



Situation Report			
Outbreak name	Listeriosis	Country affected	South Africa
Date & Time of report	14 May 2018	Investigation start date	August 2017
Prepared by	National Listeria Incident Management Team		

Environmental Health Practitioners from Tshwane and West Rand Districts attending a training workshop at Kalafong Hospital, Thursday 10 May 2018.



Members of the Listeriosis Incident Management Team (Dr Juno Thomas and Murdock Ramatuba) with Dr Victor Ramathesele on 'Housecall', SABC2, Saturday 12 May 2018.



1. Highlights

- 1 033 laboratory confirmed cases have been reported from 01 January 2017 to 10 May 2018. Six additional cases were reported during the period 02-10 May 2018.
- The number of reported cases per week has decreased since the implicated products were recalled on 04 March 2018 with a total of 64 cases reported since 5 March 2018 (average 6.4 cases/week), whereas 249 cases were reported for the 10 week period prior to the recall (average 24.9 cases/week).
- All provinces are urged to complete the risk assessment tool for all food processing facilities and submit to agent02EOC@nicd.ac.za. Three provinces have submitted risk assessments for 38 food production facilities. The tool can be found on the National Institute for Communicable Diseases (NICD) website at <http://www.nicd.ac.za/index.php/listeriosis/> with the link 'Food processing plant risk-profiling tool for completion by District Municipalities (2018)'.
- Implementation of Phase 2 of the Listeria Emergency Response Plan (ERP) is in progress: Factory inspections of RCL and Tiger Brands production facilities have been completed. Training of environmental health practitioners (EHPs) was conducted in Gauteng on 10-11 May 2018. A meeting of government communications officers from the Departments of Health (DoH), Trade and Industry (DTI), Social Development (SD), Agriculture, Forestry and Fisheries (DAFF), and Government Communication and Information System (GCIS) was held on 9 May 2018 to harmonise a media strategy, draft a joint media statement and plan joint media and community engagement events.
- Upcoming activities include training of EHPs, factory inspections, media workshop and a consultative meeting regarding processed meat legislation. See below for details.

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

A multi-sectoral incident management team (IMT) that was formed under the leadership of the National Department of Health has finalised the implementation of the updated Listeriosis Emergency Response Plan. The plan was developed by the IMT and approved by the DG, National Department of Health (NDoH) on 20 April 2018. 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 continues to meet daily to coordinate response and preparedness activities. Continuous communication with stakeholders including sharing of the listeriosis response plan and recent situation reports. The team is following up with provinces to provide weekly updates on implementation of the listeriosis plan. A matrix of key stakeholders has been finalised.

2. SURVEILLANCE

1 033 laboratory confirmed cases have been reported from 01 January 2017 to 10 May 2018. The number of reported cases 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 (59%, 605/1 033), followed by Western Cape (13%, 130/1 033) and KwaZulu-Natal (7%, 75/1 033) provinces (Table 1).

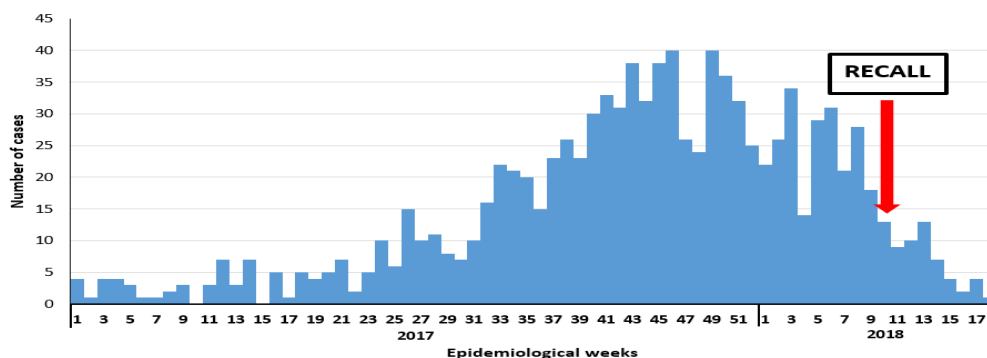


Figure 1: Epidemic curve of laboratory-confirmed listeriosis cases by epidemiological week (numbered weeks of the year, starting with week 1 in January) listed according to date of sample collection, South Africa, 01 January 2017 to 10 May 2018 (n=1 033)

