

Situation Report			
Outbreak name	Listeriosis	Country affected	South Africa
Date & Time of report	11 June 2018	Investigation start date	August 2017
Prepared by	National Listeria Incident Management Team		

'Team A' prior to a factory inspection in Bloemfontein, 6 June 2018.



A member the Risk Communication Team explaining the 'WHO 5 keys to safer food' at a risk communication workshop in Limpopo province, Friday 1 June 2018



1. Highlights

- 1 049 laboratory confirmed cases have been reported from 01 January 2017 to 05 June 2018.
- The number of reported cases per week has decreased since the implicated products were recalled on 04 March 2018 with a total of 76 cases reported since 05 March 2018.
- Training of EHPs across the country is almost complete with 740 EHPs have been trained across 7 provinces to date Training took place in Western Cape and Limpopo (28-30 May 2018), Free State and North West provinces (3-5 June 2018).
- A strategy for listeriosis screening by district environmental health practitioners has been agreed upon and will become effective from Monday 18 June 2018. See below for details
- A consolidated list of meat processing facilities is being assembled, together with risk assessments done by districts in preparation for systematic inspection by the IMT and districts. Risk assessments have been received from 310 food processing facilities from 8 provinces, of which 79 are from meat processing facilities.
- A dedicated listeriosis website went live <http://listeriosis.org.za/listeriosis/> on 31 May 2018. Please provide feedback to Nombulelo Leburu Nombul@health.gov.za

2. Background

Prior to 2017, an average of 60 to 80 laboratory-confirmed listeriosis cases per year (approximately 1 per week), were reported in South Africa. In July 2017, an increase in laboratory-confirmed cases of listeriosis was reported to National Institute for Communicable Diseases (NICD) which was followed by investigations into the reported increase. On 05 December 2017, the listeriosis outbreak was declared by the Minister of Health, Dr. Aaron Motsoaledi. The source of the outbreak was identified as ready-to-eat processed meat products manufactured at Enterprise Foods' Polokwane production facility. A recall of affected products was initiated on 04 March 2018.

3. Emergency Management Approach

Phase 2 of the Emergency Response Plan developed by the multi-sectoral incident management team (IMT) is being implemented. The aim of the plan is to control and end the current listeriosis outbreak, and to strengthen systems to facilitate prevention and early detection of outbreaks. To inform and support these aims, surveillance and investigation of cases of listeriosis and risk communication activities are ongoing. Additional activities to complement these are being conducted as follows;



- Phase 1: Development of the ERP, communication of the plan with provincial and district stakeholders, development of material and training of staff to support inspections of facilities identified as at-risk food processing plants;
- Phase 2: Inspection of at-risk food processing plant and strengthening the capacity of district environmental health practitioners;
- Phase 3: Reporting and consolidation of health system strengthening activities, and after action review.

4. Public Health action/response interventions

1. CO-ORDINATION

The IMT met twice during the weeks ending 1 June and 8 June to coordinate response activities. Risk assessments of processed meat facilities throughout the country continue to be collated and consolidated by the IMT. Preparations are being made for factory inspections of all meat processing facilities across the country, commencing 18 June, including development of a database to collate and manage risk assessments, inspection reports, environmental specimen results., so as to plan a schedule of factory inspections. The mid-project review is being finalised. The WHO continues to contribute through the provision of expert technical support for epidemiology, risk communication and food safety.

2. SURVEILLANCE

1 049 cases have been reported from 01 January 2017 to 05 June 2018. The number of new cases reported each week has decreased since the implicated products were recalled on 04 March 2018 (Figure 1). Neonates ≤ 28 days of age are the most affected age group, followed by adults aged 15 – 49 years of age (Figure 2). Most cases have been reported from Gauteng Province (58%, 611/1 049), followed by Western Cape (13%, 132/1 049) and KwaZulu-Natal (8%, 80/1 049) provinces (Table 1).

