



health

Department:
Health
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STATISTICAL NOTES

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Welcome to this edition of Statistical Notes!

FOOD-BORNE ILLNESSES IN MPUMALALNGA PROVINCE

1. Overview for Mpumalanga Province

Millions of South Africans contract food poisoning every year.¹ According to the World Health organisation Food safety and foodborne illness report, the global incidence of foodborne diseases is difficult to estimate, but it has been reported that in 2005 alone 1.8 million people died from diarrhoeal diseases. The great proportion of these cases was attributed to contamination of food and drinking water. In industrialized countries, the percentage of the population suffering from foodborne diseases each year has been reported to be up to 30%.¹

Developing countries are reported to bear the brunt of the problem due to the presence of a wide range of foodborne diseases, including those caused by parasites. The high prevalence of diarrhoeal diseases in many developing countries suggest major underlying food safety problems. Most foodborne diseases are sporadic and often not reported, foodborne disease outbreaks are most likely not timeously identified and investigated.

In South Africa food poisoning is a notifiable disease, however food related and other diarrhoeal illnesses are conditions that are clinically mild and are less likely to be reported as people are less likely to seek medical attention. The condition remains underreported throughout the world and in South Africa, since most diarrhoeal illness resolve within 24 to 48 hours without any medical attention. As a result, many food-related illnesses are not

diagnosed and associated foodborne disease outbreaks are often not recognized. Also when people do seek medical attention health workers are less likely to report these less severe conditions. This poses a challenge to health care system to maintain the knowledge and resources to identify and respond to these outbreaks.

Foodborne disease outbreak investigations are conducted to determine what factors are associated with illness and what measures can be done to prevent further illness. This is done through epidemiological investigation, laboratory analysis and environmental assessment.

