society for general Microbiology

FOOD STANDARDS AGENCY CONSULTATION ON INCIDENT PREVENTION STRATEGY TO 2010

EVIDENCE SUBMITTED BY THE SOCIETY FOR GENERAL MICROBIOLOGY (SGM)

Introduction

The Society for General Microbiology, founded in 1945, is an independent professional scientific body dedicated to promoting the 'art and science' of microbiology. It has now established itself as one of the two major societies in the world in its field, with some 5,000 members in the UK and abroad.

Background

The Draft Incident Prevention Strategy Plan sets out effective interventions to tackle food safety problems at source before they become incidents. In particular FSA welcome comments on:

- whether there to be any gaps in this strategy. If so, what are they and how can they be filled?
- additional suggestions on how best to measure the success of the strategy?
- the specific projects included so far under the three themes in Appendix 1 of the Strategy Plan and any suggestions for additional projects.

Comments

Suggestions on how best to measure the success of the strategy

In order to best measure the effects (success) of an intervention an interrupted time series (ITS) design should be employed. For a good review of the requirements of such an analysis see Ramsey C., *et al*. (2003). Many statistical methods can be used to analyze ITS designs (e.g., ARIMA [Auto-Regressive Integrated Moving Average] modelling or time series regression).

However, the design is often analyzed inappropriately, which makes interpretation of individual studies difficult. Methods of analyzing ITS data were examined critically by Ramsey *et al*. The preferred method for short time series is segmented time series regression analysis, which is a statistical comparison of time trends before and after the intervention to identify either an immediate change in the level of the regression line or a sustained change in the slope of the line. The Cochrane EPOC (Effective Practice and Organisation of Care) Data Collection Checklist recommends a minimum of three data points before and after the intervention in an interrupted time series. This is the absolute bare minimum required for a regression line. Adequate evaluation of seasonal variation requires a *minimum* of 24 monthly measures. Seasonal variation is likely to be important in the analysis of food incidents.

Reference

Ramsey, C., *et al*. (2003). Room for improvement: a systematic review of the quality of evaluations of interventions to improve hospital antibiotic prescribing. *Journal of Antimicrobial Chemotherapy* **52**, 764-771.

Sources

This evidence has been prepared on behalf of SGM by Member Dr Shelley Rankin, Assistant Professor of Microbiology, University of Pennsylvania School of Veterinary Medicine.

About the SGM

Society membership is largely from universities, research institutions, health and veterinary services, government bodies and industry. The Society has a strong international following, with 25% of membership coming from outside the UK from some 60 countries.

The Society is a 'broad church'; its members are active in a wide range of aspects of microbiology, including medical and veterinary fields, environmental, agricultural and plant microbiology, food, water and industrial microbiology. Many members have specialized expertise in fields allied to microbiology, including biochemistry, molecular biology and genetics. The Society's membership includes distinguished, internationally-recognised experts in almost all fields of microbiology.

Among its activities the Society publishes four high quality, widely-read research journals (*Microbiology*, *Journal of Medical Microbiology*, *Journal of General Virology* and *International Journal of Systematic and Evolutionary Microbiology*). It also publishes a highly respected quarterly magazine, *Microbiology Today*, of considerable general educational value. Each year the Society holds two major scientific meetings attended by up to 1500 microbiologists and covering a wide range of aspects of microbiology and virology research.

The governing Council of the SGM has a strong commitment to improving awareness of the critically important role of microbiology in many aspects of human health, wealth and welfare. It has in this connection recently initiated a 'Microbiology Awareness Campaign' aimed at providing information to the government, decision makers, education authorities, media and the public of the major contribution of microbiology to society.

An issue of major concern to the Society is the national shortage of experienced microbiologists, particularly in the field of clinical microbiology and in industry. To attempt to improve this situation long-term, the Society runs an active educational programme focused on encouraging the teaching of microbiology in university and college courses and in the school curriculum, including primary schools. Some 415 schools are corporate members of SGM.

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