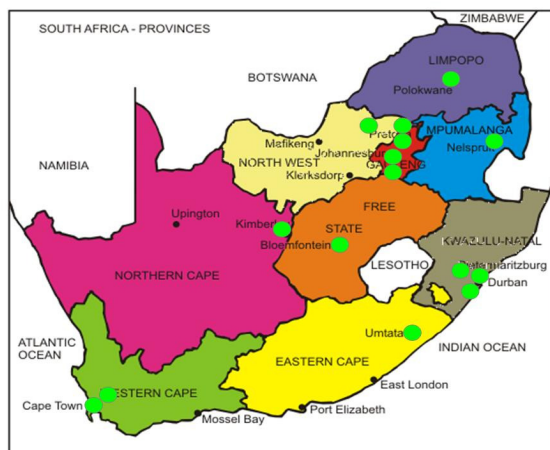




Volume 29, April 2011



Newsletter for
The GERMS-SA surveillance network

First Quarter, 2011

A quarter of the way through 2011 and GERMS has grown further! We now have 7 data clerks and 29 surveillance officers throughout the country working on GERMS work and nested studies. To manage so many staff we have 5 medical officers coordinating the GERMS programme, 4 in JHB and 1 in CT and 2 additional medical officers who work on the nested Invasive Pneumococcal Disease case-control study. This is a big move from 2003 with 1 medical officer and 8 surveillance officers in 6 provinces—see what 2 people who have known us from the early days have to say (page 2).

Nelesh Govender, who heads up the Mycology Reference Unit, shares some findings on cryptococcal meningitis with you on page 3.

The 15th surveillance officer meeting took place on 21-22 February (page 4) and was followed by a suspected mini food-related outbreak, which our SAFELT resident, assisted by the NICD Outbreak Unit, investigated (see page 6).

Since early 2010, the nested IPD case-control study has been part of our lives and our SAFELT resident evaluated the effects of this study on the GERMS surveillance system (page 8).

Our CDC (Centers for Disease Control and Prevention) collaborators visited us in early February to assist us with the IPD c-c study. Cyndy Whitney joined us on site visits to CMJAH and Rahima Moosa Hospital (page 10). Other site visits done this quarter included Dr George Mukhari, Job Tabane, Rustenburg and Rob Ferreira and Themba Hospitals in Mpumalanga.

Happy reading, happy holidays and travel safely. Thanks to all our participating laboratories who keep sending isolates and make GERMS what we are today.

Messages from those who knew us way back then



Muzi Hlanzi was our first data clerk. Prior to that he was an HIV counsellor with Love Life and then an HIV counsellor and recruiter at PHRU (Perinatal Health Research Unit). He was part of GERMS from 2003 until August 2007 and now he is a database management officer in the Virology unit of the NICD.

" I am very impressed and proud of the progress GERMS-SA/NMSU has made over the years....thinking back to when we were working from Braamfontein, just 2 data clerks, then 3...now a truckful of them..and Surveillance officers (29), MO's and everyone involved. And now the surveillance system (co ordination, harmonised tasks, integrated databases, public health relevancy etc) and data sharing techniques that GERMS-SA use are talked about in every meeting I go to in and outside the NICD - meaning that you are really becoming a force to be reckoned with. Also, the scientific papers and talks that are released from GERMS-SA data are quite impressive. I am really happy to have been a part of it ALL."

Anne Schuchat was our Centers for Disease Control and Prevention (CDC) contact in the early years. She was Chief of the Respiratory Diseases Branch at CDC then and now is Director of the National Center for Immunization and Respiratory Diseases at CDC. This is what she had to say about the last Link in 2010,



"As always LINK is fabulous. Glad to learn that the steering committee successfully decided to stop something (PCP) after reviewing its value and challenges. This is a sign of a mature governance system and something to be proud of. Also love the parasitologists waving! As I see the surveillance officer and staff's photos and stories and goodbyes, I am sad to be less connected with the wonderful GERMS-SA family, but so very pleased to see your growth and accomplishments. The SO presenting at Academic Day made my day as well."