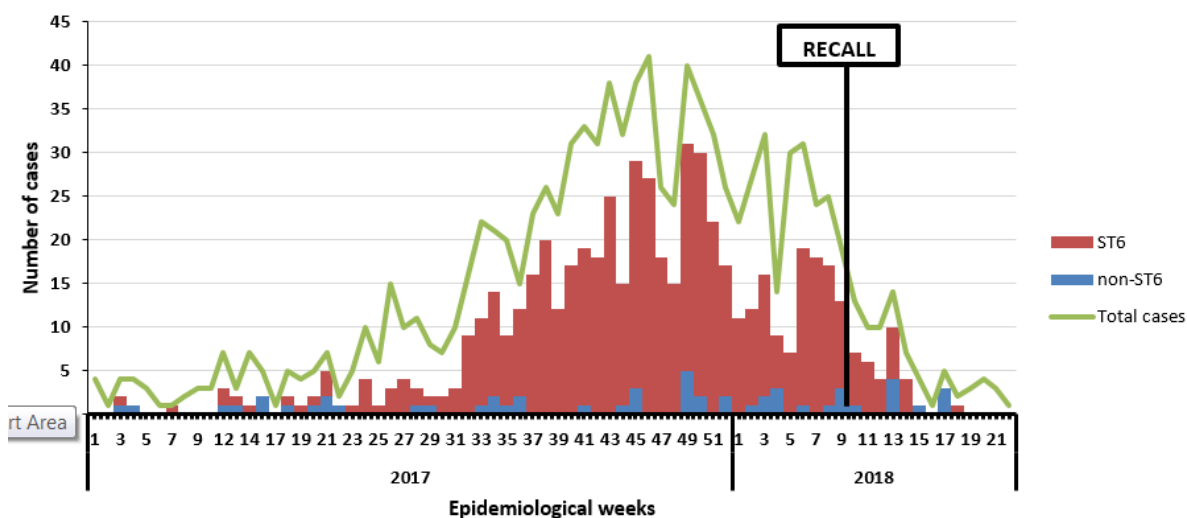


Figure 1: Figure 1: Epidemic curve of laboratory-confirmed listeriosis cases by date of clinical specimen collection (n=1 038) and sequence type (ST) (n=564), South Africa, 01 January 2017 to 5 June 2018 (n=1049)

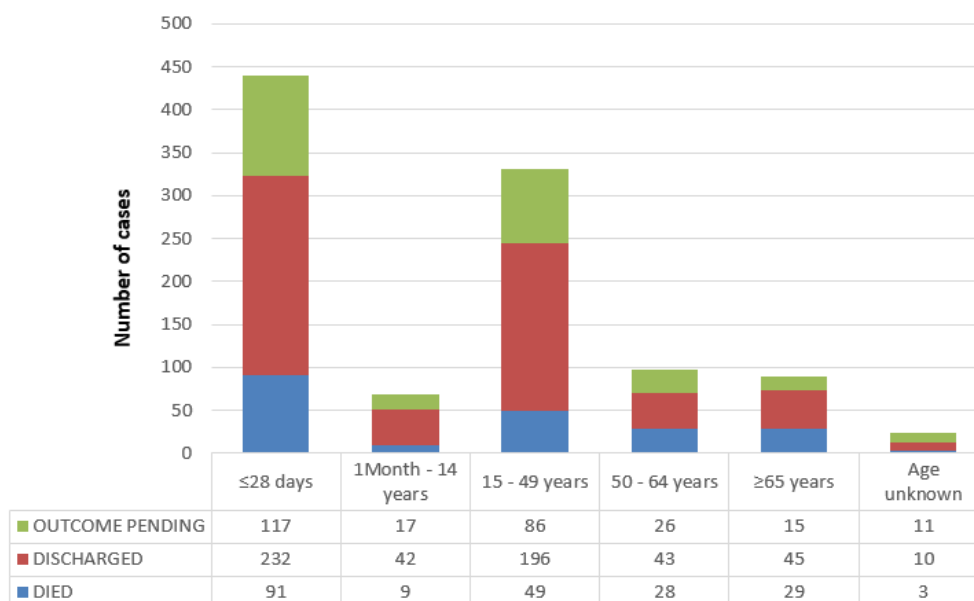


Figure 2: Age distribution and outcome of laboratory-confirmed listeriosis cases, South Africa, 01 January 2017 to 5 June 2018 (n=1 049)