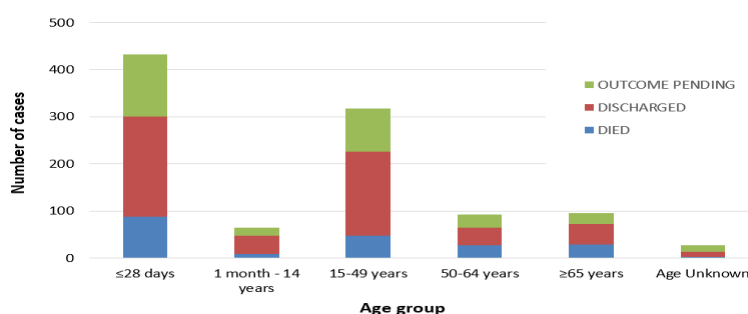


Figure 2: Age distribution and outcome of laboratory-confirmed listeriosis cases, South Africa, 01 January 2017 to 10 May 2018 (n=1 033)

Table 1. Number of laboratory-confirmed listeriosis cases and deaths by province, where outcome data is available:

Province	Outcome available (as a % of total cases in RSA)	Number of deaths (% of those with outcome available)	# cases (% of total cases)
Gauteng	379 (62.5)	106 (28.0)	605 (58.7)
Western Cape	114 (87.7)	30 (26.3)	130 (12.6)
Kwa-Zulu Natal	63 (84.0)	21 (33.3)	75 (7.3)
Mpumalanga	47 (100.0)	11 (23.4)	47 (4.5)
Eastern Cape	30 (56.6)	11 (36.7)	53 (5.1)
Limpopo	34 (65.4)	7 (20.6)	52 (5.0)
Free State	30 (85.7)	8 (26.7)	35 (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	728 (70.5)	204 (28.0)	1 033

- 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.
 - 39 interviews have been done on 64 persons who were diagnosed with listeriosis after the recall
 - 24/39 (62%) of ill people or their proxy reported consuming polony prior to their illness onset.

3. LABORATORY

- **NICD:**
 - a. All clinical isolates received at NICD are undergoing whole genome sequencing. Of the 64 cases reported post recall, 39 Isolates have been received for WGS to date.
 - b. Case investigation forms were received for 38/64 post-recall cases
 - c. A contract epidemiologist has been employed. Interviews were held for laboratory technologist positions. Shortlisting is in progress for a data clerk.
 - d. For the purposes of assessing linkage of *Listeria 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.
 - e. A new case investigation form has been finalised, and a database is being developed to support data collection.
- **NHLS Public Health Laboratory:**
 - a. The NHLS infection control services laboratory at Charlotte Maxeke Johannesburg Academic Hospital is preparing to receive food samples for *Listeria monocytogenes* quantitative testing from 14 May 2018. The NHLS public health laboratory in Durban has been trained on *L. monocytogenes* enumerative testing and will accept samples for testing from 28 May 2018.
 - b. The NHLS Laboratory Information System (LIS), TRAK has been set up to capture all data from the final public health specimen request forms to ensure that patient-related information is transferred onto the LIS. This will allow for tracing of food culture results from patient's homes. In addition, a system for the environmental health practitioners (EHPs) to access their results from NHLS laboratories, country-wide, is also being set up.



- c. A Standard Operating Procedure (SOP) for collection of environmental and food specimens has been developed. Equipment to support specimen collection has been ordered for the Incident Management team by the NICD
- d. Training of the IMT EHPs on the SOP took place on 9 May 2018. These EHPs will train their colleagues in the other provinces.
- e. Procedures for DNA extraction have been reviewed and reagents purchased so that, DNA extraction from all positive samples with *L. monocytogenes* can be sent to NICD for whole genome sequencing.
- f. Positions for additional technologists to support laboratory processing for Phase 2 were advertised. Shortlisting is currently being done.

4. ENVIRONMENTAL HEALTH and FOOD SAFETY

- Three provinces have submitted risk evaluation tools for 38 food processing facilities (Table 2).
- The risk evaluation tool is available at <http://www.nicd.ac.za/index.php/listeriosis/> with the link 'Food processing plant risk-profiling tool for completion by District Municipalities (2018)'. All districts are requested to send completed forms to agent02EOC@nicd.ac.za
- Four factory visits and inspections were conducted by the IMT. Three Tiger Brands facilities and one RCL facility were inspected. Reports have been shared with the district municipalities, who are responsible for monitoring implementation of food safety legislation.
- The IMT members were trained by Infection Control Services laboratory on a new SOP for collection of specimens from food processing facilities.
- Training of EHPs commenced as described under 'Training' (see below)

