health
Department:
Health
REPUBLIC OF SOUTH AFRICA

Situation Report			
Outbreak name	Listeriosis	**Country affected**	South Africa
Date & Time of report	7 May 2018	**Investigation start date**	August 2017
Prepared by	National Listeria Incident Management Team		

Members of the Incident Management Team's 'Factory Inspection team' – taken at the Tshwane District Municipality offices 4 May 2018 after an inspection of one of the Enterprise factories.

1. Highlights

- The number of cases of listeriosis diagnosed each week has decreased, with three additional cases reported since the last situation report. In total, 1 027 cases have been reported from 01 January 2017 to 02 May 2018, with 58 cases reported for the 8 week period since 5 March 2018. During the eight weeks prior to 5 March 2018, 200 cases of listeria were reported
- Phase 2 of the listeriosis emergency response plan (ERP) to strengthen the response to the listeriosis outbreak has commenced. Factory inspections of Tiger Brands (Hercules and Germiston) and RCL (Wolwehoek) factories were conducted by the Incident Management Team (IMT) including WHO food safety experts.
- Data is being collected from district municipalities to support prioritization of food production facilities for inspection. Environmental Health Practitioners (EHPs) in the district have been required to complete the tool which 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)'. All districts are requested to send completed forms to agent02EOC@nicd.ac.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 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

1 027 cases have been reported from 01 January 2017 to 02 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%, 603/1 027), followed by Western Cape (13%, 128/1 027) and KwaZulu-Natal (7%, 74/1 027) provinces (Table 1).

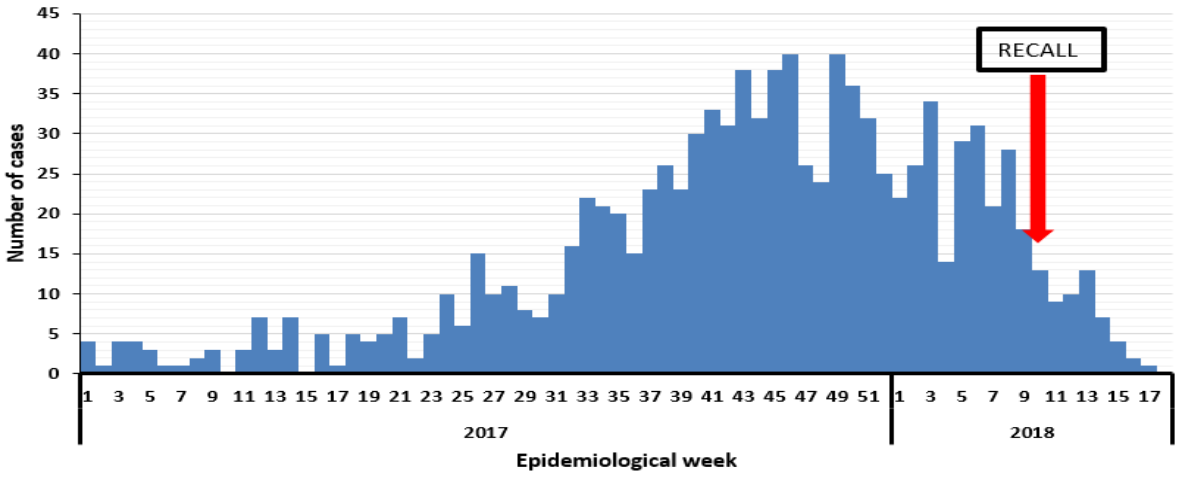

Figure 1: Epidemic curve of laboratory-confirmed listeriosis cases by epidemiological week (numbered weeks of the year, starting with week 1 in January) listed according to date of sample collection, South Africa, 01 January 2017 to 02 May 2018 (n=1 027)

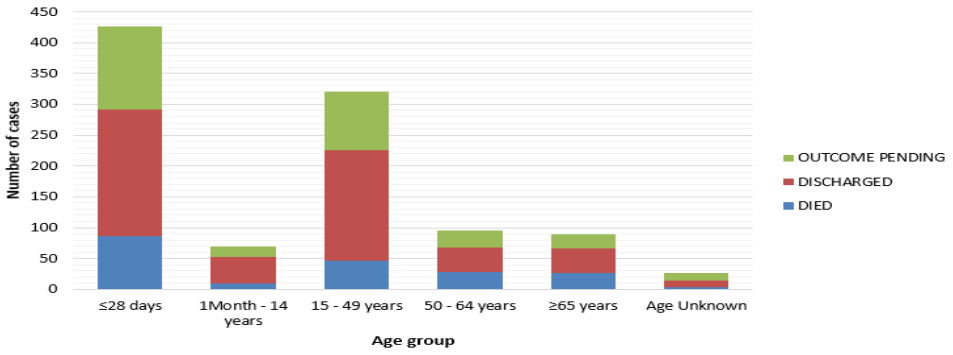

Figure 2: Age distribution and outcome of laboratory-confirmed listeriosis cases, South Africa, 01 January 2017 to 02 May 2018 (n=1 027)

