hani Baragwanath	13	71	3	18	5	13	5	8
Edendale/Greys	3	12	0	0	0	0	0	0
George Mukhari	3	16	2	5	0	0	3	6
Kalafong	3	15	1	3	0	0	0	0
Kimberley	3	12	1	6	0	0	1	0
King Edward	1	6	1	2	4	5	0	0
Mankweng	1	7	0	0	0	0	0	0
Natalspruit								
Nelson Mandela	2	9	0	0	3	7	4	0
Northdale								
Pelonomi/Universitas	6	30	0	0	4	3	2	0
Polokwane	1	6	0	0	0	0	1	0
Rahima Moosa	8	46	2	9	1	0	2	0
Red Cross/ Groote Schuur	17	93	1	4	1	5	1	0
RK Khan	1	6	1	2	0	0	1	2
Rob Ferreira	2	13	0	0	0	0	1	1
Rustenberg	1	4	0	0	3	2	1	0
Steve Biko/Tshwane	1	4	0	0	2	4	1	1
Themba	0	0	0	0	0	0	0	0
Tygerberg	3	19	1	2	1	0	1	5
Total	79	424	15	59	27	44	24	23





## **Health utilisation survey: vaccination component in Soweto**

Claire von Mollendorf

A health utilisation survey (HUS) was conducted in Klerksdorp and Soweto from July to October 2012. The main aim of this survey was to describe how people use healthcare when they become ill with selected syndromes. A second component to the survey was conducted from Sep 2012 to Jan 2013 in Soweto. This component involved the collection of vaccination histories from households with children  $\leq 5$  years of age who agreed to have a follow-up visit. A total of 483 children  $\leq 5$  years were identified for interview by the nurses, but only 434 questionnaires were completed as some children had relocated or the caregivers refused an interview at the time of the nurse visit. The median number of children per household was 2 (range 1-6 children). Over 90% of children had available road-to-health-cards and approximately 45% of children had received vaccine doses late ( $\geq 1$  month after scheduled date).

Another HUS is planned in Pietermaritzburg for August this year and the data from the KZN vaccination component will be combined with the current Soweto data for the final vaccination analysis and comparison to the IPD case-control study.

## **Rifampicin-resistant TB update**

Sonwabo Lindani

TB surveillance is currently going well in Chris Hani Baragwanath Hospital where the pilot started in September 2012. We have since initiated three (3) more sites – Nelson Mandela Academic / Umtata General Hospital, Kimberley Hospital and Rob Ferreira Hospital. We already have approval for Limpopo and busy working on North West provincial permissions. All the new sites have identified rifampicin-resistant TB cases and Surveillance Officers are working well with both hospital and clinic personnel.

Sites need to work hard in identifying new cases in the laboratory patients before they are transferred to the TB hospital as its difficult at times to follow up these patients and SOs need to ensure that they also get alerts for hospitalised cases.

## The Cryptococcal Screening Programme Update

Verushka Chetty

*Cryptococcus meningitis* is a common AIDS-defining opportunistic infection and a leading cause of death amongst individuals in Southern Africa. Targeted screening of patients with a CD4+ T-lymphocyte count <100 cells/µl for cryptococcal antigenaemia is a newer intervention that has the potential to detect patients earlier and prevent deaths. Screening has been recommended as part of the National Strategic Plan on HIV, STIs and TB, 2012-2016; a detailed monitoring and evaluation (M&E) plan was developed to measure the impact of the programme.

The screening programme is unique in that facility health care workers (based at 120 randomly selected, enhanced facilities) have to actively follow-up patients and collect demographic and clinical data using a standardised tool. Nurse M&E officers are responsible for visiting enhanced sites on a monthly basis to update missing information, track patient follow-up and document use and availability of fluconazole.

### Progress so far:

Over 600 professionals (master trainers, doctors, nurses, pharmacists and ART counsellors) have been trained.

Funding for fluconazole to treat all CrAg+ patients identified through the screening programme has been secured via a grant.

Since screening was implemented at the Charlotte Maxeke Johannesburg Academic Hospital on 3 September 2012, 124 CrAg+ patients have been screened.

### The Team

The crypto screening team welcomed 2 new M&E officers (based at Tambo Memorial and Natal-spruit). Interviews have been conducted for 3 project nurses and a database administrator), with interviews pending for the Pelonomi SO and data manager.

### Our Travels

Nelesh Govender, Verushka Chetty and Melony Fortuin de-Smidt conducted a site visit to Free State during 18-19 April 2013. The medical manager, infectious disease specialist, NHLS laboratory employees and M&E representatives from Health Systems Trust (HST) attended a presentation at Pelonomi Hospital on Thursday, 18 April 2013. Master trainers from HST were trained at HST premises on Friday, 19 April 2013. Another site visit to meet with Free State provincial officials is planned for the end of April.

Exciting happenings: A mid-year programme review is planned for 22-23 May, 2013. Delegates from NICD, NHLS, CDC, USAID and various stakeholders will be in attendance.