Table 1. Number of laboratory-confirmed listeriosis cases and deaths by province, where outcome data is available, South Africa, 01 January 2017 to 5 June 2018 (n=1 049)

Province	Outcome available (as a % of total cases in RSA)	Number of deaths (% of those with outcome available)	# cases (% of total cases)
Gauteng	386 (63.2)	106 (27.5)	611 (58.2)
Western Cape	130 (98.5)	31 (23.8)	132 (12.6)
Kwa-Zulu Natal	72 (90.0)	21 (29.2)	80 (7.6)
Mpumalanga	47 (97.9)	11 (23.4)	48 (4.6)
Eastern Cape	31 (58.5)	11 (35.5)	53 (5.1)
Limpopo	50 (90.9)	11 (22.0)	55 (5.2)
Free State	30 (85.7)	8 (26.7)	35 (3.3)
North West	25 (86.2)	7 (28.0)	29 (2.8)
Northern Cape	6 (100.0)	3 (50.0)	6 (0.6)
Total	777 (74.1)	209 (26.9)	1 049

- Following a recall of implicated products, the number of cases are going down. However, it is anticipated that cases could still be reported for the following reasons:
 - The incubation period of listeriosis can be up to 70 days
 - The implicated products have a long shelf life and it is possibly that despite the recall some products have not been removed from retail or consumer's homes
 - Cross-contamination at retail and in the home can occur
- Post recall (05 March 2018 to date), all new cases of laboratory-confirmed listeriosis are contacted by IMT members, and a comprehensive food history is obtained. Exposure to food products implicated in the listeria outbreak is determined.
 - Of 76 post-recall cases, 52 have been interviewed to date.
 - Of those interviewed, 32/52 (62%) of ill people or their proxy reported consuming polony prior to their illness onset; brands manufactured by Enterprise Foods were most commonly reported to have been consumed where brand of polony was known



3. LABORATORY

A. NICD:

- All clinical isolates received at NICD are undergoing whole genome sequencing (WGS). A total of 590 clinical isolates have undergone WGS to date (Figure 1); 91% (537/588) belong to the sequence type 6 (ST6) outbreak strain, and the remainder belong to 16 different sequence types.
- Of the 76 cases reported post recall, 48 viable isolates of *Listeria monocytogenes* have been received at the NICD from diagnostic laboratories. WGS has been completed for 36 of these isolates to date; 27 are outbreak strain ST6 and the remainder (n=9) belong to seven other sequence types (ST1, ST2, ST5, ST7, ST1039, ST554 and a novel ST).
- Case investigation forms have been received for 47/76 post-recall cases
- For the purposes of assessing linkage of *L. monocytogenes* strains to the South African outbreak, the NICD has deposited 10 representative ST6 sequences in the public GenBank - NCBI database (<https://www.ncbi.nlm.nih.gov/Traces/study/?acc=SRP142281>). Please contact Dr Anthony Smith (anthonys@nicd.ac.za) regarding sequencing queries

B. NHLS Infection Control Services Laboratory:

- A strategy for listeriosis screening by district environmental health practitioners has been agreed upon and will become effective from Monday 18 June 2018.
 - a. Only environmental swabs for qualitative testing of *L. monocytogenes* will be accepted by the NHLS ICSL laboratory from facilities producing processed meat.
 - b. Food testing for will be targeted to factories where environmental swabs have yielded growth of *L. monocytogenes*
 - c. A standard operating procedure (SOP) and FAQ document has been drawn up including an algorithm for testing. These documents will be available on the NICD website.
- The laboratory is currently processing specimens from the 8 inspections that have been conducted by the IMT to date. Approximately 94 samples were tested for *L. monocytogenes* in environmental swabs & food samples in the past week
- Two biotechnologists & a clerical staff member have been appointed to assist with the response

