Minutes

Minutes of the 101st meeting

MINUTES OF THE MEETING OF THE ADVISORY COMMITTEE ON THE MICROBIOLOGICAL SAFETY OF FOOD (ACMSF) - HYBRID MEETING HELD ON 20 OCTOBER 2022 (ONE-HUNDRED AND FIRST MEETING)

Present

Chair: Prof Bill Keevil

Members:

Prof Dan Tucker
Dr Gary Barker
Dr Gauri Godbole
Prof Peter McClure
Mr Alec Kyriakides
Mrs Ann Williams
Miss Heather Lawson
Mrs Emma Hill
Dr Jane Gibbens
Prof Francis Butler
Dr Nicol Janecko
Prof Linda Scobie
Dr Edward Fox
Mr Martin Briggs
Dr Wayne Anderson
Prof Cath Rees
Dr Dragan Antic

Departmental representative: Dr Stephen Wyllie (Defra)

Dr Paul Cook (FSA, Risk Assessment Unit)

FSA Science Council: Prof Jonathan Wastling

Secretariat: Dr Anthony Wilson
Dr Erica Kintz
Mr Adekunle Adeoye
Ms Azuka Aghadiuno

Presenters: Dr Iulia Gherman (FSA)
Dr Matthew Gilmour (Quadram Institute)
Dr Karen Pearson (Food Standards Scotland)
Dr Jacob Hargreaves (Food Standards Scotland)

Members of the public: see Annex 1.

1. **Chair's introduction**

1.1 The Chair (Prof Dan Tucker chaired the meeting as Prof Keevil was recovering from being unwell and was unable to attend the meeting in-person) welcomed members of the Committee and members of the public to the 101st meeting of the ACMSF. He also welcomed Dr Iulia Gherman (FSA, Microbiological Risk Assessment team) who presented agenda 7 (Quality Assurance Microbiological Strategic Risk Assessments), Dr Matthew Gilmour (Quadram Institute) who gave a presentation on the activities of the UK Food Safety Network and Drs Jacob Hargreaves and Karen Pearson (Food Standards Scotland, Microbiological Risk Assessment) who presented agenda item 14 (proposed survey of microbiological quality of ready to eat food sold on social media).

1.2 As part of the meeting was opened to the public, Chair mentioned that all of the meeting papers with the exception of the reserved business papers ACM/1395: Update on the activities of EFIG, ACM/1396: Survey of microbiological quality of ready to eat food sold on social media and ACM/1397: Update/milestones IID3 have been posted on the committee's website. These reserved business papers are for Members Use Only. It was noted that the Horizon Scanning output paper (ACM/1392) that was considered under agenda item 6 will be published after members have discussed it.

2. **Apologies for absence**

2.1 None.

3. **Declaration of interests**

3.1 The Chair asked members if they wished to declare any potential conflicts of interest associated with the agenda items to be discussed.

3.2 No declaration was made.

4. **Minutes of the 100th meeting**

4.1 Subject to very minor typographical corrections, members approved the minutes of the 100th meeting as an accurate record and agreed that they should be posted on the ACMSF website. ACTION

5. **Matters arising (ACM/1391)**

5.1 ACM/1391 provided a summary of actions on matters arising from previous meetings. Dr Anthony Wilson reported that:

- Minutes of the 99th meeting had been posted on the website.

- Botulism in cattle, sheep and goats - update on recommendations from the ACMSF Botulism in Cattle, Sheep and Goats reports. Via paper ACM/1387, APHA responded to the points the committee made on the APHA update on the recommendations from the botulism in cattle, sheep and goats report. The committee at the February 2022 meeting was dissatisfied with the reply provided for recommendations 8.7 (Samples collected during clinical investigations should be archived to assist with the development of further assay systems), explaining that the Committee is asking APHA to either provide or enable storage, rather than to develop assays as the response implies, and 8.15 (the committee would like more information on the evidence that is being collected on toxin types other than C & D causing botulism in UK ruminants). Dr Steve Wyllie agreed to liaise with APHA in addressing the committee's concern on the response provided in ACM/1387. Dr Wyllie updated the Committee that APHA officials have met and exchanged correspondence with ACMSF secretariat on how to address the Committee's concerns. He confirmed that APHA's definitive response will be provided as soon as it is practicable given the resource requirements of the ongoing avian influenza outbreak.

- UK Food Security Report 2021. The committee had previously expressed surprise that the authors of the report did not seek input from the FSA or ACMSF when it was produced. Members agreed that the secretariat should approach Senior Managers in the FSA to discuss how to interact with the Defra group who produced the report on how to involve ACMSF in future reports. Secretariat

contacted FSA Senior managers as suggested. It was reported that the temporary group in Defra that produced the report has now been disbanded. Defra to be informed of the committee's desire to be involved in some way in the next report to be published in 2024. ACTION

- ACMSF Annual Report: Members preference for a narrative styled report that highlights the topics considered in a year, bringing out the output/impact of the committee's advice together with an executive summary has been actioned.

