Listeriosis is a food-borne disease caused by food contaminated with the *Listeria monocytogenes* (*L. monocytogenes*) bacterium. *L. monocytogenes* is found in soil, vegetation and water. There are six species of *Listeria*, but only *L. Monocytogenes* causes disease in humans. It is a relatively rare disease, with 0.1 - 10 cases per million people per year, depending on the country or region of the world. The World Health Organization believes that South Africa’s (SA’s) current listeria outbreak is the largest ever in the world. The National Institute of Communicable Diseases reported that as of 28 February 2018, there had been 943 laboratory-confirmed cases of listeriosis in SA, and 176 deaths from the disease. As of March 2018, the City of Johannesburg (CoJ) has had a total of 251 cases (26% of total cases), with an incidence of 51 cases per 1 million, and a case fatality rate of 15%. The age group 15 - 49 is the most badly affected, followed by neonates >28 days old. A detailed outbreak preparedness and response plan to prevent listeriosis and promote good hygiene was developed which emphasised the fact that the main preventive measure is to always ensure that good basic hygiene is followed. The CoJ is committed to continuing the management and control of listeriosis according to the National Department of Health communicable disease guidelines and surveillance policy, which includes the provision and management of primary healthcare to all patients presenting with suspected listeriosis at facilities, and conducting regular preventive and promotive activities/measures to create community awareness.


SA situation
The first documented outbreak in SA occurred between August 1977 and April 1978 (14 cases reported in Johannesburg). Since then, there have been sporadic cases. Listeriosis was not then recognised as a notifiable disease, and therefore it could not be picked up by the routine surveillance system. After the recent outbreak, the National Department of Health has made it a notifiable medical condition.[3][5]

The National Institute of Communicable Diseases (NICD) reported that as of 28 February 2018, there had been 943 laboratory-confirmed cases of listeriosis in SA, and 176 deaths from the disease. The distribution of cases per province was: Eastern Cape, 48; Free State, 33; Gauteng, 555; KwaZulu-Natal, 65; Limpopo, 47; Mpumalanga, 46; Northern Cape, 5; North West, 27; and Western Cape, 116.

On 4 December 2017, the NICD reported that whole genome sequencing had been performed on 189 clinical *L. monocytogenes* isolates, and 15 sequence types (STs) identified; 71% (134/189) of the isolates were of a single ST (ST6). It was reported that the isolates in the ST6 cluster were very closely related, which suggests that most cases in this outbreak have had exposure to a widely available, common food type/source.[4]

A media statement on 4 March 2018 by the Minister of Health confirmed that the source of the recent outbreak had been confirmed to be the Enterprise food-production facility in Polokwane.[5]
City of Johannesburg situation

The City of Johannesburg (CoJ) is the capital of Gauteng Province, the economic hub of SA. The city has a population of 4.9 million people spread across seven geographical regions (Fig. 1).

Fig. 2 shows the number of laboratory-confirmed listeriosis cases per year from January 2013 to December 2017. As can be seen, there were very few cases of listeriosis in SA before 2017.

To date, the CoJ has had a total of 251 cases (26% of total cases), an incidence of 51 cases per 1 million, and a case fatality rate of 15%. The age breakdown of listeriosis cases in the CoJ is described in Fig. 3. The figure shows that taken together, the age group 15 - 49 is the most badly affected, followed by neonates >28 days old.

These cases were spread across the seven regions as shown in Table 1, and hospitals as shown in Table 2.

An outbreak response team was activated in the CoJ. A detailed outbreak preparedness and response plan to prevent listeriosis and promote good hygiene was developed (Table 3), which included the following:

- prevention and health promotion activities, focusing on the following target groups: community; food premises/food handlers; and health workers
- development of pamphlets and posters, and distribution of frequently asked question (FAQ) documents
- briefing sessions for environmental health practitioners and professional nurses, conducted on 12 December 2017
- training of environmental health practitioners on 1 February 2018
- food samples taken from different food stores and outlets in the city by environmental health practitioners.

The prevention and health promotion activities emphasised the fact that the main preventive measure is to always ensure that good basic hygiene is followed. This includes:

- ...
Those at high risk of listeriosis were advised to avoid the following foods:

- raw or unpasteurised milk, or dairy products that contain unpasteurised milk
- soft cheeses (e.g. feta, goat’s milk, brie)
- foods from delicatessen counters (e.g. prepared salads, cold meats) that have not been heated/reheated adequately
- foods from raw vegetables and fruit

### Conclusion

The CoJ is committed to continue the management and control of listeriosis according to the National Department of Health communicable disease guidelines and surveillance policy, which includes the provision of health education and communication. The CoJ is also committed to conducting regular preventive and promotive activities/measures to create community awareness and to promote healthy behaviors among the community.

### Acknowledgements

We acknowledge the staff working in the CoJ, the ward-based outreach teams (WBOTs), and the members of the CoJ outbreak response team for their active contribution during the outbreak. We also appreciate the efforts of the CoJ website (JoziNet) in providing information to the community.

### Author contributions

All authors contributed actively in the preparation of this article and worked on this project.
Funding. The work done for this project was funded by the CoJ.

Conflicts of interest. None.


Accepted 6 April 2018.