



University of Zululand

EPIDEMIOLOGY (4MCB321) ASSIGNMENT REPORT

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APPLICATION OF EPIDEMIOLOGY PRINCIPLES TO FOODBORNE ILLNESS OUTBREAK

Foodborne illnesses have been associated with morbidity and mortality in different parts of the world. Assume that there is an outbreak caused by the following bacterial pathogens: *Salmonella* Enteritidis, *Campylobacter jejuni*, *Bacillus cereus*, *Staphylococcus aureus*, *Clostridium perfringens*, *Yersinia enterocolitica*, and *Listeria monocytogenes*.

Please refer to Table 1 for details of the microorganisms and the relevant groups.

Table 1: Table showing the specific groups for the Assignment and the bacteria to focus on*

Microorganism	Groups
<i>Salmonella</i> Enteritidis	1 to 3
<i>Campylobacter jejuni</i>	4 to 6
<i>Bacillus cereus</i>	7 to 10
<i>Staphylococcus aureus</i>	11 to 13
<i>Clostridium perfringens</i>	14 & 15
<i>Yersinia enterocolitica</i>	16 & 77
<i>Listeria monocytogenes</i>	18 & 19

*Please contact me at MadorobaE@unizulu.ac.za if you do not belong to any of the Practical groups.

Required: You are required to apply basic principles of epidemiology in the context of infection caused by one of the microorganisms shown in table 1 (as allocated to your group) by answering the following questions:

1. If there is a foodborne disease outbreak, what aspects should be considered in epidemiology. This question requires you to define and describe epidemiology in the context of an outbreak caused by a specified type of bacteria.....15 marks

2. During the investigation of a foodborne outbreak, cases must be identified. Define and describe the term 'case' and apply the definition in the context of foodborne infection caused by a specified organism listed in table 1.....34 marks (22 marks for descriptions and explanations of basic principles plus 12 marks for application to specific foodborne infection).
3. Clearly illustrate that the situation is an outbreak by defining and describing the differences between the terms epidemic, outbreak, pandemic, and endemic. Include context for foodborne infection that is caused by specified microorganism from table 1 (depending on your group allocation)20 marks
4. There are different public health levels of preventing infections including primary prevention, secondary prevention and tertiary prevention. Describe and explain the prevention levels in the context of infection that is caused by specified bacteria (from table 1)31 marks

N.B. Each report will be checked for plagiarism.

Due date: The report is due on 19 **April 2021 by 23h59**. The report must be submitted via Moodle.