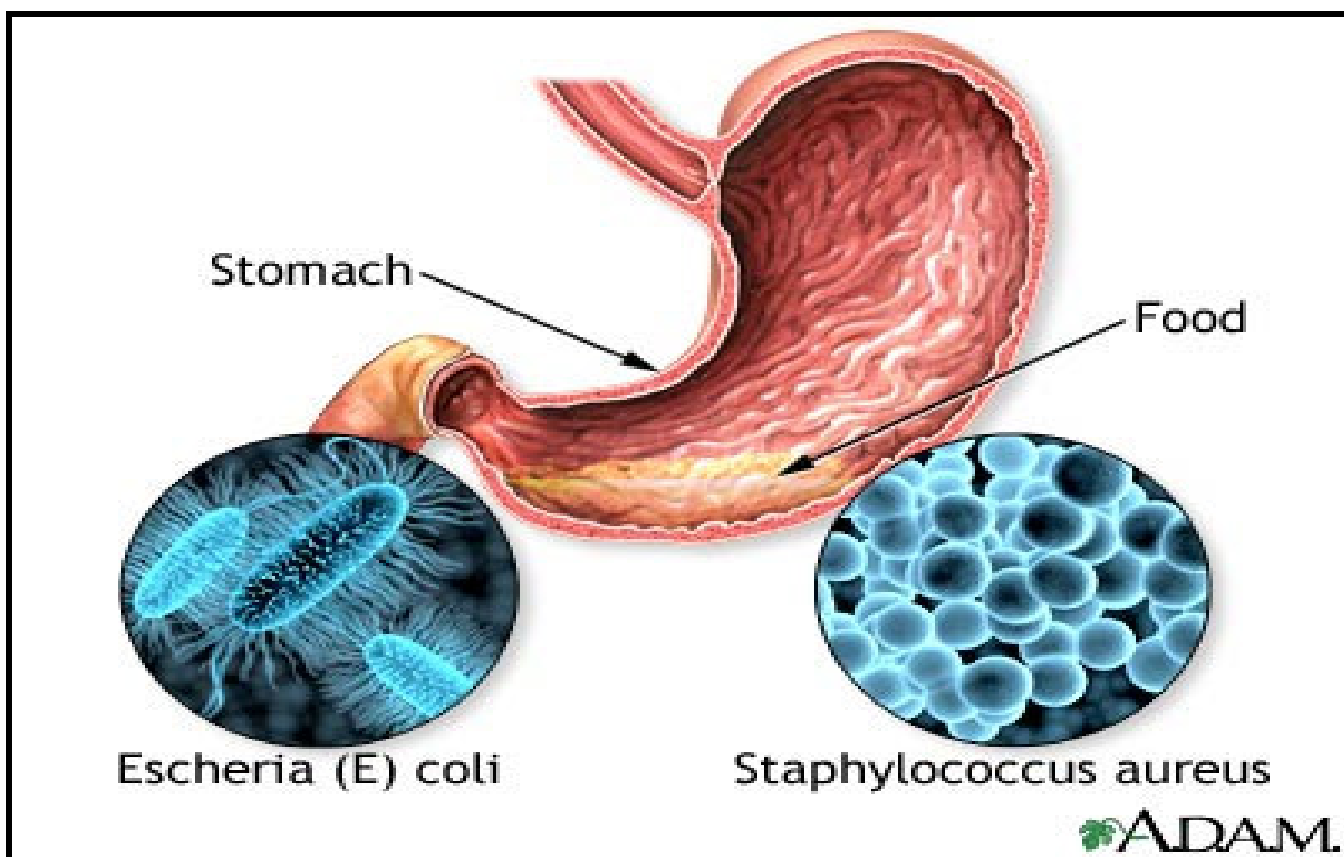
2. Food Poisoning Causes

The most frequent causes of foodborne illness include bacteria, bacterial toxins, viruses and parasites. Bacteria can multiply in or on food and cause foodborne infections in persons who consume contaminated food or liquids. *Salmonella* is most common cause of infection. Other types of bacteria may not grow in the food itself; in those cases the food acts only as a carrier. Dysentery bacteria are usually only carried in food; only a few dysentery bugs are needed to cause severe illness. Diarrhoea-type food poisoning normally takes between 24 hours and 72 hours to set in after the contaminated food is eaten.

Toxic agents include poisonous mushrooms, improperly prepared exotic foods (such as barracuda), or pesticides on fruits and vegetables and contaminated water. Though certain chemicals and toxins from plants, animals and fungi can cause illness, toxins most often associated with foodborne illness are poisons produced or released by certain bacteria. When ingested bacterial toxins usually act locally within the human body, but may spread to other parts and damage cells, tissues and the host immune system. *Bacillus cereus*, *Staphylococcus aureus* and *Clostridium botulinum* are well documented toxic foodborne agents. *E. coli* o157:H7 and *Shigella species* also produce toxins that cause foodborne intoxications. Viruses are minute organisms that reproduce only living cells. Nonetheless, they can remain infectious in food and may cause foodborne infections in humans.

Hepatitis A virus and Norovirus are the most recognized food-related viruses. Parasites are single or multi-celled organisms with dimensions greater than 10 micrometers, reproduce within host cells and multiply within humans and may cause foodborne infections.

Food usually becomes contaminated from poor sanitation or preparation. Inadequate personal hygiene practices on those handling food results in food contamination and consequently foodborne diseases. Improperly packaged food stored at the wrong temperature also promotes contamination.



Source: Health Allrefer

3. Food Poisoning Symptoms

Symptoms of foodborne depend on the type of contaminant and the amount eaten. The symptoms can develop rapidly, within 30 minutes, or slowly, worsening over days to weeks. Most of the common contaminants cause nausea, vomiting, diarrhea, and abdominal cramping. Usually food poisoning is not serious, and the illness runs its course in 24-48 hours.

4. Prevention

Safe steps in food handling, cooking, and storage are essential to avoiding food-borne illness. Bacteria cannot be seen, smelled, or tasted, which may be on any food. It is necessary to know the preventive measures to avoid foodborne illness.

5. FOODPOISON INCIDENTS IN MPUMALANGA PROVINCE, 2008 REPORT

Approximately 334 food poisoning cases were reported in Mpumalanga from January to December 2008. Govan Mbeki Sub-District had reported 101 cases, of these cases 93 were reported in Bethal Correctional Services, no samples were taken for investigation purposes. The remaining 8 cases were reported in Evander Hospital, and laboratory test taken were negative for diarrhoeal disease species. Umjindi sub-district reported 87 cases which occurred in Barberton Correctional Services. Rectal and food samples were taken and they all came back negative for diarrhoeal species.

Mbombela North Sub-District reported 52 cases seen at Themba Hospital. Of the cases, 44 were reported in school children. No samples taken were from these cases. Steve Shweti Sub- District reported 30 cases which were recorded in Middelburg Hospital. There were no samples taken for further laboratory analysis. Msukaligwa Sub-District reported a total of 58 cases of which 4 cases of adults were admitted at Ermelo Hospital and poisonous leaves were suspected to be the cause, however no samples were taken. Additional 54 cases were recorded among the Spitskop mine workers. After the investigations were conducted,

unacceptable hygienic conditions at a café in Breyton Spitskop mine were attributable to the cause of the outbreak. Amajuba Memorial Hospital within Seme Sub-District, reported 6 cases from family members who gotten sick after having Christmas celebration. There were no investigations done to get a more detailed report.