Cryptococcal meningitis

By Nelesh Govender (Head of the Mycology Reference Unit)

At long last, GERMS-SA has recorded a decline in the incidence of cryptococcal meningitis! In 2010, the incidence decreased in most provinces. To ensure that the incidence trend continues downwards, we need to ensure that patients are diagnosed with HIV infection and started on ARVs as early as possible. Community-based and hospital-based counselling and HIV testing will help to achieve this goal. Our GERMS-SA surveillance officer team continue to do a sterling job to ensure that patients diagnosed with cryptococcal meningitis know their HIV status and are referred onwards to access ARVs. However, thousands of South Africans continue to be diagnosed with this deadly disease each year - over one third of patients with cryptococcal meningitis die in hospital! In 2011, NICD/NHLS will be working with Dept of Health and other partners on a screening strategy to detect cryptococcal meningitis earlier. We hope that this will help to reduce deaths caused by cryptococcal meningitis.

MRU would like to thank the GERMS-SA enhanced surveillance sites for continuing to submit cases and isolates to NICD. For accurate case-counting, we are also heavily dependent on laboratories from KwaZulu-Natal and the private-sector which submit cases to us. The NHLS Corporate Data Warehouse has allowed GERMS-SA to improve its case-counting overall - the NHLS CDW team does a great job of supporting the surveillance system.



Gloria Thoko Zulu (front) and Jaymati Patel (back) working on the mycology bench

Surveillance Officers' Meeting 21-22 February 2011

Our 15th Surveillance Officers' (SO) meeting was convened at NICD and was almost our first full-house of SOs. All enhanced sites in the 9 provinces were represented. The most important topics covered were GERMS data collection and correctness and occupational health hazards.



L-R: Khasi Mawasha (FS), Lorato Moapese (NC), Mmakgomo Rakhudu (NW) and Fiona Timber (GA)



Our happy surveillance officers at the 15th Surveillance Officers' Meeting, 21-22 February 2011, held at NICD (missing from photo: Khasi(FS), Fiona (JHB), Maria (LP), Khuthaza (KZN—absent)



Sandisiwe Joyi (EC) and
Sunnieboy Njikho (MP)



Back row L-R: Rachel Nare (CHBH), Vusi Ndlovu (DGM), Mokupi Manaka (CHBH), Hazel
Mzolo (CHBH).

Front row L-R: Busi Mbatha (CHBH), Maria Mokwena (LP), Sylvia Nkomo (SBH)



Groote Schuur/ Red Cross and Victoria Hospital SOs (L-R): Cheryl
Mentor, Priscilla Mouton and Cecilia Miller

Suspected food-borne illness outbreak, SO meeting, NICD 2011

By Nevashan Govender (SA FELTP resident)



Nevashan Govender is a SAFELTP resident seconded to GERMS-SA. He has a masters in medical microbiology, obtained by research conducted with the team at EDRU. He is in his second year of residency. His first job was at MRU as an intern-scientist. He loves to work with GERMS!

The suspected food-borne outbreak was reported by the director of GERMS-SA, Dr V. Quan, at a weekly NICD Epidemiology-Microbiology meeting (24/02/2011). Dr Quan had received communication that some attendees of the SO meeting had suffered symptoms of gastrointestinal illness. On retrospective questioning, people reported gastrointestinal symptoms on: Monday morning after breakfast at the hotel (n=2), Monday afternoon after lunch (n=2), Tuesday morning after tea (n=1) and Wednesday morning (n=4). As a result of the findings of the initial questioning, it was deemed that an outbreak investigation was necessary.

A questionnaire, which could be either self- or interviewer-administered, was prepared and circulated for completion to all meeting invitees and attendees that registered on the first day of the meeting (n≈60). The questionnaire comprised questions on demography, symptoms of illness and exposures to meals - for both the catered meals as well as the meals eaten at the hotel or restaurant.

