



Situation Report

Outbreak name	Listeriosis	Country affected	South Africa
Date & Time of report	27 June 2018	Investigation start date	August 2017
Prepared by	National Listeria Incident Management Team		

'Team B' returning from training activities and inspections in KwaZulu Natal Province, 14 June 2018. All our team members have been travelling extensively – we appreciate it!



Risk communication and community engagements workshop in Mpumalanga Province, 12 June 2018



1. Highlights

- 1 053 laboratory confirmed cases have been reported from 01 January 2017 to 20 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 78 cases reported since 05 March 2018. Fewer than 5 cases per week have been reported for the last 4 weeks.
- Training of EHPs across the country is complete with 895 EHPs have been trained across all 9 provinces.
- A strategy for listeriosis screening by district environmental health practitioners has been agreed upon and will become effective from Monday 25 June 2018. See below for details
- Approximately 190 food processing facilities that manufacture processed meat have been identified across the country. Incident Management Team members have been despatched to various provinces to support the districts to conduct inspections and take environmental swabs.
- An amendment to the Regulations pertaining to the application of the hazard analysis and critical control system (HACCP), (R908 of 2003) was published on 14 June 2018. (Available at www.gpwonline.co.za/Gazettes/Gazettes/41707_14-6_Health.pdf)
- 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

Phase 1 has been completed, and Phase 2 is currently in progress. Training of EHPs in all provinces has been completed, and inspections of all facilities that produce ready-to-eat processed meat products are underway. The IMT met once during the week ending 15 June and once during week ending 22 June to coordinate response activities. Training of EHPs in provinces was completed. A list of processed meat facilities was consolidated. Preparations were made for factory inspections of all meat processing facilities across the country, which have commenced on 18 June. To date over 25 facilities have been inspected. An interim report on project activities is being finalised. A meeting of epidemiologists and laboratorians from NDoH, NICD and WHO is being convened at the end of June to ascertain the trajectory of the outbreak and make recommendations regarding further actions.

2. SURVEILLANCE

1 053 cases have been reported from 01 January 2017 to 20 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%, 613/1 053), followed by Western Cape (13%, 132/1 053) and KwaZulu-Natal (8%, 81/1 053) provinces (Table 1).

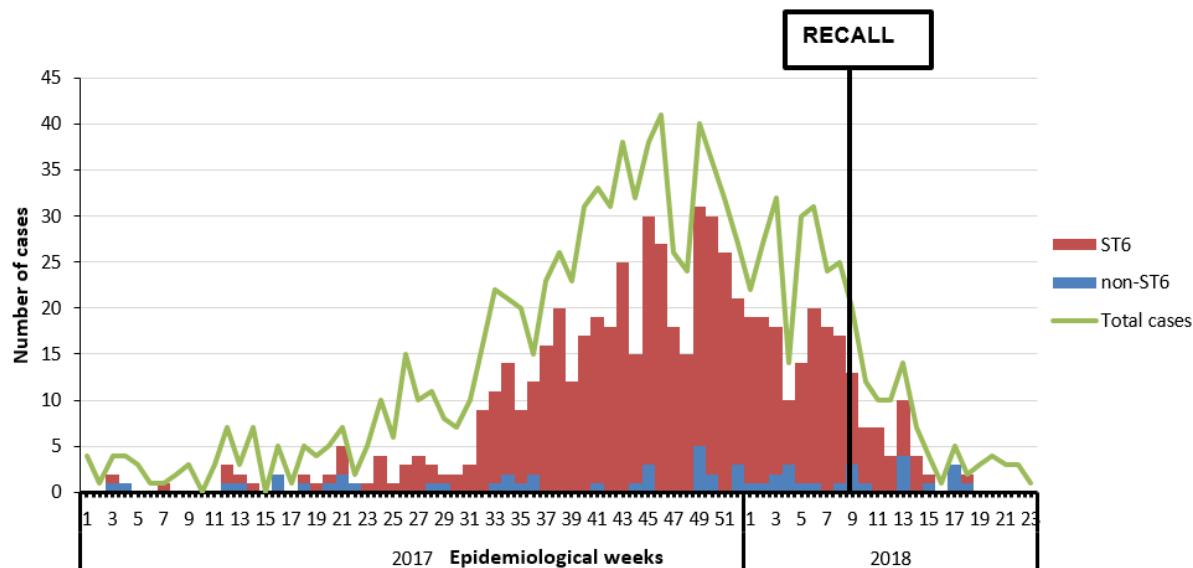


Figure 1: Epidemic curve of laboratory-confirmed listeriosis cases by date of clinical specimen collection (n=1 052) and sequence type (ST) (n=597), South Africa, 01 January 2017 to 20 June 2018 (n=1053)