6. FOODPOISON INCIDENTS IN MPUMALANGA PROVINCE, 2009

About 1 180 foodborne cases were reported in the Mpumalanga Province in 2009. A dramatic increase of 72% was noted compared to 2008. The cases were reported in 10 different sub-districts from 01 January to 15 November 2009. Districts that recorded the highest number of cases in Mpumalanga were Albert Luthuli (320 cases), followed by Mbombela North (232 cases) and Nkomazi (180 cases), figure 2.

However it should be noted that due to the limitations resulting from the nature of reporting of food-borne cases, incidents should be interpreted with tremendous caution.

Case distribution by district in 2008 and 2009

In the period under review cases peaked during week 7 with 396 cases in 2009. The figures below, illustrate reported food borne related cases in Mpumalanga by week and sub-district.

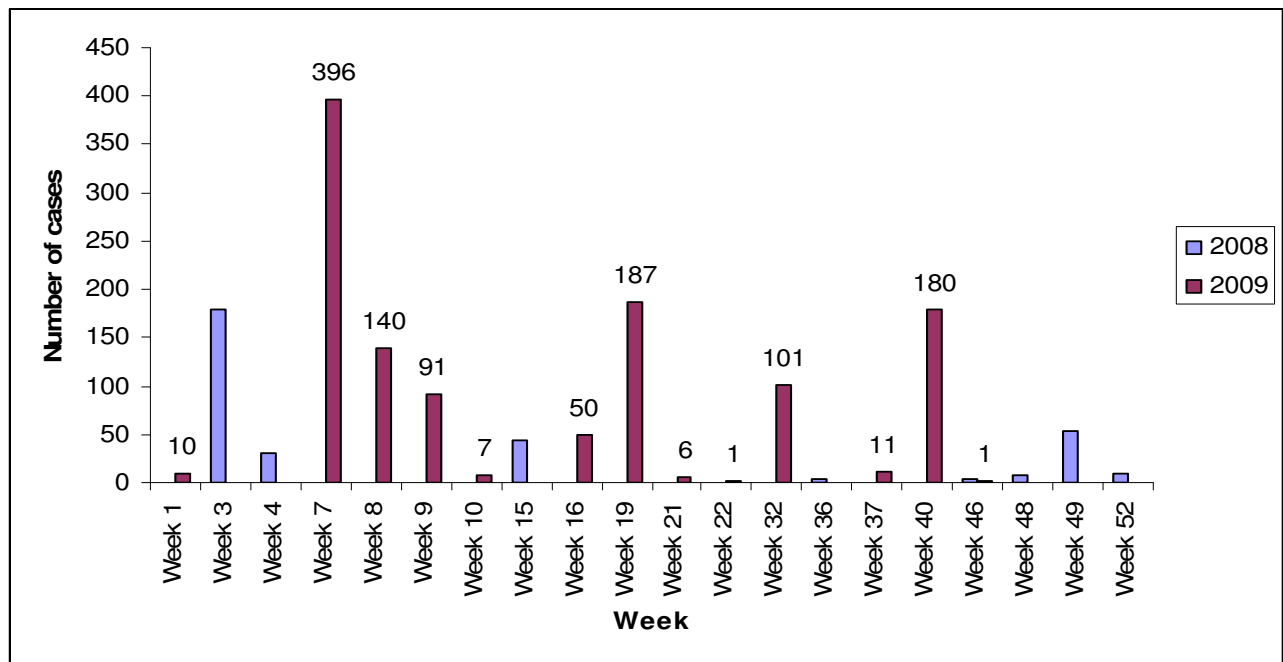


Figure 1: Reported foodborne cases by week, Mpumalanga, 2008 and 2009

Source: Mpumalanga CDC Directorate

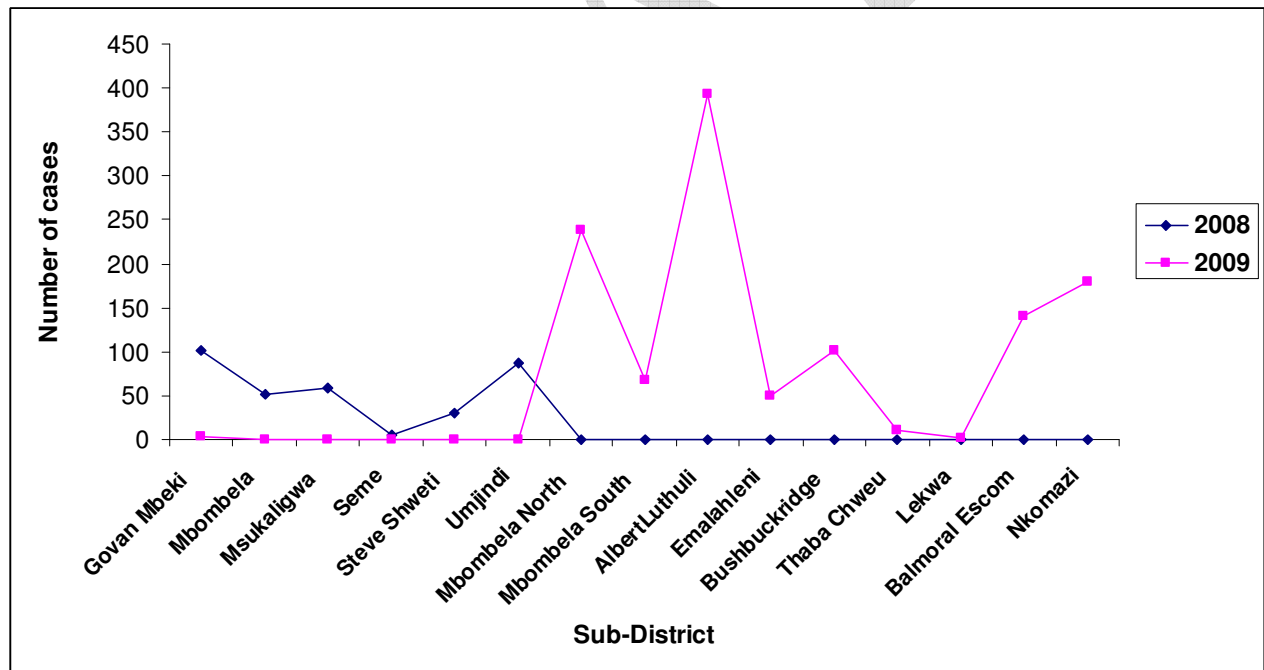


Figure 2. Reported foodborne cases per Sub-District, Mpumalanga in 2008

Source: Mpumalanga CDC Directorate

7. Conclusion

In partnership with other stakeholders, WHO is developing policies that will further promote the safety of food. These policies cover the entire food chain from production of consumption and will make use of different types of expertise. Food safety programme include strengthening food safety systems, promoting good manufacturing practices and educating retailers and consumers about appropriate food handling. In addition WHO is promoting in-country