

ADVISORY COMMITTEE ON THE MICROBIOLOGICAL SAFETY OF FOOD

ACMSF horizon scanning workshop 2020 summary of discussions and outputs

Issue

The Committee held a virtual horizon scanning workshop in June 2020. The workshop followed a similar format to previous workshops with a mixture of breakout groups and plenary sessions. Members were asked to identify emerging issues around a series of specific questions and use more general horizon scanning questions as a prompt. A number of key issues were identified by members both outside the workshop and as part of the breakout groups and the plenary session was used for the Committee to agree a prioritised list of recommendations that could be seen to have the greatest impact on reducing foodborne illness. This paper summarises the main outputs and discussions from the workshop and actions where identified have been highlighted. General thoughts/deliberations have also been captured.

Priority emerging issues identified by Members

Q1- Can you identify any emerging issues that might present a risk to the public (COVID-19 related)?

1. **Changes to the food supply chain** - Changes to the food supply chain and the direct and indirect impacts on foodborne disease and controls were highlighted as emerging issues to consider. These included, sources of foods (needing to rapidly find alternative suppliers), temperature control, Critical Control Points and disrupted inspection regimes. Staffing disruptions including staff absence (due to self-isolation) causing lack of governance of food safety issues, lack of management and lack of day to day supervision were also areas Members showed concern about. Additionally, the impacts of test & trace scheme may mean that potentially, whole groups of workers are removed (FBOs, labs etc.) as a result of a requirement to quarantine due to close contact. Sitting also within this food supply theme, is the reopening of restaurants and manufacturing following easement of lockdown and insufficient cleaning after being closed for a period. Members questioned whether possible second and third waves of COVID-19 would result in re-closure and resources being diverted again.

Possible Actions: a) Undertake work to understand the range of staffing disruptions (both currently and in future as the pandemic continues), why they are occurring and identify the food safety implications and the best ways to mitigate those risks;

b) Review risk assessments based on prior assumptions once a new normal¹ is established. The new normal, may lead to substantial changes in behaviour or changes in foodstuffs/sources due to either COVID-19 or EU exit. This would mean that FSA models should be reviewed to determine whether the parameters and/or assumptions need to be amended. If amendments are required, they should be made, the models run, and the results used to amend or update related guidance.

- 2. Information on cleaning/disinfectants that would be active against new hazards (consider FSA-specific information)** – Members commented that a system (specific to the food environment) needs to be developed by the FSA to give rapid risk-based advice to food producers and food service operators on any cleaning and disinfection procedures as and when new hazards arise. Since Gov.uk provides and has provided disinfection protocols for food service establishments, the FSA should assess if separate protocols need to be in place. The system can include, providing advice on disinfection based on theoretical characterisation of the hazard, disseminating that information rapidly and effectively and commissioning research to substantiate the advice. It was viewed that if the FSA does not provide this advice or introduce a system to communicate it, it will be sought elsewhere. The challenges to some parts of industry relating this were acknowledged.

Possible Actions: Develop a system specific to the food environment to give rapid risk-based advice to food producers and food service operators on any cleaning and disinfection procedures as and when new hazards arise. Establishing strong relationships with the key cleaning / disinfection chemical service providers and perhaps even a more formal process to guarantee access to advice may be worth considering.

- 3. Changes to shopping practices-** Disruption to shopping practices during the COVID-19 pandemic was mentioned as an emerging issue to consider. Members remarked that shopping may be occurring less frequently during the pandemic, which in turn may lead to shelf-life information being disregarded. Members highlighted a concern over doorstep delivery by large and small retailers in the context that

¹ There was a discussion that Coronavirus will be part of UK society for at least the near future and a new normal will need to be established once restrictions gradually start to ease. It was considered optimal to review risk assessments in early 2021 when a clearer picture of the new normal emerges, rather than a snapshot review undertaken immediately which will likely result in another review needing to be undertaken as the pandemic progresses.

perishables (including chilled and frozen foods) may be left in uncontrolled conditions by retailers not familiar with delivery. Home delivery of prepared foods by food business operators (FBO's) unfamiliar with home delivery (business profiles may have temporarily changed from cook and seat to cook and deliver e.g. pubs/cafes) may also have potential food safety implications. It was considered important to look into the future and consider the possibility of further similar disruptions to shopping practices, associated implications and what streamlined advice may be provided to Food business operators and consumers in order to reduce food safety risks that may arise as a result of these changing trends.