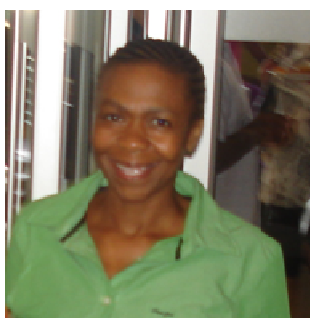
### Case statistics for Phase 1 of the *Cryptococcus* screening programme

Case Statistics	Sep	Oct	Nov	Dec	Jan	Feb	Total
Number of patients tested for CrAg	467	607	548	378	580	389	2969
Number of CrAg-positive patients/ number of patients tested for CrAg (%)	25/467 (5.4%)	30/607 (4.9%)	16/548 (2.9%)	13/378 (3.4%)	18/580 (3.1%)	22/389 (5.7%)	124/2969 (4.2%)
Number of CrAg-positive patients who had a lumbar puncture <sup>†</sup> **	4	9	8	3	1	2	27
Number of CrAg-positive patients who had a lumbar puncture with laboratory-confirmed CM <sup>†</sup>	3	6	6	2	0	2	19
Number of CrAg-positive patients treated with fluconazole <sup>†</sup>	18	20	11	9	12	3	73

<sup>†</sup>Data source: NHLS Corporate Data Warehouse, NHLS laboratory information system and NICD; <sup>†</sup>data may be incomplete at the time of reporting due to retrospective collection of clinical data: <sup>\*\*</sup>lumbar puncture is indicated based on clinical findings; CrAg: cryptococcal antigenaemia; CM: cryptococcal meningitis

## SO Stories

Priscilla Mouton (WC)



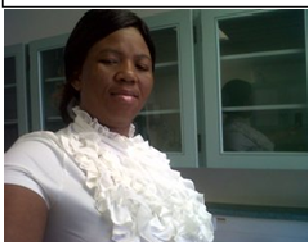
Priscilla Mouton writes about one of the real clinical challenges SOs go through on their daily duties for GERMS-SA and the IPD case-control study. In her story we clearly see the consequences of missing a vaccine: a child with a vaccine-preventable disease can be kept out of school or day-care facilities. A prolonged illness can take a financial toll on the family because of lost time at work, medical bills, or long-term disability care. In comparison, getting vaccinated against these diseases is a good investment, free as part of the Expanded Programme on Immunisation (EPI) and usually covered by private medical aid.

### Story:

11 month old Samson (not his real name) was admitted to RED CROSS HOSPITAL on 24/11/2012 with hot water burns on his face, chest and arms. His mom was preparing a bottle for him when he crawled and pulled the pot from the stove. He was admitted to ICU due to the severity of his injuries and he had a *Streptococcus pneumoniae* lower respiratory tract infection. His mom was a single parent who was working at a vegetable store.

He was transferred to the burns unit. His mother was reluctant to go back to work when he was in the ward because she noticed that it was not like in the ICU where he had more attention. Her son would cry without someone being available to attend to him. I spoke to the sister in the ward and she confirmed the mother's concerns, saying there was a shortage of staff. The mother therefore stopped working until her baby was discharged.

## Profile: Karen Mqokozo— GERMS-SA Field Project Coordinator (KZN)

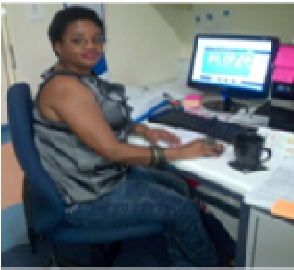


Karen would like to extend a word of gratitude to the GERMS-SA team for giving me this opportunity to move to Durban. As of 1<sup>st</sup> April 2013 (APRIL FOOL), I am now based at IALCH NHLS Microbiology Laboratory as a GERMS-SA Field Project Coordinator. I strongly believe that I will be able to forge a closer collaboration with NICD and all KZN labs. Working hand in hand with our site coordinators I will also be able to closely manage our enhanced sites in KZN and attend to problems as they arise. I received a very warm welcome from the lab staff, which then made IALCH to be another home away from home. I miss the NMSU team, but this is the opportunity for me to create a strong GERMS-SA presence in KZN, for the better of our surveillance.

Karen has a full programme of site visits to KZN sites planned in May. We look forward to seeing those photographs and reaching those laboratories which have not been previously visited.

## Introduction of New Staff

### Profile of Jabu Mabuyakhulu — MRU Data Clerk



I'm Jabu Mabuyakhulu (Mbhele); I'm originally from KZN Mtubatuba. I'm working with COTHI MRL (GERMS) as a Laboratory Clerk. I started working with GERMS in October 2010 and left in February 2012 to Ampath Laboratory, and I came back February 2013. The reason I came back is because of the work that I'm doing here, it's so challenging and I like to work in a challenging environment, it makes me think. I'm happy to be back at GERMS!

### Interview with Tsakane Nkuna: "Our Newest Project Administrator"

#### Welcome to GERMS - SA, Tell us about yourself

I'm Tsakane Nkuna, I stay in JHB, CBD and am originally from Limpopo. After I matriculated I came to JHB to further my studies. I have worked for different industries as a consultant up to office administration. I am now doing part-time studies to upgrade my qualifications.