- FSA consultation on Less Than Thoroughly Cooked Beef Burgers. Request for clarification on the purpose of the consultation was provided to the committee via correspondence.

- The reasoning behind the FSA's Survey of infectious intestinal disease in the UK carried out by Ipsos MORI was questioned, as it was felt it was not a comprehensive approach in collecting data compared to the previous IID studies and the forthcoming IID3 project. FSA clarified that this study was commissioned rapidly and within the constraints of the early stages of the pandemic during lockdown to collect data to help estimate the impact of the pandemic on IID and foodborne disease and was not intended to replace the periodic larger IID projects. Outcome of these studies will be presented to the Committee for discussion at a future meeting.

- Salmonella Typhimurium in humans (24% of human isolates were S. Typhimurium) and incident rate in pigs (first quarter of 2021 had 21 incidents compared to 18 incidents in 2020 and below 10 in previous years) reveals a picture of continuous increasing incidents of S. Typhimurium. Salmonella in livestock report in 2020 also suggests that there has been a greater than 10% increase in overall Salmonella incidents in pigs over that period of time. Dr Wyllie confirmed that he has asked the Disease Consultant (who leads on Salmonella in pigs) APHA, Weybridge to provide an update on the increasing incidents of S. Typhimurium in pigs.

- Food and You 2 – Wave 1: On the issue of whether consumers hygiene with food have improved, the FSA will share the findings of a tracker survey they have been running throughout the pandemic that has been monitoring behaviours during the pandemic with the committee. Actioned.

6. **ACMSF horizon scanning workshop 2022 summary of discussions and outputs (ACM/1392)**

6.1 The Chair reminded members that the Committee held a horizon scanning workshop in June 2022 (in closed session) which identified a number of outputs. He indicated that the output paper will not be published until it has had final agreement from the Committee. As members have commented on a first draft of this paper, it was stated that the meeting provides an opportunity for further comments which would be used to finalise the paper.

6.2 Adekunle Adeoye was invited to introduce paper ACM/1392. He reported that the workshop followed a similar format to previous workshops with a mixture of breakout groups and plenary sessions. He explained that because the workshop was held in closed session it was the norm to provide an update in open session due to the Committee's commitment to openness and transparency. At the workshop, members identified emerging issues around a series of specific questions and agreed a prioritised list of recommendations that could be seen to have the greatest impact on reducing foodborne illness. The paper covered the priority emerging issues identified by members and the suggested possible actions. The specific questions to members were:

Q1 - Challenges associated with the disruption to the supply chain
Q2 – Changes in methods of food production and new food technologies
Q3 – How are changes in consumer behaviour and preferences likely to affect the burden of foodborne disease in the UK?
Q4 – How are challenges associated with changes in size of vulnerable groups likely to affect the burden of foodborne disease in the UK?
Q5 - Anything else? What are other important issues or challenges that the Committee may face in the next 10-20 years?

6.3 The paper asked members to note the outputs from the horizon scanning workshop and to indicate whether they were content to accept paper ACM/1392 as an accurate reflection of the horizon scanning workshop or whether there were any final amendments to make or additional points to consider. Members were given the option to provide further comments electronically after the meeting.

6.4 Adekunle stated that FSA's risk analysis process for all Scientific Advisory Committees will guide how the recommendations in the paper are progressed. He added that the finalised paper will be posted on the committee's website.

6.5 The following comments were made by members:

- The secretariat was commended for running another successful virtual workshop

- ACM/1392 (HS workshop 2022 summary of discussions and outputs), Paragraph 10: relates to the Salmonella in Livestock production section in the update on EFIG activities (ACM/1395 refers) where there appears to be an increase in number of Salmonella strains.

- Members welcomed the inclusion of the full pre-workshop comments from members as an annex to ACM/1392. However, it was suggested that this annex should be referred to at the beginning of the document so that readers know that the comments/responses are there to provide context when looking at the information underpinning the paper.

- One of the workshop breakout room rapporteurs was disappointed that a point discussed in her group in relation to: current risk of the lack of knowledge in the general population about the food supply chain and its potential impact, and the suggestion that FSA should seek to address this, was not reflected in the report. She indicated that this point was raised under the 'Anything else' question in the workshop. Although there was a suggestion at the meeting that this point may be rolled into the hand washing action at point 9 (Emphasis on hand hygiene), the rapporteur felt this was a different point. Her preference was for this point to sit under 'Q5 Anything else' section as follows:

- Lack of knowledge about food safety risks and management, and the food supply chain in the general population

- Possible action for this item: Ensure food knowledge in the population from a young age to enable informed decisions re food and safety, possibly by seeking to have it included in relevant sections of the school curriculum, so as to empower people to be aware of and manage their own food safety risks.