Possible Action: FSA, especially in situations as unpredictable as the pandemic, should consider the future long-term changes to food shopping practices and what could be done to reduce the risks associated with changing consumer behaviors if this situation continues or a similar situation arose. A review of implications on this topic should be conducted, with a view to producing some risk-reduction guidance.

Altered immune status – Members viewed that patients that have suffered from COVID-19 may have increased susceptibility to food borne infections. It was considered important to explore whether prior COVID-19 infection altered the immune response to foodborne disease. Disruption/dysbiosis of the gut microbiome was suggested as a possible mechanism for this potentially altered susceptibility.

Possible Action: Members suggested commissioning longer term studies on COVID-19 patients to investigate this further.

4. **Changes in reporting of food incidents/cases/outbreaks during the COVID- 19 pandemic (under-reporting)**- Members were concerned that delayed presentation to healthcare, lower detection due to limited GP services, frontline labs prioritising SARS-CoV-2 testing over other pathogens, reduced testing by local authorities may all contribute to increased mortality and morbidity. Members commented it is important to consider whether the next presentation to the Epidemiology of Food Borne Infections Group (EFIG) reflects the possible disruptions to routine submission and testing of sample. If significant trends are seen, a possible reason for the difference in outbreak etc. numbers during the pandemic may be attributed to changing submission/testing practices rather than true changes in outbreaks in the population.

Possible Action: Members asked if there could be more root cause analysis to explore trends in the reporting data presented to EFIG.

5. **Potential transmission of Coronavirus from food handlers** - There was a discussion on greater risk of foodborne transmission of coronavirus with a large return of food service individuals back to work

following easements in restrictions. This discussion was in the context that a large number of COVID-19 patients are asymptomatic, and this could include food service staff in their food handling roles. Discussions were also had around the possibility of food handling staff returning to work when pre-symptomatic but infectious.

6. **Coronavirus survival on packaging-** Further discussions around Coronavirus survival on packaging (food and non-food) or on open food were had in the context of Coronavirus transmission. It was flagged that with behavioural changes such as no longer sharing food with colleagues in work e.g. birthday cakes there will be a move towards buying individually packaged portions and further investigation into this whole area is important.

Q2: Can you identify any emerging issues that might present a risk to the public (non-COVID-19 related)?

7. **Food banks** - Members flagged that the FSA should consider food safety issues related to food banks and charitably donated foods in terms of whether there have been any outbreaks in the past linked to these establishments and investigate whether there has there been any root cause analysis.

Possible Action: Members requested that the FSA could generate more comprehensive guidance around handling and maintenance of foods in these types of establishments, particularly for perishable foods. However, it was mentioned that perishable foods may not be permitted for distribution at food banks and this results in the items being left near the food bank in even less optimal conditions; the entire area needs to be reviewed by the FSA in terms of risks and regulations.

8. **Packaging (non-COVID-19)-** Members highlighted the apparent reduction in plastic packaging and any food safety issues around this (noted in previous horizon scanning workshop). Members also highlighted the introduction of more sophisticated packaging types containing a variety of agents e.g. composites, antimicrobials, nanoparticles and questioned the risk associated with recycling this active packaging.
9. **Changes in foods consumed** - Members viewed it is important to understand the risks associated with certain types of novel foods e.g. plant-based meat analogues, lab grown meats and insect proteins and balance these with the chance of these foods becoming mainstream, high volume commodities in the UK.
10. **Climate change** – Members highlighted the issue of the impact of climate change on the contamination of food raw materials and products.

Possible action: It was suggested that research is commissioned to identify the highest risk products (exposure and impact), aligning with existing groups working on climate change and developing potential mitigations.

11. **Vulnerable groups-** Members viewed that it may be time to revisit the correct (modern day) proxies for susceptibility to food borne disease e.g. age vs ethnicity vs diet vs socio-economic. While there were discussions around an ageing population, age was considered as being far less of a predictor for infirmity than environmental factors that make people “old before their time”. There were discussions around whether age was useful as a proxy measure for susceptibility anymore as it appears to be far less an indicator than previously. The COVID-19 pandemic highlighted different susceptibilities amongst different ethnic groups and it was discussed whether this may also be the case for susceptibility to food borne infections. Risk factors such as immunosuppression (diabetic patients are now considered far more immunosuppressed than previously), those receiving monoclonal antibodies were also discussed.