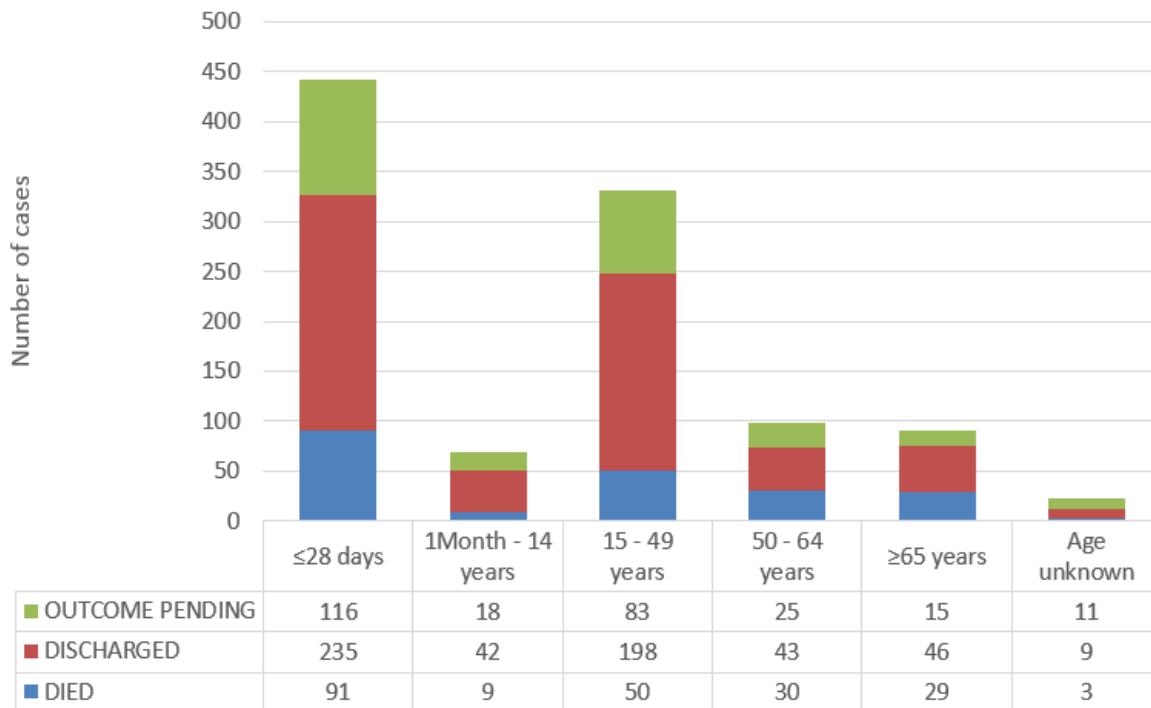


Figure 2: Age distribution and outcome of laboratory-confirmed listeriosis cases, South Africa, 01 January 2017 to 20 June 2018, where outcome is available (n=1053)

Table 1. Number of laboratory-confirmed listeriosis cases and deaths by province, where outcome data is available, South Africa, 01 January 2017 to 20 June 2018 (n=1 053)

Province	Outcome available (as a % of total cases in RSA)	Number of deaths (% of those with outcome available)	# cases (% of total cases)
Gauteng	388 (63.3)	107 (27.6)	613 (58.2)
Western Cape	131 (99.2)	32 (24.4)	132 (12.5)
Kwa-Zulu Natal	76 (93.8)	21 (27.6)	81 (7.7)
Mpumalanga	50 (90.9)	11 (22.0)	55 (5.2)
Eastern Cape	31 (58.5)	11 (35.5)	53 (5.0)
Limpopo	47 (97.9)	11 (23.4)	48 (4.6)
Free State	31 (86.1)	9 (29.0)	36 (3.4)
North West	25 (86.2)	7 (28.0)	29 (2.8)
Northern Cape	6 (100.0)	3 (50.0)	6 (0.6)
Total	785 (74.5)	212 (27.0)	1 053