Of the 60 attendees, 48 responded with completed questionnaires and 2 interviews were conducted by telephone (response rate of 83%; 50/60). The average age of respondents was 40 years (range: 25 -65 years old). The male to female ratio was 1:7. Of the 50 respondents, 18 developed gastro-intestinal symptoms (attack rate of 36%). The average age among the 18 cases, was 39 years old (range: 25-63 years old). The male to female ratio was 1:8. The earliest time of onset of illness, was 8:00am Monday morning (21/02/2011) and latest time of onset of illness was 6:00am Wednesday morning (23/02/2011).

The majority (89%; 16/18) of the cases reported onset of illness within a 48 hour period, from Monday morning to Tuesday evening (Figure 1). The attack rate was greatest on the Tuesday. The most common symptoms reported were diarrhea (13/18) and abdominal cramps (13/18). Stools specimens were not taken from any of the 18 individuals who reported symptoms of gastrointestinal illness. All illnesses were mild and no hospitalizations or deaths were reported.

Only 2 of the 18 (11%) individuals sought medical attention for their illness, one consulted a medical practitioner and the other a pharmacist. Environmental health practitioners conducted inspections of both the hotel and the premises utilized by the caterer for preparation of the food. It was found that both complied with the required regulations. The outbreak had passed and no food samples were available.

A cluster of 2 cases of gastroenteritis linked by time, place and person is notifiable in South Africa and considered as a suspected food-borne illness outbreak. Most of the cases reported onset of symptoms within a 48 hour period suggesting a common source. An index case was not identified; no clinical (stool) specimens or food samples were available for testing. The causative agent could thus not be identified.

A relatively high attack rate, dates of illness onset clustered within 3 days, the short duration of illness and a relatively mild clinical picture; the most *likely* cause is a faecal-orally transmitted viral infection such as a norovirus or rotavirus, contaminating the food consumed at the meeting. Food contamination can occur at different stages of preparation to the point of service. Our investigation was limited by the absence of clinical and environmental samples for microbiology. In view of our findings, further analytical studies / investigations were not recommended.

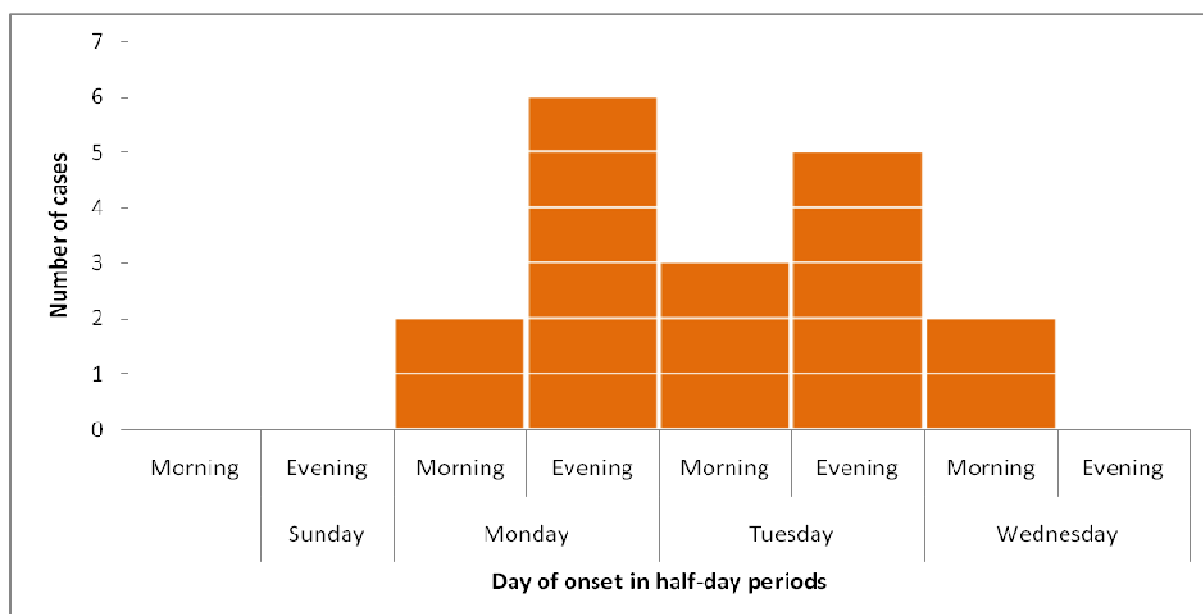


Figure: Epidemic curve illustrating the number of individuals reporting gastrointestinal symptoms by time of onset by day, GERMS-SA Surveillance Officers' Meeting, NICD, 21 February (Monday) to 23 February (Wednesday) 2011 (n=18)