Possible action: Revisit the definitions of vulnerable groups and what are the risk factors.

12. **Imported food (some overlap with EU exit question)-** Members expressed that the broader base of countries the UK will be importing food from would increase the base of pathogens, this has been seen in the USA. There may also be changes in the antimicrobial resistance spectrum. Members viewed that EU exit could bring opportunities such as the ability to carry out more testing at borders.

13. **Salmonella Enteritidis and Lion eggs** - Members discussed whether the topic of *Salmonella* Enteritidis and Lion code eggs should be revisited by the Committee. The Committee’s last report on the subject was in 2016.

14. **Emerging unfamiliar food vehicles implicated in food borne transmission** - Members flagged concern at some unfamiliar foods that are emerging to be contaminated with food borne pathogens e.g. plant-based foods such flour and dried seeds being contaminated with Shiga toxin producing *E. coli* (STEC). STEC outbreaks have emerged in the UK and other Member States and this is already on the FSA’s radar but members considered it important to understand what is the cause of an increase in STEC contamination in these atypical food vehicles; change of production practice or increase in observation?

15. **Q3: Are there any risks or opportunities associated with new food technologies not already considered by the ACMSF?**

16. **Risks associated with new/changing foods** – Members viewed that risks and opportunities associated with the development and consumption of new food raw materials and finished product e.g. insect proteins, insects, internet foods need to be flagged. Members were more concerned with risks due to the remit of the Committee.

Possible action: Define the problem better and identify mitigations such as wider guidance / education. Education should include factual information to consumers to enable them to take responsibility for their own health when considering the purchase of certain foods.

17. **Biofilms** – Members discussed the importance of new technology to disrupt and combat the spread of pathogens in the food production/processing environment.

18. **Cooking practices-** Trends in the consumption of raw or lightly processed foods and sous vide home cooking were likewise mentioned as important.

19. **Inadvertent sale of novel ingredients from poorly regulated sources-** this issue was flagged as important.

20. **Alternative disinfectants** – Members commented that there are changes being accepted with regards to what can be used for disinfection. Members discussed the potential availability of alternative disinfectants and remarked for example that there are many publications about the use of phages against specific pathogens and questioned what other possible alternatives there may be. It was highlighted that efficacy and context is key when comparing disinfectants as phage technology may be effective for applications where it is required to reduce certain pathogen numbers significantly but would not be placed in the same category as some other disinfectant technologies that would guarantee elimination of every cell e.g. heat treatment. Members commented that there does need to be a better understanding of who will license future potential disinfectants, are they safe and what other issues may be faced when using them. It was highlighted that currently any considerations of new disinfectants have to be done while the whole industry is trying to cope with changing (EU) legislation on the use of previously well established and well documented disinfection practices.

Possible Action: FSA should work to get an understanding of what disinfectants could be available that can be effective and then publish guidance on this.

21. **3-D printed foods** – Members mentioned the risks associated with the way in which some of the machinery involved is cleaned. Members also questioned what are the risks of slurries that are used to create 3-D printed foods. Members questioned how large an issue 3-D printed foods

would become in the future and viewed that this factor should guide how much effort should be placed into looking into risks associated with them.

Possible Action: Review whether 3-D printed foods will become widely consumed in future, and if so, assess what are risks of 3-D printed foods and how can they be controlled.

22. Investigation of validation protocols around certain technologies -

Members highlighted three technologies (technologies which are reality or closest to reality) where they viewed protocols of validation of the technologies need further investigation. The technologies were: high pressure processing, pulsed electric fields and ohmic heating. Members viewed that there could be collaboration in this area with the Advisory Committee on Novel Foods and Processes (ACNFP) if any of these technologies are considered as novel processes. **No specific action was indicated, but it is apparent the Committee requested further evaluation of this area.**

Q4: What do you view may be the main emerging issues, risks and opportunities following UK exit from the EU?

23. Food Safety standards – Members were concerned with potential lower standards of food safety from new sources of imported foods following EU exit. Members considered how the UK will be able to understand what is coming in from other countries (that are not EU trading partners) and what the risks are. Members were unsure whether food will be imported directly to the UK or through the EU (will EU conduct checks or will it be dependent on the UK). The potential for fraud was also flagged. However, members also viewed that there could be opportunities for the UK to allow a ban on repeated problem foods which could be viewed as an opportunity.

