General

Review of ACMSF Committee Expertise – Update February 2026

Introduction

To ensure the Advisory Committee on the Microbiological Safety of Food (ACMSF) continues to maintain a comprehensive and balanced range of expertise, the secretariat undertook a review of the committee's current skills and knowledge base and presented the results at the 110th meeting on the 25th of October 2025.

The review identified strong expertise in core areas but highlighted potential gaps in virology, behavioural science, and advanced risk modelling.

The committee requested the following amendments to the review.

- Members who had not yet submitted their expertise assessments were encouraged to do so, ensuring a comprehensive and inclusive view of committee expertise.
- Sectoral expertise also be assessed to ensure broader representation.

This paper reflects the updated review of committee expertise, incorporating responses from all 19 members and examining sectoral expertise to evaluate representation on the committee.

Methodology

Committee members were invited to complete a Microsoft Forms survey designed to capture self-assessed levels of expertise across a range of skill sets. These skill sets reflect both historical areas of work and those expected to feature in the committee's future agenda. The members were asked to rate themselves on 49 topics, across 7 categories (See Annex 1). For each item, members were asked to rate their personal level of expertise using a three-point scale:

- **1 – Low level of expertise**
- **2 – Medium level of expertise**

- **3 – High level of expertise**

Members were also asked to list any areas of expertise they bring to the committee which are not covered by the list provided. Responses were submitted confidentially and are accessible only to the secretariat. The data collected will inform the committee's discussion on whether any gaps exist and, if so, how these might best be addressed.

In addition to reviewing the committee's areas of expertise, the secretariat has examined the sectors represented by its members to assess overall sector coverage. These sectors fall into four categories:

- Environmental Health
- Government Agency
- Industry
- Academia

Results

Overall, the committee demonstrates strong expertise in most areas, though some opportunities for improvement were identified.

Strengths

Drawing on the full committee dataset (n=19), ACMSF continued to show robust expertise across key domains. The highest rated skills are Foodborne pathogens (mean 2.50), One Health (2.47), Infectious disease surveillance (2.42), Zoonotic disease transmission (2.39) and Outbreak investigation (2.37). Operational food safety practices remain strong overall, HACCP systems and corrective actions (2.33), Cold chain management and Hygiene practices (each 2.11) and Shelflife determination (2.00), with Packaging & preservation slightly lower at 1.72. Risk assessment capabilities are broadly distributed: Risk assessment & hazard analysis (2.32) and Qualitative risk assessment (2.21) are strong, with Quantitative risk assessment (1.89) and Uncertainty analysis (1.71) rated lower.

The top-ranked skills are Foodborne pathogens (2.50), One Health (2.47), Infectious disease surveillance (2.42), Zoonotic disease transmission (2.39) and Outbreak investigation (2.37), with HACCP systems (2.33), Risk assessment & hazard analysis (2.32), Salmonella spp. (2.32), E. coli (incl. VTEC/STEC) (2.26) and Qualitative risk assessment (2.21) also appearing in the top fifteen.

Additional skills identified by members and summarised in Annex 2 will be retained by the Secretariat for future reference. This provides a useful indication of any supplementary expertise that may be required for future work.

Gaps

Despite the committee's overall strengths, the full dataset confirmed several persistent gaps.

Virology, notably *H5N1/zoonotic strains* and *viral transmission/mutation potential*, remained the lowest rated topics (means ~1.29–1.35), with few members at high expertise.

Behavioural science for consumer risk mitigation was the single lowest scoring area (1.28), and capability related to climate impacts and environmental surveillance remained limited (1.78–1.89).

Coverage was thin for several specific pathogens (e.g., *Vibrio spp.*, *Yersinia*, *Hepatitis A/B*, *SARSCoV2*; 1.42–1.56), while genomics capacity was uneven (*whole genome sequencing* 1.94; *metagenomics* 1.84). Quantitative/complex risk modelling and uncertainty analysis also lagged (1.56–1.71).

Sector representation

Sector representation on ACMSF is predominantly academic, with the current roster featuring multiple professors and senior lecturers from UK and Irish universities, alongside a smaller number of members from government agencies (e.g., APHA, FSAI and UKHSA), environmental health and industry. The industry sectors covered by the committee include feed, food safety and retail.

Notably, while the Committee's Terms of Reference state that there should be one consumer (lay) member on the committee, we do not currently have one appointed, which should be addressed at the next round of recruitment.

