Prioritising Foodborne Disease with Multi-Criteria Decision Analysis

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Background

In recent years, the FSA has published a series of research projects which have produced estimates of the frequency and burden of thirteen different foodborne diseases. This document outlines the methodology and results of a multi-criteria decision analysis (MCDA) used to rank them in order of their detrimental effect on UK society.

Research approach

The thirteen pathogens selected to be assessed and prioritised in the MCDA were:

Bacteria

- Campylobacter
- Cl. perfringens
- E. coli O157
- Listeria monocytogenes
- Salmonella
- Shigella

Protozoa

- Cryptosporidium
- Giardia

Virus

- Adenovirus
- Astrovirus
- Norovirus
- Rotavirus
- Sapovirus

The pathogens were ranked in the MCDA using six different weighted criteria, with the selecting and weighting of these criteria taking place through a series of discussions, surveys and workshops that took place over several months and included various teams in the FSA.

The MCDA tool ranks the pathogens by greatest impact on society based on these chosen criteria, however it does not provide any insight into the effectiveness of the policy evaluations that may be deployed to minimise these impacts.

Results

The pathogens were separated into three main categories that represent their detriment to society: high-ranking, medium-ranking or low-ranking. The average ranking results show that norovirus, Listeria Monocytogenes, Campylobacter, Salmonella and Cl. Perfringens all ranked high in their detriment to society.

Meanwhile, E. coli O157, adenovirus, sapovirus and Giardia all ranked mid-range, and astrovirus, rotavirus, Cryptosporidium and Shigella all ranked low.

Research report

PDF
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