- Consideration should be given to the way the finalised version of the report is presented to make it user-friendly. It was felt presenting it in landscape format (not changing the content) having the text in two columns highlighting the highlighted challenges in one column (left) and the possible actions on the right column would make the recommendations of the workshop participants clearer.

- In relation to paragraph 7 of the report that stated that the UK exiting the EU has revealed fewer safety measures, it was acknowledged that the recent government bill that proposes sunsetting more than 2,400 pieces of retained EU legislation on 31 December 2023 be added as one of the challenges associated with the disruption to the supply chain. There was uncertainty about how the review could be done effectively by the current deadline without compromising

food safety. It was felt that the impact of this sunsetting proposal would be huge as several microbiological food safety regulations are affected and this may lead to risks to the food chain.

- Possible actions for items 2 to 4 particularly point 4c, “identifying and promoting locally produced foods that would effectively substitute for those with longer supply chains or shorter shelf lives” may be a challenge in the procurement model employed by large retailers/supermarkets and create problems for them. It was felt that the suggested actions may be appropriate for small local producers/retailers.

- There was discussion why all the identified challenges do not have accompanying possible actions. As all the points made in the report were made by the committee, members were encouraged to send the secretariat suggested possible actions for the comments that do not have possible actions. There was a suggestion for additional surveillance to be put in place concerning viruses in the food chain (ACM/1392 paragraph 11 refers).

- Point 32 (viruses: lack of information on how food processing/matrix affects viruses): secretariat’s attention was drawn to the recently published FSA funded study on Thermal Inactivation Model for Hepatitis E Virus.

- Point 32b (ACMSF to consider revisiting the comprehensive report it produced on viruses in the food chain). It was suggested that recent publications (such as SARS-CoV-2 and berries and SARS-CoV-2 survival on food and food packaging) on viruses in the food chain should be reviewed before considering revising the ACMSF report on viruses in the food chain.

- Point 13 (Traceability: value of having more survey data/intelligence on changes of source of food for consumers). It was noted that the FSA recently published regulation and a Food Safety Charter for online businesses that partially addresses some of the concerns flagged under this point. Rules for online businesses outlines the minimum standards for how businesses should operate and the expectation for the service they provide under their platform.

- The question of what happens next after the report has been finalised and signed off by the Committee was discussed. Members felt a response was needed from the FSA on how they intend to take forward the recommendations in the report. It was noted that the FSA’s risk analysis framework will guide how the recommendations are taken forward. Members noted that as the recommendations cover several work areas, the paper will be shared with the

relevant teams in the FSA for them to consider the recommendations. ACMSF Scientific Secretary commented that there are plans to maximise the impact of this report within the FSA. He explained that the secretariat reached out to some senior managers in the FSA offering them the opportunity to either attend the plenary meeting, to listen to members discussions or to receive the finalised version of the report for consideration and to provide feedback to the committee.

6.5 The Chair thanked members for their contributions in producing the report. Secretariat to circulate revised report to the committee for sign off and publication. ACTION

7. **Quality Assurance of Microbiological Strategic Risk Assessments (ACM/1393)**

7.1 The Chair invited Dr Iulia Gherman to introduce paper ACM/1393 that outlined the process used to review the FSA's microbiological food safety strategic risk assessments. Dr Gherman reported that following the UK's exit from the EU Health Ministers, alongside FSA and FSS, have taken on responsibility for ensuring that the high standard of food safety and consumer protection enjoyed in the UK is maintained. She explained that currently assessment of the risk associated with food and feed is governed by the FSA risk analysis process which ensures that policy decisions are informed by quality-assured science and evidence. Within this process framework, strategic risk assessments are produced to enable the development of policy, standards and import controls. The FSA has been following the risk analysis process since January 2021.

7.2 Dr Gherman's paper outlined the current process, suggestions on the development of review questions and options for quality assurance going forward. Members were invited to:

- Discuss and agree how they would like to see the quality assurance process handled going forward, considering routine risk assessments and those that require review by the full Committee

- Discuss and agree if the questions to guide the review of risk assessments are appropriate and should be implemented

7.3 The following comments were made in the ensuing discussion:

- A member acknowledged that the number of strategic risk assessments the incidents subgroup have reviewed has noticeably increased compared to previous years. He pointed out that if this increase is expected to continue in high numbers

and the process being discussed should consider how to manage the additional work. The FSA response confirmed that it is unlikely that the volume of risk assessments will significantly increase in the coming months. However, it was added that there was possibility of expert microbiological advice being needed in relation to risk assessments from the FSA's trade team or regulated products applications which may be referred to ACMSF for input.

- Members of the incidents subgroup who have reviewed the majority of the recent strategic risk assessments commented that the current system appears to be working well although it was felt the turn-around time for some of the risk assessments had been tight. There was concern that very short deadlines should be avoided if possible as this could lead to less responses being submitted to requests. It was added that responses to risk assessments should have a good number of members reviewing the risk assessment as it would not be ideal for example, to have two respondents when a request has been sent to 6 members to review.