laboratory-based surveillance of priority foodborne diseases in humans and animals, as well as monitoring pathogens in food. Furthermore, the need for more broad epidemic surveillance capacity to include foodborne disease outbreaks was considered essential.

Foodborne illness is common and usually mild. It can be easily prevented if people could stick to preventive measures such as; safe food keeping, storage and preparation and good personal hygiene. More health education and awareness were recommended to communities and food handlers in order to prevent the illness. In patients who are immunocompromised, like patients with HIV and AIDS, medical treatment is necessary and a simple foodborne illness should not be ignored as it can be potentially fatal.

Successful food-borne disease outbreak investigations depend upon the coordination and collaboration of key personnel and all necessary tasks ought to be completed.

REFERENCE

1. Food safety and foodborne illness, World Health Organization, Fact sheet N° 237,
Reviewed March 2007.
<http://www.who.int/mediacentre/factsheets/en/>
2. Dealing with food poisoning, 2000-2010 Ananzi (Pty) Ltd South Africa
<http://www.ananzimen.co.za/cgi-bin/ananzimen/search.pl?id:1202088101>
3. Food Poisoning data, 2008-2009. Mpumalanga Department of Health, CDC
Surveillance Unit
4. Food Poisoning, The Food Advisory Consumer Service, F.A.C.S. Scientific Director.
2009. <http://www.foodfacts.org.za/Articles/FoodPoisoning.asp>
5. http://www.cdc.gov/ncidod/dbmd/diseaseinfo/foodborneinfections_g.htm
6. The Food image Agency
<http://health.allrefer.com/pictures-images/food-poisoning.html>