Evaluating the effects of the nested Invasive Pneumococcal Disease Case-Control Study* on the GERMS-SA Surveillance system, 2009 to 2010

By Nevashan Govender, SAFELTP resident

* IPD study: A case-control study to estimate the effectiveness of a conjugate pneumococcal vaccine against invasive pneumococcal disease in South Africa. This study is evaluating the effect of the pneumococcal vaccine in preventing severe pneumonias and meningitis caused by *Streptococcus pneumoniae*. This vaccine was recently introduced into SA's Expanded Programme on Immunisation to be routinely given to infants at 6 weeks, 14 weeks, and 9 months of age. It is hoped that the use of this vaccine will decrease the occurrence of these diseases in our children by 60-80%.

In March 2010, a case-control study to estimate the effectiveness of a conjugate pneumococcal vaccine against invasive pneumococcal disease (IPD) in South Africa was started. The study is the first to be nested (i.e. contained within the GERMS-SA structure performing similar functions to that of GERMS-SA), within the GERMS-SA active, national, laboratory-based surveillance system. The field epidemiology and laboratory training programme (FELTP) resident assigned to NMSU conducted a study to evaluate the effects of the nested IPD c-c study on the GERMS-SA Surveillance system.

The study included site visits to three selected enhanced surveillance sites and interviews of individuals participating in GERMS-SA surveillance activities related to those sites. These included medical officers, lab managers, lab coordinators, surveillance officers and paediatricians. The most experienced person interviewed has been involved with GERMS-SA for almost 8 years and the least experienced person interviewed for only 3 months. On average those individuals participating in GERMS-SA surveillance activities had been involved with GERMS-SA for about 3 years.

Results of the evaluation, interviews and personal observation found that medical and surveillance officers were the most affected by the introduction of the IPD case control study. The effects have been both positive and negative. The introduction of the case-control study has resulted in an increased workload, and challenges on time-management and planning for the medical and surveillance officers. Surveillance officers who work by themselves sometimes feel isolated and medical officers have had to accommodate extra training and meetings into their already busy schedules. New surveillance officers felt that the emphasis was not on GERMS-SA but IPD and requested GERMS-SA-specific training.

On the flip-side both medical and surveillance officers have improved their overall communication with all GERMS-SA participants. Medical officers conduct weekly conference calls with their assigned surveillance officers and with more surveillance officers now having email access communication can only improve further. Surveillance officers have taken the baton from the medical officers and are working closer with the laboratories at their respective sites as well as with clinicians. The laboratories have felt no ill effects and the paediatricians had only been introduced to GERMS-SA through their involvement with the IPD case-control study, which they found very exciting.

Overall the IPD case-control study has had positive effects by encouraging communication between all GERMS-SA role-players. Everybody interviewed felt that the IPD case-control study was important and that they were happy to be involved. The IPD case-control has provided those involved with both the IPD case-control study as well as GERMS-SA greater access to job-related training as well as an opportunity to be actively involved in a national study. In terms of GERMS-SA the IPD case-control study has increased communication between surveillance officers and clinicians which is integral in bridging the gap between the laboratory and clinicians. Greater support needs to be provided to surveillance officers, especially those who work alone, with regards to planning and addressing changes in procedures. Keeping surveillance officers motivated is the most important factor in ensuring the smooth operation of the GERMS-SA surveillance system with or without the IPD case-control study or any other nested studies.



The IPD start up meeting was held at NICD on 1-2 February 2010 and attended by all surveillance officers, and interested paediatricians, CDC collaborators and NICD coordinating staff.