- Members welcomed the current approach of subgroups reviewing risk assessments. It was agreed that so far, they have the expertise to address the issues raised in the risk assessment. This approach does not need change. The Committee Chair referring to the work of the Animal Feed and TSE subgroup underlined the merit of using subgroups to review risk assessments. He explained that subgroup membership can be strengthened with co-opted (external expertise) in the event of expertise gap.

- Members agreed that it would be helpful to know at least two weeks in advance when documents are coming for review. A minimum deadline of two weeks deadline to do the review was suggested. It was added that having short deadlines to review reports may compromise the quality of the responses.

- On the question of complicated risk assessments that may require the whole Committee's attention (how might members like this handled as intersessional business?), the difficulty of bringing together the full Committee to review risk assessments at short notice was underlined. It was felt using the same principle of as outlined above i.e., giving members at least two weeks advance notice before documents are circulated together with the suggested deadlines may work in involving the full Committee in reviewing strategic risk assessments.

- On the ideal number of ACMSF reviewers to review risk assessments, there was no objection on using two or three members with appropriate expertise to review risk assessments. The suggestion of individual members meeting together

to discuss a risk assessment they are reviewing before submitting comments was welcomed.

- Following discussion on the highlighted questions to guide reviews (ACM/1393 paragraph 10), members felt they could be used by reviewers as aide memoir when reviewing documents. The discussion brought up a number of suggestions for the paper author to consider such as drawing attention to key areas where new research is urgently required to fill data gaps, focusing on assumptions (taking into account the potential consequences of assumptions being made in risk assessments) and the statements about the intention of the risk process stated in point 3 being explicitly reflected in the questions that guide the review stated at point 10 (this could be achieved by adding the following two bullet points to the list of questions that will form the aide memoire for reviewers)
  - Are the assumptions made clearly stated and reasonable?
  - Is all the evidence presented relevant to the question posed?

7.4 The FSA encouraged members to send any additional points they may have on this quality assurance process to the secretariat.
7.5 In conclusion, on behalf of the FSA, the Chair thanked members for the flexibility and goodwill they demonstrate when reviewing risk assessments at short notice.
Committee update

8. **Update of Activity for the ACMSF Subgroup on Toxin-producing Clostridia in Food**

8.1 Dr Gary Barker (Chair of the group) reminded the Committee that the subgroup was set up in April 2021 (ACM/1351) and had a first meeting in June 2021. The objective of the subgroup is to produce a report, for consideration by ACMSF, which updates and builds on a previous ACMSF report on “Vacuum Packaging and Associated Processes” that was produced in 1992.

8.2 Terms of Reference:

- Review the risk posed by botulinum toxin-producing Clostridia in foods stored at ≤ 8°C that support growth or toxin production.
- A preliminary assessment of the risk posed by botulinum toxin-producing Clostridia in food designed to be stored at ambient temperature that supports growth or toxin production.
- Where appropriate, consider other risk-related evidence relevant to toxin producing Clostridia during the lifetime of the group.

8.3 The group had full meetings in March and June 2022 (5 in total). Meetings using MS Teams were fully attended by the group. Both meetings included presentations from invited specialists. In May 2022 some group members met with Dr Gauri Godbole who contributed expertise and experience with respect to clinical aspects of botulism. Additional meetings between group members have taken place in the period March – October 2022 to support drafting of a group's report.

8.4 All 7 Chapters of a group report have been drafted and a process of compilation and review is in progress.

8.5 In accord with the Terms of Reference the group has been considering 4 distinct hazards; botulism in chilled foods, botulism in low acid ambient foods, other neurotoxigenic Clostridia and other bacteria that have been associated with botulinum neurotoxin genes. The group has identified 9 incidents (13 cases) of food-borne botulism in the UK since the publication of the previous ACMSF report in 1992. The period of the group's review includes relevant trends in food manufacture and packaging, food distribution and food behaviours. A global assessment of food borne botulism is very complex.

8.6 The group intends to have a compiled report suitable for group review in early November 2022 and a draft for wider scrutiny early in 2023. The next meeting of the subgroup is scheduled in November 2022.

8.7 The subgroup extends thanks to all members and co-opted members, departmental representatives, all external experts and to Iulia Gherman and Vikki Cohen for their excellent support.

Update of Activity for the ACMSF Incidents group

8.8 Dr Barker (Chair of the group) informed members that in this reporting period his group has responded to 3 requests for advice from the FSA. Group responses, in April, May and June 2022, were in the form of shared e-mail contributions from group members.