Possible action: FSA to influence trade negotiations to maintain standards or insist on labelling to inform consumers of the source of imported foods. Such labelling coupled with FSA providing information on food standards in different source countries, would enable consumers to make informed choices and protect themselves.

24. Laboratory capability – Members were concerned about reduced laboratory capability for specialist testing after EU exit.

Possible action: Assess the capacity and capability required in the UK post EU-exit and explore the options in public and private laboratories. Draft strategic plan of action to access laboratory capacity with clear accountabilities.

25. Information exchange and potential conflict – Members were concerned about the potential lack of information exchange on food borne disease from the EU after exit e.g. RASFF, TRACES, EU horizon scanning, ability to be involved in Community reference labs system and gain up to date information on EU related issues as they occur. The question was raised as to whether the UK is still going to be able to contribute to these systems or develop our own systems. Any systems already being considered by the FSA or that will be considered in future, need to be shared with ACMSF. Additionally, the issue of how the ACMSF will handle situations where there is divergence in opinion between the UK and EU organisations e.g. EFSA was mentioned.

Possible action: Influence negotiations with EU (and EFSA) to seek continued access to information on food borne disease. UK and EFSA may need to agree a strategy or series of steps to make this happen. Communicate with ACMSF any new system(s) the FSA or UK has developed to replace this potential loss of EU information.

26. Hold-ups at ports and subsequent food safety implications- Members were concerned that there may be hold-ups (of unknown length) at ports of entry for foods being imported into the UK and the subsequent effects on perishable foods, which in turn could pose a risk to food safety. There was a discussion from some members that delays will not be expected as checks will be light touch and the problem could be more related to inadequate checks which are likely to cause more problems for non-EU food products. Members were concerned that the UK could become a dumping ground for foods rejected from other ports.

Possible Action: Review what hold ups may be and how this will affect shelf life.

27. Risk assessment capacity of the FSA - Members noted that it is important to check and understand the risk assessment capacity of FSA.

28. Providing direction and trusted information to the public on different types of imported foods- Members considered that public perception of different kinds of foods imported from various countries is very important and the issue of associated erosion of trust (relating to potential risks?) was flagged. Members enquired whether there could be a scientific way of addressing these concerns.

Possible Action: FSA could establish a non-bias position advising the public of the various foods that are being imported into the UK after EU exit transition period and the risks associated with them, this could also include an influx of cheaper foods. Different practices in other countries and rates of illness in other countries could also be included as part of this work. The work could be presented in the form of a paper.

29. **Shortage of workers** - Members also mentioned that there could be potential risks associated with the employment of migrant workers along the food chain, i.e. less workers could be an immediate problem for the UK. Members also viewed that this could have a potential increase in costs which in turn may change consumer behaviour and the risks associated with all these factors were acknowledged. This was a deliberation.

Q5: Is there anything else risk assessment related to bring to the FSA's attention?

30. **Whole genome sequencing (WGS)**– Members expressed that WGS data could be used by the FSA in a more proactive rather than reactive way e.g. to provide information relating to source attribution and risk assessments more routinely. It was highlighted that where WGS is being used, the data should be linked up well between PHE, APHA and FSA and it was also acknowledged that academic groups should be part of the linkage when looking at sequence types and source attribution as there is good work taking place in such groups that may not always be linked up to Government.

31. **Vulnerable groups** – Members expressed that the COVID-19 pandemic highlighted vulnerable groups e.g. in care homes but Members viewed that there is a general issue relating to vulnerable groups that needs exploring. There are food related issues that may impact on risk for vulnerable groups that need to be assessed and understood.

Possible Action: Review the food risks related to consumption of foods by vulnerable groups and indicate ways in which those risks may be reduced (see also point 13 above recommending the definition and criteria for 'vulnerable groups' are reviewed).

32. **New technologies and risk assessment** - Members discussed new technologies to track, trace and manage potential foodborne disease e.g. genomics, artificial intelligence, machine learning.

Possible action: Conduct a review to explore the value of using technologies in food borne disease risk assessment and mitigation strategies.

33. **Increasing complexity of risk assessment** - Members mentioned that it is getting harder to establish ACMSF areas as areas become more complex, e.g. microbiomes may have food safety considerations as well as health aspect consideration. When considering biocides, there is a chemical risk aspect in addition to microbiological considerations, and considerations may additionally fall in the remit of other committees. This was a deliberation.

34. A top line summary of themes and actions emerging from the workshop can be found at Annex A.

**Secretariat
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