#### Where were you before you got this position?

I was part of Outbreak Response Unit, for 3 years, then employed as a Data clerk where I was given an opportunity to do more in office admin. In July 2012 I was moved to the Centre for Respiratory Diseases and Meningitis (CRDM) due to my contract ending. Both these two units have grown my skills.

#### What made you change from data clerk to administration?

Data clerk was my stepping ladder of knowing the industry, it also opened the door for me to learn a lot about medical terminology or being part of the laboratory industry. So after learning I had to follow my dream which is administration. Growth is what I needed.

#### You've been in this new post for almost 2 months, has working on the admin side of GERMS-SA given you new insight into what GERMS-SA is all about?

Yes, GERMS-SA is giving us training related to their organisation and work which enables me to be familiar with their unit.

#### What things have you learnt?

I have learned about GERMS-SA organisms, to be more organised, team work, time management and communication to use it as an important tool to manage my administration duties.

#### Tell us about the real Tsakane, what things make you happy?

I'm a friendly person who likes to help people. I enjoy learning new things all the time.

#### What do you enjoy doing outside of work hours? (Besides sleeping off your exhaustion from work)

I enjoy being with my family after working hours, attending church services and meeting with my friends.

#### Anything else you want to say/tell us about?

Thanks to GERMS - SA for the opportunity given to me because it will take me to another level. The training and support that I am receiving here has given me strength to further my studies—up to my dream post (Manager)

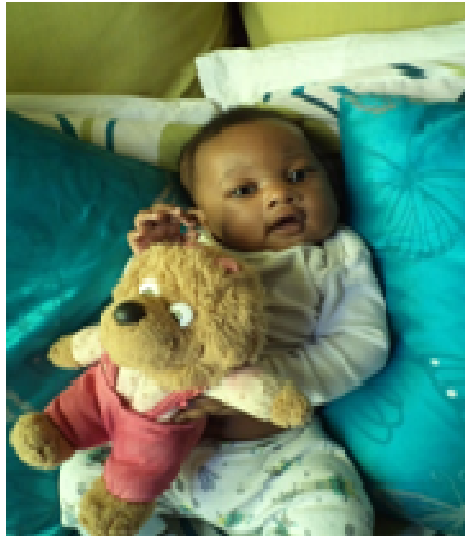
Well, congratulations on your new appointment, Tsakane. We wish you well on this new journey.



## **Welcoming New GERMS-SA Babies....**

For Martha Modiba (Laboratory clerk MRL)

We welcomed little Thabang Modiba— Martha's first born. Thabang was born on the 17<sup>th</sup> January 2013. Isn't he perfect!



For Penny Crowther-Gibson (epidemiologist).

We welcomed little Hayden William Gibson into the world on 28 March 2013 at 5:13pm, weighing 3.19kg! We are completely in love!



## General information for surveillance laboratories

### Surveillance organisms and sites

Please submit the following bacterial and fungal pathogens to the National Institute for Communicable Diseases (NICD) on Dorset Transport Media with a completed sterile site isolate form or stool isolate form or DISALab/ TrakCare Lab form.

Pathogen	Specimen	Lab tests	NICD Unit
<i>Streptococcus pneumoniae</i> <i>Haemophilus</i> spp. <i>Neisseria meningitidis</i>	All normally sterile site specimens, e.g. CSF, blood, pleural fluid, peritoneal fluid, pericardial fluid, joint fluid, tissue, etc.	Culture positive <b>OR</b> Consistent Gram stain plus latex antigen test positive	CRDM
<i>Salmonella</i> spp. (including <i>Salmonella</i> Typhi) <i>Shigella</i> spp.	Any specimen	Culture positive	CED
Diarrhoeagenic <i>E. coli</i> <i>Vibrio cholerae</i>	Gastrointestinal specimens, e.g. stools, rectal swabs, etc.	Culture positive	CED
<i>Cryptococcus</i> spp.	Any specimen	Culture positive <b>OR</b> Latex positive <b>OR</b> India ink positive	COTHI (MRL)
† <i>Candida</i> spp.	Blood culture only	Culture positive	COTHI (MRL)
* <i>Staphylococcus aureus</i>	Blood cultures only	Culture positive	COTHI (AMRRU)

† Chris Hani Baragwanath, Charlotte Maxeke Johannesburg Academic, Helen Joseph, Groote Schuur, Steve Biko Pretoria Academic, Tygerberg

\*Charlotte Maxeke Johannesburg Academic, Steve Biko Pretoria Academic, Helen Joseph/ Rahima Moosa Mother and Child Hospital

This newsletter was compiled by Sonwabo Lindani and edited by Vanessa Quan, National Microbiology Surveillance Unit, please send any queries, recommendations or contributions to: Vanessa Quan [vanessaq@nicd.ac.za](mailto:vanessaq@nicd.ac.za); Tel: 011 386 6012