Site visits January to March 2011

Dr Cynthia Whitney from the Centers for Disease Control and Prevention (CDC) in Atlanta, visited the NICD to assist with the IPD case-control study. She visited Charlotte Maxeke Johannesburg Academic Hospital on the 31st January 2011 and Rahima Moosa Maternal and Child Hospital on the 4th February 2011 with GERMS-SA and IPD medical officers. The aim of the visits was to discuss specific IPD challenges at these sites, review the site control enrolment procedures, meet with the paediatricians involved in the IPD study and review the HIV clinics at these sites.

Cyndy was very impressed with the work that the SOs were doing at these sites and commended them on their commitment to the IPD study. As always, collaboration with the CDC has taught us many things and we look forward to their next visit.

Routine site visits were conducted at Dr George Mukhari Hospital on 26 January, Job Tabane (Rustenburg) on 15 March and Rob Ferreira and Themba Hospitals (Mpumalanga) on 23-24 March, where GERMS coordinators shared GERMS data, audited the IPD case-control study and assisted the surveillance officers in finding solutions to difficulties in control-enrolment.

L-R: Melony Fortuin-de Smidt, Vusi Nokeri and Claire von Mollendorf (medical officers) with Mmakgomo Rakhudu (surveillance officer) at the Rustenburg NHLS laboratory



Site visits



Barry Spies (paediatrician) and Themba Hospital paediatric interns and community service doctors with GERMS medical officers (John and Vusi) and surveillance officer (Sunnieboy) after a GERMS presentation



Medical officers Mohlamme John Mathabathe and Vusi Nokeri going through medical records with Sunnieboy Njikhoh

The National Microbiology Surveillance Unit (NMSU) - coordinators of the GERMS-SA programme



L-R: Jabulani Ncayiyana (epidemiologist and data base manager), Vanessa Quan (head of unit), Susan Meiring (medical officer, based in Cape Town), Gugu Moyo (project administrator), Relebohile Ncha (medical officer), Nevashan Govender (SAFELTP resident within GERMS-SA), Seated L-R: Nondumiso Sithole (secretary), John Mathabathe (medical officer), Melony Fortuin de Smidt (medical officer)



Laboratory clerks, L-R: Thembi Mthembu (RMPRU), Jabu Mabuyakhulu MRU), Bulelwa Zigana (MRU), Emily Dloboyi (EDRU), Dumisani Sithole (AMRRU), Dumisani Mlothswa (MRU). Absent: Portia Mogale (EDRU) and Judith Tshabalala (RMPRU)

General information for surveillance laboratories

GERMS-SA 2010 Annual Report—Available from May 2011

Please ask your laboratory managers to circulate this report or pin it to your notice boards. It will also be found on our new GERMS-SA website, the link is under "surveillance" on www.nicd.ac.za, follow the GERMS-SA link.

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.

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 OR latex antigen test positive	RMPRU
<i>Salmonella</i> spp. (including <i>Salmonella</i> Typhi) <i>Shigella</i> spp.	Any specimen	Culture positive	EDRU
Diarrhoeagenic <i>E. coli</i> <i>Vibrio cholerae</i>	Gastrointestinal specimens, e.g. stools, rectal swabs, etc.	Culture positive	EDRU
<i>Cryptococcus</i> spp.*	Any specimen	Culture positive OR Latex positive OR India ink positive	MRU
<i>Staphylococcus aureus</i> <i>Klebsiella</i> spp.**	Blood culture only	Culture positive	AMRRU

*Only enhanced surveillance sites, private labs and NHLS-KZN labs should submit cryptococcus cases and isolates.

**Only for the following labs: Chris Hani Baragwanath, Charlotte Maxeke Johannesburg Academic, Greys', Groote Schuur, Helen Joseph, Steve Biko Pretoria Academic, Tygerberg, Universitas.

This newsletter was compiled and edited by Vanessa Quan, National Microbiology Surveillance Unit. Please send any queries, recommendations or contributions to or Vanessa Quan vanessaq@nicd.ac.za Tel (011) 386 6234.