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	378 (62.7)	106 (28.0)	603 (58.7)
Western Cape	113 (88.3)	29 (25.7)	128 (12.5)
Kwa-Zulu Natal	57 (77.0)	19 (33.3)	74 (7.2)
Mpumalanga	47 (100.0)	11 (23.4)	47 (4.6)
Eastern Cape	30 (56.6)	11 (36.7)	53 (5.2)
Limpopo	33 (63.5)	7 (21.2)	52 (5.1)
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	719 (70.0)	201 (28.0)	1027

- 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:
  a. The incubation period of listeriosis can be up to 70 days
  b. 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
  c. Cross-contamination at retail and in the home can occur
- Analysis by exposure
  a. Before recall (01 January 2017 – 04 March 2018)
     - 106 interviews were done on persons who were diagnosed with listeriosis before the recall
     - 90/106 (84%) of people interviewed reported consuming ready-to-eat processed meat products
     - 88/90 (97%) of people who consumed ready-to-eat processed meat products had consumed polony
  b. Post recall (05 March 2018 to date)
     - Amongst 58 cases that have been reported post-recall, 33 interviews have been done on persons who were diagnosed with listeriosis.
     - 21/33 (63%) of ill people or their proxy reported consuming polony prior to their illness onset

  Monitoring for additional cases will continue, and any new cases reported will be interviewed.

3. **LABORATORY**

- **NICD:**
  a. All clinical isolates received at NICD are undergoing whole genome sequencing.
  b. Of 58 cases reported since the recall, 35 have been received. Two isolates were lost in transit and one was too contaminated to be sent. Remaining isolates are from cases that were diagnosed recently.
  c. Case investigation forms were received for 37/58 post recall cases.
  d. A scoping meeting has been held with NICD IT to commence development on a new database.
  e. 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) for queries in this regard.
- **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 07 May 2018. The NHLS public health laboratory in Durban has been trained on *L. monocytogenes* enumerative testing and will accept samples for testing from 14 May 2018.
  b. The NHLS Laboratory Information System (LIS), TRAK, has been set up to capture all data from the 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.

c. A Standard Operating Procedure (SOP) for collection of environmental and food specimens has been developed. Equipment to support specimen collection is being ordered for the Incident Management team, including cooler boxes, temperature monitoring devices and tamper-proof tape.
d. Training of the IMT EHPs on the SOP will take place on 9 May 2018. These EHPs will train their colleagues in the other provinces.
e. Procedures for DNA extraction have been reviewed, and equipment 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 staff to support laboratory processing for Phase 2 have been advertised, and applicants have been shortlisted.

4. ENVIRONMENTAL HEALTH and FOOD SAFETY

- The risk evaluation framework and questionnaire to assist with identification of high-risk food plants for inspection was sent to provincial and district municipalities and to South African Local Government Association (SALGA).
- The tool is also on the 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)'. All districts are requested to send completed forms to agent02EOC@nicd.ac.za
- The checklist and procedure to be used by environmental health practitioners to inspect food processing plants was field tested in Ekurhuleni and is now ready for use.
- Three factory visits and inspections were conducted by the IMT. The group included food safety experts from the WHO and national, provincial and district representatives from NDoH and Department of Agriculture, Forestry and Fisheries (DAFF). : Wednesday 2 May – Enterprise, Germiston; Thursday 3 May, RCL Wolwehoek; Friday 4 May, Enterprise Hercules, Tshwane.

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

No training events were conducted this week. However, district environmental health practitioners received in-service training during the factory inspections as described in 'Environmental Health and Food Safety', above.

7. RISK COMMUNICATION, COMMUNITY ENGAGEMENT & SOCIAL MOBILISATION

- The '5 keys to safer food' posters are reviewed and translations into 11 South African official languages have been checked.
- The WHO provided a 'Listeriosis infographic' and a pamphlet for pregnant women for targeting high risk groups. Translations of these are currently underway.
- Daily monitoring of electronic, print and digital media is ongoing. No rumours nor fake news are currently circulating.
- A template to assist with planning of community engagement activities has been sent to the provinces

5. Challenges / Gaps

Funds are supplied by the NDoH and WHO to complement WHO contributions.

6. Recommendations & priority follow-up actions

- A number of risk communication activities are scheduled (Meeting with DAFF, DTI, DEA and NCC communications officers- Wednesday 09/05/2018; Teleconference with provinces-10/05/2018; Media workshop -Tuesday 15/05/2018
- Enterprise Polokwane will be visited by the IMT team on Monday 7 May 2018.
- Training for Gauteng EHPs will take place on Thursday 10 May and Friday 11 May. Contact Mary Maduare for details (Mary.Madaure@gauteng.gov.za);

7. Conclusions

Activities conducted by the IMT over the past three days include factory visits, ongoing surveillance and investigation of cases, motivations to obtain additional funding and preparations for the week commencing 7 May which includes factory visits and discussion of findings, training activities for EHPs and planning the provincial training schedule.

Attendees at the National Listeriosis workshop, held at the NICD 23-24 April 2018