

# Micro

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Program 10 January Micro The ment, ' the enemy with us: Lessons from the European Escherichia coli O102: H4 outbreak,' is the title of an article that Karch et al. (841- 848) authored and EMBO Molecular Medicine published in 2011. This discussion analyses the statement in relation to risk analysis, with focus on hazard identification, hazard characterization, hazard management, and hazard exposure assessment.

#### Hazard identification

The statement succeeds in hazard identification as it identifies both health concern and pathogen that causes the concern. This is because an established association between a disease among a target group and a pathogen in a food explains hazard identification. Knowledge and data helps in the identification and may show factors to survival, activity, and death of the subject pathogen. Escherichia coli O104: H4 is the name of the health concern while Escherichia coli is the pathogen that causes the health concern, a bacterial pathogen. The name of the health concern includes the name of the pathogen and even though only the concern is identified, the inclusion means identification of the pathogen. The statement also identifies the concern as an outbreak to establish its significance, in addition to explaining that the concern is an enemy among the human population. Consequently, the statement contributes to risk analysis through identification of a hazard

#### Hazard characterization

Hazard characterization is another significant element of risk analysis and its absence from the statement undermines risk analysis aspect. An outline of the nature and degree of effects of an identified hazard is the main feature of hazard characterization. Identification of levels of the pathogen that is <https://assignbuster.com/micro-essay-samples/>

harmful to different population segments such as segments by gender and by age groups would be an example of hazard characterization and can be quantitative or qualitative. Even though the statement identifies existence of lessons that have been developed from occurrence of the hazard, the identification is too general, failing to communicate scope of the problem and its severity level. Incidence rate of the health concern and time that it takes to overwhelm the body or even a description of its severity would have established hazard characterization. Being devoid of these aspects therefore means that the statement fails in risk analysis.

#### Exposure assessment

The statement is also devoid of exposure assessment. One of the key elements of exposure assessment is data on existence of pathogens in raw materials to a subject food. exposure assessment also meets criteria of risk analysis if it shows effects of various processes, that food goes through, on the identified pathogen. In addition, exposure assessment includes information on trends on consumption of food that contain the pathogen. None of these classes of information can however be identified in the statement.

#### Risk characterization and management

Risk characterization is a combination of hazard identification, hazard characterization, and exposure assessment and absence of hazard characterization and exposure assessment means poor risk characterization of the statement. Specific elements of risk characterization are chance of occurrence of a health concern, its severity, and expected adverse effects, none of which can be identified in the statement. Similarly, the statement is devoid of managerial actions.

Based on the analysis, the statement does not meet the criteria for risk analysis.

Works cited

Karch, Helge. "The enemy with us: Lessons from the 2011 European Escherichia coli O102:H4 outbreak." *EMBO Molecular Medicine* 2012. 4 (2012): 841-848. Print.