8.9 In April 2022 the FSA produced a rapid risk assessment and literature review in relation to vegetable oils that might replace sunflower oils in UK food manufacturing and asked the ACMSF Incidents Group for urgent review of "What is the risk to the consumer if all sunflower seed oil in the UK diet is replaced by alternative oils as listed in the statement of purpose?" The request from FSA was in response to the potential for disruption of the UK supply of Sunflower Oil from Ukraine. In particular, the FSA risk assessment was concerned with Hazard

Identification with respect to possible substitute food grade oils. Oils that might be considered as replacements include palm oil, soybean oil, rapeseed oil (canola oil) etc. The ACMSF Incidents subgroup was only concerned with microbiological hazards. The group noted that although processing using vegetable oils was usually at high temperatures there were insufficient details relating to other physico-chemical conditions to establish firm conclusions about microbiological safety (particularly in relation to spore contamination). The FSA review indicated that there was very little evidence for microbial hazards associated with refined sunflower oils and the ACMSF subgroup indicated that an argument based on substantial equivalence for substitute materials was potentially valid.

8.10 In April 2022 the FSA and FSS requested the ACMSF Incidents subgroup to review their draft risk assessment on “The risk to vulnerable consumers from Listeria monocytogenes in blue cheese”. The ACMSF subgroup provided comments and suggested changes to the text of the risk assessment document and three appendices. The draft assessment included a large volume of data and was considered to be very thorough. The ACMSF subgroup was in agreement with the assessment expressed in the report using the ACMSF framework and noted several places where population variability was significant in cheese making. The subgroup review led to a valuable discussion regarding the implementation of the ACMSF 2D risk assessment framework and its relationship with risk management.

8.11 In May 2022 the FSA and FSS requested the ACMSF Incidents subgroup to review their draft risk assessment “The risk to vulnerable consumers from Listeria monocytogenes in smoked fish” which had been prepared for submission to FSA/ FSS policy division. The subgroup submitted comments and provided direct annotations to the draft report - the draft was acknowledged as a good representation of the hazard domain. Most significantly the Incidents subgroup indicated that a clear distinction should be made between cold and hot smoking processes and that cold smoking was much more strongly associated with microbiological hazards in general including L. monocytogenes. The FSA science and evidence team responded to this suggestion by partitioning the risk characterization. Additionally, the ACMSF subgroup emphasised the important inhomogeneities associated with different vulnerable populations (an element of population variability) and the lack of models accounting for preservation factors such as smoking.

Antimicrobial Microbial Resistance Working Group

8.12 Prof Bill Keevil (Chair of the group provided the update) informed the committee that the group met on 8 March and 26 July 2022. He reported that the issues the group considered (and provided comments on) include:

- Findings of the following FSA funded studies: Evolution, diversity and epidemiology of bacterial foodborne pathogens based on whole genome sequencing Survey of AMR E. coli and Campylobacter on lamb and turkey meat on retail sale, FSA project FS307037: Modelling framework to quantify the risk of AMR exposure via food products and FSA project FS430677: Survey of Salmonella, E. coli and AMR in frozen part-cooked breaded and battered poultry products)
- Regulated products application on use of nisin in food and the risks in relation to AMR
- The FSA's AMR research programme
- FSA's AMR programme review workshop,
- AMR One Health activities across government
- Defra antimicrobial resistance coordination group's activities
- Output from the One Health, Environment and Society conference: Tackling Antimicrobial Resistance in Food Producing Environments (this took place in Brussel in June 2022)

8.13 Members noted that the group also commented on the FSA's proposed Surveillance of AMR bacteria in raw dog and cat food on retail sale in the UK.

Animal Feed and TSE Subgroup

8.14 Prof Bill Keevil (Chair of the group) reported that group was established in June 2022 to provide advice on issues relating to animal feed and TSEs. Their terms of reference were:

- Review two risk assessments produced by APHA on the risk of introducing TSEs into UK livestock from proposed changes to animal feed regulations
- Address any further issues requiring ACMSF input that arise from the review of these two risk assessments, until the Advisory Committee on Animal Feeding stuffs is reconvened.

8.15 Members noted that the risk assessment was:

- Assessing the risk of animal TSEs developing in the United Kingdom from the relaxation of feed rules in line with the recent changes in the European Union "The assessment found that the overall risk from a relaxation of feed ban rules in the UK would be Very Low (with Medium uncertainty), but this does not increase

the level of risk compared to the current rate of expected TSE cases in the UK”

- Assessing the risk of animal TSEs developing in the United Kingdom from the import of live animals from the European Union fed according to the relaxed feed rules

“The assessment found that the overall risk from EU MSs was Very Low (with High uncertainty) and would be no greater once the EU ban has been lifted when compared to when the ban was still in place for any of the animal groups considered”

8.16 Prof Keevil stated that the subgroup members agreed with the conclusions of the two risk assessments, as long as some caveats and concerns were addressed. Members noted that group has now been disbanded as the Advisory Committee on Animal Feeding stuffs (ACAF) has been reconvened. ACAF had its first meeting on 6 October 2022.

8.17 A member raised the issue of the circular economy (which has been welcomed in the EU) where recycled material particularly food/animal waste are used as a substrate to culture microalgae which is then used as animal feed. There was concern of microalgae produced through this process inadvertently becoming an agent of TSE.