4. ENVIRONMENTAL HEALTH and FOOD SAFETY

- Following training of EHPs in Western Cape and Limpopo (30 June 2018) Free State and North West provinces (5 June 2018), four food processing factories were inspected by a team comprising district EHPS and IMT members.
 - Specimens were collected and submitted by courier to the NHLS ICSL laboratory.
 - The factories were evaluated for adherence to R962 using a checklist (available at <http://www.nicd.ac.za/index.php/listeriosis/>)
 - Reports will be provided to the District who will take responsibility for follow up actions required by the factories
- A strategy for listeriosis screening by district environmental health practitioners described above will be explained in correspondence from the NDoH Environmental Health, and become effective from Monday 18 June 2018.
- Risk assessments have been received from 310 food processing facilities from 8 provinces, of which 79 are from meat processing facilities.
- A consolidated list of meat processing facilities is being assembled, together with risk assessments done by districts in preparation for systematic inspection by the IMT and districts.

5. RECALL PROCESS

As of 29 May 2 670 tons of recalled Enterprise and Snax products have been destroyed by thermal or landfill according to certificates provided by Department of Environmental Affairs officials. This includes products destroyed at exported destinations.

6. TRAINING/CAPACITY BUILDING

- 740 EHPs, veterinary public health officials and others have been trained in the following provinces to date. Training will be conducted in the Northern Cape and KwaZulu-Natal provinces during the week ending 15 June 2018



Province	Date of trainings	# delegates trained
Eastern Cape	22, 23 May 2018	108
Free State	5 June 2018	44
Gauteng	10, 11 18 May 2018	282
Limpopo	29 May 2018	69
Mpumalanga	22 May 2018	19
North West	5 June 2018	59
Western Cape	29, 30 May 2018	159

- All training material including power point presentations, RSA food legislation, checklists used by inspecting teams is available on the NICD website at <http://www.nicd.ac.za/index.php/listeriosis/>

7. FOOD SAFETY LEGISLATION REVIEW

- The Regulations relating to Hygiene on Food Premises and the Transport of food, published in 2015 for comment were received from the State Law Advisors and will be gazetted shortly .
- The process to make HACCP mandatory in high risk meat processing facilities through an amendment to the Regulations pertaining to the application of the hazard analysis and critical control system (HACCP), (R908 of 2003) will also be gazetted shortly.

8. RISK COMMUNICATION, COMMUNITY ENGAGEMENT & SOCIAL MOBILISATION

- A dedicated listeriosis website went live <http://listeriosis.org.za/listeriosis/> on 31 May 2018. Please provide feedback to Nombulelo Leburu NombuL@health.gov.za
- Risk communication training took place on 29,30 May in North West (40 health promoters and 60 community health workers trained) and in Limpopo province on 31 May, 1 June.
- Training material for risk communication activities includes the WHO 5 keys to safer food, and other health promotion material available at <http://www.nicd.ac.za/index.php/communication-resources/>
- Community engagement activities have taken place in North West targeting commuters, clinic attendees.
- The media workshop scheduled for 30 June 2018 was postponed. A new date will be agreed upon this week.
- Media and social media monitoring is done daily. No rumours or misinformation is currently circulating. This week food safety legislation and the economic impact of the outbreak has again been the focus of the outbreak.

5. Challenges / Gaps

- Risk assessments from all meat processing facilities across the country are urgently required. Provincial and district environmental health authorities are requested to contact Kerrigan McCarthy for a list of facilities in their district kerriganm@nicd.ac.za .

6. Recommendations & priority follow-up actions

- A meeting of epidemiologists and laboratorians from NDoH, NICD and WHO is being convened to ascertain the trajectory of the outbreak and make recommendations regarding further actions.
- Training of EHPS and factory inspections will take place in KwaZulu-Natal and Northern Cape provinces during the week ending 15 June.
- A strategy for listeriosis screening by district environmental health practitioners will become effective from Monday 18 June 2018

7. Conclusions

Phase 2 of the ERP continues with the following activities conducted by the IMT over the past week: 1) ongoing surveillance and investigation of cases; 2) and 3) training of EHPS and inspection of processed meat factories in North West, Free State, Western Cape and Limpopo provinces, including assessment of food safety and collection of environmental samples; 4) preparations for training and inspections in the KwaZulu-Natal and Northern Cape provinces; 5) Community engagement activities in North West Province; 6) Finalisation of a strategy for listeriosis screening by district EHPs.