- 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 possible 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 78 post-recall cases, 57 have been interviewed to date.
 - Of those interviewed, 35/57 (61%) 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 628 clinical isolates have undergone WGS to date (Figure 1); 91% (571/628) belong to the sequence type 6 (ST6) outbreak strain, and the remainder belong to 17 different sequence types.
- Of the 78 cases reported post recall, 52 isolates of *Listeria monocytogenes* have been received at the NICD from diagnostic laboratories. WGS has been completed for 43 of these isolates to date; 31 are outbreak strain ST6 and the remainder (n=12) belong to eight other sequence types (ST1, ST2, ST5, ST7, ST1039, ST554, ST808 and a novel ST).
- Case investigation forms have been received for 64/78 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 (anthony@nicd.ac.za) regarding sequencing queries

B. NHLS Infection Control Services Laboratory:

- Approximately 44 samples were tested for *Listeria* in environmental swabs & food samples in the past week as part of the factory and municipal inspections conducted
- Presence or absence of *L. monocytogenes* in 25 g of food sample or the environmental swab is currently reported
- A strategy for listeriosis screening by district environmental health practitioners has been agreed upon and will become effective from Monday 18 June 2018 (as discussed in the last report). More information is available on the NICD website.

4. ENVIRONMENTAL HEALTH and FOOD SAFETY

- Approximately 190 food processing facilities that produce ready-to-eat processed meat products have been identified.
- 11 IMT members who are also EHPs are currently in the provinces, working with district municipalities and metros to inspect and sample all 190 facilities. Findings from these inspections are to be reported to districts who will be responsible for follow-up.
- The *Listeria* sampling strategy was shared with at the National Inter-provincial meeting of Environmental Health managers on 19 June 2018.

5. RECALL PROCESS

As of 29 May 3 667 tons of recalled products have been destroyed by thermal treatment or landfill according to certificates provided by Department of Environmental Affairs officials. This includes products destroyed at exported destinations.

6. TRAINING/CAPACITY BUILDING

- Training was conducted in KwaZulu-Natal (12,13 June 2018) and Northern Cape (12 June)
- 895 EHPs, veterinary public health officials and others have been trained in the following provinces to date.

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
KwaZulu-Natal	12, 13 June 2018	98
Northern Cape	12 June 2018	57



- 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

- An amendment to the Regulations pertaining to the application of the hazard analysis and critical control system (HACCP), (R908 of 2003) was published on 14 June 2018. (Available at www.gpwonline.co.za/Gazettes/Gazettes/41707_14-6_Health.pdf)
- A draft of the revised 'Regulations governing microbiological standards for foodstuffs and related matters' (R692 of 16 May 1997) have been shared with the working group for input.
- Terms of Reference have been finalised for a food scientist to develop guidance for the industry regarding challenge studies to determine growth potential of *L. monocytogenes* in RTE foods.
- Revisions to the Regulations relating to Hygiene on Food Premises and the Transport of food (R962 of 2012), published in 2015 for comment were received from the State Law Advisors and will be gazetted shortly .
- Contributions to the Listeria sampling strategy were finalised, prior to preparation for publication by NDoH.

8. RISK COMMUNICATION, COMMUNITY ENGAGEMENT & SOCIAL MOBILISATION

- Risk communication training took place on 8 June in Free State Province (40 health promotors trained) and in Mpumalanga province on 11, 12 June (just under 100 persons trained).
- The media workshop scheduled for 30 June 2018 was postponed. A new date will be assigned.
- Media and social media monitoring is done daily. No rumours or misinformation is currently circulating.
- 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

5. Challenges / Gaps

- Nil to report at the time of writing

6. Recommendations & priority follow-up actions

- Factory inspections for all facilities producing ready-to-eat processed meat are presently being conducted, along with collection of environmental swabs
- A meeting of epidemiologists and laboratorians from NDoH, NICD and WHO is being convened at the end of June to ascertain the trajectory of the outbreak and make recommendations regarding further actions.
- A strategy for listeriosis screening by district environmental health practitioners is being rolled out.

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) completion of training of EHPs across all provinces of South Africa; 3) commencement of inspections in all districts by 11 IMT EHPS together with districts and Metros, 4) Community engagement activities in Free State and Mpumalanga provinces; 5) Publication of revised HACCP regulations (R908 of 2003) regulations 6) Roll-out of the strategy for listeriosis screening by district EHPs.