8.18 Following discussion, members agreed this is a concern but not for ACMSF to consider as it was outside the Committee’s remit. However, it was felt this issue could be added to the committee horizon scanning output paper under “Changes in methods of food production and new food technologies (new hazards emerging).

8.19 Another raised on back of waste materials and food production in relation to TSEs was insect protein produced using waste. The question of whether algae and insects could be potential vectors of TSE was flagged. On the production of insect protein members noted that current legislation not only restricts the species of insect that can be grown but it also restricts the feed substrates that can be used to feed them. Members were informed that the FSA is taking forward a research project in relation to the substrates used for insect protein particularly looking at illegal substrates being used. Study does not cover microalgae.

Newly Emerging Pathogens Group

8.20 Prof Dan Tucker (Chair of the group) updated members on the activities of his group. He reminded the committee of previous high profile work his group has been involved in such as on Zika Virus – risk assessment related to exposure via

the food chain and the risk-based considerations associated with consumption of human placenta. Prof Tucker reported that his group commented on the draft version of the recently published FSA funded study Survival of SARS-CoV-2 on food surfaces. Some of the comments/suggestions were the need to attach appropriate caveats around some of the data in the report and advice that should be considered when applying the findings of the study to the real life and future revisions of the FSA 2020 risk assessment. Members noted that the study was carried on the back of the risk assessment published by the FSA in 2020 (Qualitative Risk Assessment: What is the risk of food or food contact materials and surfaces being a source or transmission route of SARS-CoV-2 for UK consumers?) that concluded that it was very unlikely that you could catch coronavirus via food. This assessment included the worst-case assumption that, if food became contaminated during production, no significant inactivation of virus would occur before consumption.

8.21 The following comments were made on the update:

- In terms of the survivability of the virus, a member accepted that this sort of study will inform people doing risk assessments, however, taking forward the findings of the study with regards to exposure through the routes (food and food packaging) is it likely to have much of a significant impact? Members noted that study has tried to address (with appropriate caveats) some of the uncertainties in the conclusions in the FSA risk assessment. Study results have brought some clarity revealing that virus survival varied depending on the foods and food packaging examined. In several cases, infectious virus was detected for several hours and in some cases for several days, under some conditions tested.

- Members agreed that study has been useful in addressing the issues of survivability of the virus and contamination. Concerning the issue of the impact of the study, it was felt that it will provide valuable evidence to support the problems the pork industry faced where some countries were refusing to take exports from the UK because of the high incidents of COVID outbreaks in food processing facilities. Findings from this report can help to take away any barriers in relation to trading with other countries.

- There was agreement that findings of the study would be useful for environmental health officers educating food business operators on the survivability and transmission of the virus on food and food packaging.

- A member raised a procedural point relating to documents endorsed by subgroups (that have received the ACMSF stamp) but have not been seen by the

full committee. He asked if there could be a mechanism for the full committee to see all documents or reports endorsed by subgroups. He remarked that this would provide the opportunity for members who may wish to consider the published report/document and indicate if they agree or disagree with the report.

- Following discussion, it was agreed that a system should be devised to enable the full Committee to see reports/documents ACMSF subgroups have endorsed ACTION.

9. **UK Food Safety Network (UKFSN)**

9.1 The Chair invited Dr Matthew Gilmour from the Quadram Institute to brief members on the objectives of the UKFSN and its research priorities. Before the presentation was provided the following members (Alec Kyriakides, Dan Tucker, Linda Scobie), said that that they sit on the UKFSN innovation board. ACMSF Chair (Prof Keevil) declared that he is a member the network's advisory group and innovation board and is on the Biotechnology and Biological Sciences Research Council (BBSRC) panel. Dr Gilmour reported that UKSFN is funded by the BBSRC and the FSA, and was launched in April 2022. Members noted that UKSFN's vision is to apply science to improve the safety of food in the UK and has a strapline of Grow Safe, Make Safe and Eat Safe. The network's remit under the banner of food safety is specifically microbial risk.

9.2 Areas Dr Gilmour's presentation covered include:

- The network's guiding principles (innovation in the safety ecosystem)
- network resourcing (network has around £1 million to fund collaborative projects). Extrinsic drivers affecting food producers
- Intrinsic drivers affecting food producers
- Priority areas
- First call for proposals (this has two streams: Stream A: Projects that are ready to be rapidly funded and initiated; £30K approx. per project and Stream B: Expressions of interest for project ideas that are not yet fully formed and that will be developed in subsequent Network community forums; costings to be developed for each)
- Next steps (segmentation of interventions) which covers four areas: Problems we support and endorse, problems worth solving by us, problems we note, but do not resource and problems we help scope and advance.

9.3 Under next steps members noted the following: week commencing 17 October - project award announcements (anticipated), November 2022: Virtual Network launch event to announce outcomes of the Call and December 2022: Workshops stemming from Expression of Interests.