Table 2. Number of completed risk assessment tools received by the Incident Management Team as of Friday 11 May 2018 by province, including grading of facilities. (The tool on which these gradings are based is available at <http://www.nicd.ac.za/index.php/listeriosis/> . Districts are urgently requested to complete and submit these)

Province	# risk assessment tools submitted	Category (1=highest risk, 5=lowest risk)				
		1	2	3	4	5
Gauteng	0					
Western Cape	39	0	12	18	7	2
Kwa-Zulu Natal	0					
Mpumalanga	0					
Eastern Cape	0					
Limpopo	0					
Free State	0					
North West	4	0	0	3	0	1
Northern Cape	5	0	0	2	1	2
Total	48					

5. RECALL PROCESS

The National Consumer Commission (NCC) and the Department of Environmental Affairs (DEA) continue to obtain details regarding the recall and destruction of affected food products. Affected products are being warehoused and destroyed at a rate of 80 tons per day.

6. TRAINING/CAPACITY BUILDING

- The core IMT EHPs (n=10) were trained by the Infection Control Services laboratory of the NHLS according to the newly developed SOP for collection of food and environmental specimens from food manufacturing facilities.
- Training of Gauteng EHPs was conducted on Thursday 10 May (70 persons trained) for Tshwane and West Rand and on Friday 11 May (81 persons trained) for City of Johannesburg, Ekurhuleni and Sedibeng.



7. FOOD SAFETY LEGISLATION REVIEW

- An expert committee comprising members from Departments of Health (DoH), Trade and Industry (DTI) Agriculture, Forestry and Fisheries (DAFF), the National Regulator for Compulsory Specifications (NRCS) has been convened to prepare terms of reference for a review of South African food safety legislation.
- The IMT agreed to host a meeting to discuss a proposal to publish the NRCS SANS 885 (Processed meat products) in the Government Gazette for public comment. The meeting will be held at the NICD on Friday 18th May, 9am-12noon.

8. RISK COMMUNICATION, COMMUNITY ENGAGEMENT & SOCIAL MOBILISATION

- A meeting of government communications officers from the DoH, DTI, DSS, DAFF, and Government Communication and Information System (GCIS) was held at the United Nations Building on 9 May 2018 to harmonise a media strategy, draft a joint media statement and plan joint media and community engagement events.
- The '5 keys to safer food' posters have been submitted for printing in order to distribute these to provinces.
- The WHO 'Listeriosis infographics' have been translated and are being distributed by social media (Twitter handle: @HealthZA, Facebook www.facebook.com/HealthZA/).
- The NDoH webpage for listeriosis is undergoing development, with changes being made to reflect updates on current activities.
- Daily monitoring of electronic, print and digital media is ongoing. No rumours nor fake news are currently circulating.
- Feedback from provinces regarding community engagement activities is being gathered.
- A media toolkit may be downloaded from the NICD website at www.nicd.ac.za

5. Challenges / Gaps

Provinces and districts are urgently requested to complete risk assessment profiles for all food production facilities.

6. Recommendations & priority follow-up actions

- A joint media statement between government departments including NDoH, DAFF, DTI (including NRCS, NCC) is being prepared for release during the week of 14 May 2018
- A 3-hour media workshop to update journalists on listeria activities is planned for 30 May 2018 at GCIS offices, Tshedimosetso House, 1035 Schoeman St, Hatfield, Pretoria, 0028. For further enquiries please email Nombulelo Leburu at nombulelo.leburu@health.gov.za.
- A meeting to discuss a proposal to publish the NRCS SANS 885 (Processed meat products) in the Government Gazette for public comment will be held at the NICD on Friday 18th May, 9am-12noon. Please RSVP to Irma Latsky (irmal@nicd.ac.za).
- A draft provincial schedule for training of EHP has been drawn up as follows. Provincial officials are requested to confirm dates with Daniel Nkuna (daniel.nkuna@health.gov.za)

Mpumalanga	22 May 2018	Eastern Cape	24-25 May 2018
Limpopo	29 May	Northwest	31 May, 1 June
Free State	4-5 June	Western Cape	6-8 June
Northern Cape	11-12 June	KwaZulu-Natal	13-14 June

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 factory visits; 3) finalising SOPs for food and environmental specimen collection in production facilities; 4) training of Gauteng EHPs and 5) finalising training schedule for provinces and 6) social media releases.