Recommendations

The areas highlighted for priority during the next ACMSF recruitment process remains unchanged from the initial review. We propose recruiting three new members in the following areas:

1. **Virologist** (zoonotic & foodborne viruses, One Health)

2. **Behavioural Scientist** (consumer risk mitigation)
3. **Risk Modeller** (quantitative, uncertainty, burden estimation)

Sector representation currently appears predominantly academic; to achieve a more balanced mix, we propose recruiting additional members from industry and regulatory bodies.

In line with the Terms of Reference, we propose appointing a consumer (lay) member to meet requirements and strengthen the public perspective in deliberations.

For consideration by the committee

1. Do you still agree with recruitment in the 3 areas: Virologist, Behavioural Scientist, Risk Modeller
2. Do you agree with recruitment of a lay person?
3. Are there any additional sector areas we should target in the next round of recruitment?

Secretariat

February 2026

Annex 1

Scientific and Technical Expertise

- **Microbiology / Food Microbiology**
  - Foodborne pathogens (e.g. *Listeria*, *Campylobacter*, *Salmonella*, *E. coli*, Norovirus, Botulinum toxin-producing *Clostridia*)
  - Microbial growth modelling and detection methods
  - Microbiological contamination and testing protocols
  - Challenge testing and strain selection
- **Veterinary Microbiology & Public Health**
  - Zoonotic disease transmission
  - Surveillance in livestock and animal feed
  - Abattoir practices and meat hygiene
  - Companion animal pathogen risks
- **Epidemiology**
  - Infectious disease surveillance
  - Outbreak investigation and attribution

    - Risk modelling and burden estimation
    - Statistical analysis
- **Genomics and Molecular Biology**
    - Whole genome sequencing
    - Metagenomics for pathogen tracking
    - Strain variability analysis
- **Virology**
    - Influenza A (H5N1) and zoonotic strains
    - Viral transmission and mutation potential

Food Safety, Hygiene & Technology

- Risk assessment and hazard analysis
- Hygiene practices in domestic and commercial kitchens
- Cold chain management and contamination control
- Shelf-life determination and validation
- Packaging and preservation methods
- HACCP systems and corrective actions

Antimicrobial Resistance (AMR)

- AMR risk assessment
- AMR terminology
- Detriment frameworks for AMR in the food chain
- Environmental AMR surveillance
- AMR in pets and implications for humans

Risk Assessment & Data Analysis

- Quantitative risk assessment
- Qualitative risk assessment
- Multidimensional risk modelling
- Uncertainty analysis and severity scoring

Regulatory and Policy Expertise

- UK, EU, and international food safety regulations
- Governance and risk management frameworks

Behavioural and Social Sciences

- Behavioural science for consumer risk mitigation

Environmental and Climate Science

- Climate change impacts on food systems
- Environmental surveillance (e.g., wastewater)

Cross-disciplinary and Collaborative Skills

- One Health approach (human, animal, environmental health)
- Strategic horizon scanning

Pathogens

- *Listeria monocytogenes*
- *Campylobacter spp.*
- *Salmonella spp.*
- *Escherichia coli* (including VTEC/STEC)
- Norovirus
- *Clostridium botulinum* and other neurotoxigenic clostridia
- *Staphylococcus aureus* (including MRSA)
- *Vibrio spp.*
- Hepatitis A and B viruses
- SARS-CoV-2

Annex 2

Food systems, standards & certification

- Food standards and labelling enforcement
- Food safety third-party certification
- Methods and techniques for verifying Food Control Management Systems
- Expertise in minimally processed foods

Animal health & feed supply chain

- Comprehensive knowledge of farm animal feeds, their manufacture, microbiological risks and controls, and impacts on the food chain
- Application of digital technologies and AI/ML in animal health
- Social media listening analysis for risk insights
- Understanding of Free Trade Agreements and implications for UK agriculture

Environmental & materials

- Environmental monitoring in food systems

- Microplastics in food and microbial contexts

Genomics, microbiome & human health

- Genomic epidemiology
- Microbiome composition and dynamics
- Survival and transmission biology of *Campylobacter*
- Biofilms in food systems
- Gut microbiome, inflammatory bowel disease, systemic inflammation
- Gut–brain axis, cognitive function, and personalised nutrition

Biotechnology applications

- Use of genetically engineered microbes in food systems
- Use of bacteriophage in food systems

Quantitative methods

- Multivariable modelling
- Time-to-event analysis