9.4 Members noted that UKFSN has a website and email address connected to the Quadram Institute.

9.5 The following comments were made by members on the presentation:

- Setting up of UKFSN was welcomed. Great concept underpinned with robust capability.

- The areas the network intends to look at under Extrinsic drivers affecting food producers (consumer preference, new economics, the environment and food regulation) and Intrinsic drivers affecting food producers (microbes contaminating foods) does not extend to the cost of living crisis or recognise the fact that currently people can't afford to eat as they did before. Dr Gilmour commented that cost of living crisis was a potential area for research the network may consider. The initial aim of the network is to get the food industry, academia and government to be collaborating together on research projects related to food safety.

- Although UKFSN has prioritised the areas it intends to look at under the following headings (reducing microbial risk of known pathogens, understanding risk of alternative proteins and new plant based foods, applying food safety knowledge and new tools to ready-to-eat foods), output from the committee's 2022 horizon scanning workshop would be a good resource for UKSRN to seek access to as the report covers a wide range of areas that falls within the remit of the network. The Committee via the secretariat indicated its desire to share the finalised horizon scanning report with UKFSN. ACTION.

- As UKFSN mentioned (under network resourcing) carrying out "pilot studies on sharing data between industry partners to improve trend analysis", it was agreed that the network would benefit from having access to historical data or output from historical studies where the outcome was not published. Accessing information from large companies that may have carried out studies on any of the foodborne pathogens and have not taken forward the results probably due to unsatisfactory results would be valuable to the network. Members noted that UKFSN have discussed this at their first Innovation Board meeting. They are aware of the wealth of knowledge that's sitting in other people's computers or

never found an audience. They are proposing to have a workshop to discuss this issue.

- Members were informed that the issue of data sharing/privacy and developing a block chain system where there would be peer-to peer sharing of information was recently discussed by the FSA. A member who was at the discussion felt until this becomes operational it would be difficult to see how personal data would be shared.

- There was discussion on the regulatory framework in the UK in relation bacteriophage for medical human therapy and the regulatory barriers research projects face.

9.6 In conclusion the Chair thanked Dr Gilmour for the presentation and acknowledged his role in setting up UKFSN which he felt was timely. He highlighted that the concept is excellent and endorsed work that has been so far undertaken by the network.

10. **Dates of future meetings (ACM/1394)**

10.1 The Chair drew members attention to paper ACM/1394 that outlined dates for 2023 meeting: 9 February, 22 June and 19 October.

10.2 Concerning the 9 February meeting, ACMSF Scientific Secretary stated that as there is a regional concentration of food microbiology research groups and businesses in Yorkshire the secretariat is having discussions with a food producer (in York) for a possible site visit to take after the plenary meeting. This will give members the opportunity to observe a live food production process.

11. **Any Other Business**

11.1 The Chair highlighted the circulated information papers: ACM/1383 (ACMSF Work Plan, ACM/1399 (Update from other committees), ACM/1400: Items of interest from the literature) and ACM/1401 (Food and you Wave 4). He emphasised how useful they are in relation to the Committee’s work underlining the usefulness of ACM/1400 that pulls together as a summary of current and recent publications on the topics of interest to ACMSF.

11.2 The Chair raised the issue of reserved business that the Committee is frequently using to consider some agenda items at plenary meetings. He invited

Dr Wilson to update members on the reasoning behind this to become a permanent feature at a future plenary meeting. He explained that this was motivated by discussions with members who felt it was important when items come to the Committee for discussion for this to come at a stage which is possible for feedback from the Committee to influence the outcome of the work so that the input is meaningful, and papers are not solely for information. The approach will make it possible for the Committee to have input into strategic documents (at an early stage) before they are finalised and published. Other subjects that will be considered in closed sessions include output on the activities of the Epidemiology of Foodborne Infections Group (EFIG) as some of the data presented to ACMSF are not in the public domain, and this would make it possible for members to have input in draft papers/report. There was broad support from the Committee on this proposed approach.

11.3 A member raised if the Committee would discuss the 2021 annual report that members commented on (it was confirmed the revised version has taken onboard members comments and will be published). She indicated that she was happy with the new format. While endorsing the chair's point on the information papers, the Committee pointed out it would be helpful for some the papers to provide meanings of acronyms used in them.

11.4 Members noted that should they have any points to flag on any of the information papers this can be done under any other business.

12. **Public Questions and Answers**

12.1 Dr Karin Goodburn commented on the following subjects.

12.2 Regarding vacuum-packaging/modified atmosphere packaging and C. botulinum, Dr Goodburn noted that the z-values for non-proteolytic C botulinum given in the current FSA guidance and all editions since original publication of the ACMSF 1992 document are incorrect. FSA funded a PhD at IFR more than a decade ago which included a review of z-values, and this work was reviewed by the SUSSLE International Expert Group (Drs Barker and McClure were members). Both the PhD thesis and the SUSSLE group review in 2011/12 confirmed that the value being referred to below 90oC (9.2oC) is wrong. The impact of this is that the heat processes up to using temperatures of 90oC specified in the FSA guidance will not deliver the 6-log reduction stated. This has been pointed out on several occasions to the FSA since June 2012, most recently in evidence given to the sub-group. However, the rates have not been corrected in the FSA guidance. Dr Goodburn is aware of at least one consulting laboratory which is charging industry

for review of their thermal process data and using this incorrect z-value. She requested that the ACMSF act urgently to highlight to FSA the need to address this error to help assure food safety?

12.3 Dr Paul Cook (FSA Assessor) commented that the report produced by the ACMSF subgroup on non-proteolytic Clostridium botulinum and vacuum and modified atmosphere packaged foods following a review of thermal inactivation parameters, found evidence to recommend a change in the z-value within the range of 6.7-7.7C° for calculation of equivalent thermal processes below 90°C. Report was passed to risk managers (FSA Policy) for them to consider the conclusions and all of the recommendations. The Chair of the subgroup on toxin-producing Clostridia in food remarked that the ongoing review his group will draw attention to this issue of appropriate z-value for food industry to use in its report.

12.4 Dr Goodburn expressed concern that risk assessment approaches used by FSA do not always reflect established industry practices, are therefore not necessarily fully informed and as a result may not reflect actual risk. Dr Goodburn expressed the opinion that the approach taken is focused on legislative requirements and published research, the latter in particular being skewed by non-UK data focused on incidents, rather than how risks are actually managed in practice by industry. One example of this was a 2020 risk assessment in relation to sewage sludge which noted that use was permitted on land which would then be used to grow strawberries, but did not reference the ADAS Safe Sludge matrix of 1998, which banned the use of sewage sludge on any raw RTE crop, and which is embedded standard practice, applying also to imported produce sold through industry and major retailers. Dr Goodburn also reported an example of an FSA risk assessor believing that UK sushi plants are gutting and filleting fish, which Dr Goodburn is not aware to be the case, and which would have an impact on the assessed risk of commercial sushi production. This is a plea for FSA risk assessors to engage with industry specialists (e.g. trade associations) which can provide information on risk management in practice.

12.5 The response to the above question, confirmed that the risk assessment process employed by the FSA follows national and international best practice for risk assessment. It was highlighted that for incident risk assessments the concerned food business operator is normally contacted for facts to inform the risk assessment. It was noted that having the right people with the right experience on groups reviewing risk assessments will mitigate against industry’s concern.

12.6 Dr Goodburn understands that the UK Food Security Report, which includes foodborne disease data, is to be published at least every 3 years. Given the UK is no longer contributing data to the EFSA/ECDC One Health Zoonoses Report issued annually, and EFIG data are not being circulated, she requested that the ACMSF assist with improving timely access to data relating to UK foodborne disease (e.g. Listeriosis, Salmonellosis, STEC, Campylobacteriosis, Cryptosporidiosis).

12.7 Although Dr Paul Cook agreed to take Dr Goodburn's request to EFIG for the Agencies that provide the group data to consider, Tina Potter (Head of FSA Incidents) commented that working together with UKHSA and the devolved administrations, the FSA Incidents Team is reviewing its ways of working to modernise their approach in managing incidents as a third country and will look into how industry's data request could be provided.

12.8 On the subject of SARS-CoV-2 and Food Safety, Dr Goodburn noted that COVID-19 is a respiratory disease and that the survival of viruses on food, especially when artificially inoculated in large numbers, is nothing new. She asked the committee whether there is any reliable data indicating whether the presence of SARS-CoV-2 or any respiratory virus on a food is a real public health issue?

12.9 The Chair responding to the above statement referring Dr Goodburn to the FSA Qualitative risk assessment on the risk of food or food contact materials as a transmission route for SARS-CoV-2 and the uncertainties in the document.

13. Epidemiology of Foodborne Infections Group (ACM/1395) - **Reserved Business**

14. Survey of microbiological quality of ready to eat food sold on social media (ACM/1396) - **Reserved Business**

15. The third study of infectious intestinal disease in the UK (ACM/1397) - **Reserved Business**

Annex 1

List of observers

Name	**Organisation**

Roy Betts	Campden BRI
Dr Kaarin Goodburn	Chilled Foods Association
Gary McMahon	Moy Park
Alicia Campion	
Rachel Bayliss	Kraft Heinz
Marie McIntyre	
Stella Ntachampre	APHA
Susana Robles Vinuela	
Prof David McDowell	Former ACMSF Deputy Chair
Svetlana Chobanova	FSS
Johanna Jackson	FSA
Dr Daniel Lloyd	FSA
Sophy Wells	FSA
Wioleta Trzaska	FSA

Agata Dziegiel Quadram Institute