



FSA Science Council

Annual Report

1 April 2018 to 31 March 2019

January 2020

Further information on the Science Council is available on its [website](#) or by contacting the Secretariat:

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<https://unsplash.com/@zanonluca/portfolio>



It gives me great pleasure to present the second annual report from the FSA Science Council after very focused and productive year.

During this period, the Council has delivered its recommendations addressing the original three priority questions set by the FSA Chair, Heather Hancock (Figure 1).

Figure 1: Original Science Council challenges as set by the FSA Chair

The Council has also established a new programme of work led by Prof Patrick Wolfe to help the FSA understand the future of data use and digital technology and how this may impact the FSA's mission.

I am pleased to report that the FSA has embraced these recommendations in our three reports on science capability & assurance, risk & uncertainty, and horizon scanning. The FSA has committed to using them as the backbone of strengthened approaches to building its science capability. This commitment includes the use of foresight activities as part of an intelligence continuum, and the development of an updated risk analysis process to tackle the challenges of ensuring food safety in a post EU Exit UK.

I welcomed the opportunity to provide my second Annual Report as Science Council Chair to the FSA Board on 13 March where I reflected on the risks, opportunities and future direction for both the FSA and the Council. The FSA's operating environment is changing at pace and will be further impacted by wider global risks. The scale and complexity of these challenges, and how they will interact with one another is not fully understood but it is very clear that fundamental changes will be required to how we design and interact with a food system which is itself rapidly evolving.

To help meet these challenges, the FSA's use of Scientific Advisory Committees (SACs) has the

1) How can the FSA Board be confident that we have access to the right science capability and capacity and we are using it to the best of our ability?

Prof Laura Green chaired Working Group 1 on science capability and assurance which was established in June 2017 and reported in [July 2018](#). The FSA Board responded to welcome the recommendations in [December 2018](#).

2) What does the Council advise to be best practice in establishing and communicating risk and certainty?

Prof Mark Woolhouse chaired Working Group 2 on risk and uncertainty which was established in June 2017 and reported in [July 2018](#). The FSA Board responded to welcome the recommendations in [December 2018](#).

3) What should the FSA do to improve its horizon scanning and its understanding of global food systems risks (and opportunities)?

Prof John O'Brien chaired Working Group 3 on food system risks and horizon scanning which was established in June 2017 and reported in [May 2019](#). The FSA Board responded to welcome the recommendations in [June 2019](#).

potential to develop further: I foresee opportunities for the Science Council to build closer multidisciplinary relationships with the SACs to help ensure that together we form a strong, effective and well-informed network. I am also keen to work with other independent advisory committees across government to identify how we can work better and smarter as an advisory body.

I am proud of what the Science Council has achieved so far. With that, I would like to thank the Council members and the Working Group Chairs, Laura Green, Mark Woolhouse, John O'Brien and Patrick Wolfe for their enthusiasm and for giving such energy and commitment to their roles. I would also like to give my thanks to Guy Poppy, FSA Chief Scientific Adviser, and FSA officials for their continued positive engagement, which is vital to ensuring that Council advice is not only addressing the right issues but that it is both useful and used by the FSA. I would also like to thank the Chairs and members of the SACs who provided valuable input to Working Group 2 on drafting principles for risk analysis and communication.

LOOKING AHEAD

Our Working Group 4 on data use and digital technology will deliver its outputs to the FSA in the summer of 2020. The highly technical nature of this work is a challenge, but the Council have been well-guided by the Working Group Chair, Professor Patrick Wolfe.

The Council is also considering how it can best provide strategic support to the FSA on its expanding programme of work on food hypersensitivity.

Finally, I will continue to work with members to ensure the Science Council remains an effective and independent body, providing a constructive and critical eye on the science carried out in the FSA.

INTRODUCTION

1. This report provides a summary of the FSA Science Council's activities in its second year (1 April 2018 - 31 March 2019).
2. The FSA Science Council is an independent expert committee of the Food Standards Agency, comprising a Chair and seven members.

Membership	Specialism	Term (incl)
Professor Sandy Thomas (Chair)	Leading, convening and generating cross-disciplinary analysis and strategic science to inform policy	Apr 2017- Mar 2022
Professor Laura Green	Epidemiology specialising in animal health and its wider impacts.	Apr 2017- Mar 2020
Professor John O'Brien	Food safety management and identifying emerging risks.	Apr 2017- Mar 2020
Professor Sarah O'Brien	Gastrointestinal infections (such as Campylobacter, Salmonella and viruses in food)	Apr 2017- Mar 2020
Mr Mark Rolfe	Trading Standards and Public Analysts.	Apr 2017- Mar 2020
Dr Paul Turner	Allergy & Immunology	Apr 2017- Mar 2020
Professor Patrick Wolfe	Statistics and computer science (specialising in the mathematical foundations of data science).	Apr 2017- Mar 2020
Professor Mark Woolhouse	Infectious Disease Epidemiology and Risk Analysis.	Apr 2017- Mar 2020

3. The Council was established on 1 April 2017 to provide high-level, expert strategic insight, challenge and advice to the FSA's Board, Executive and Chief Scientific Adviser on the FSA's use of science to deliver FSA objectives. Its purpose is to help to ensure that the FSA identifies, sources, integrates and uses the best scientific evidence and expertise from all relevant disciplines to inform and evaluate its work.
4. The FSA Chief Scientific Adviser (CSA) attends the Science Council meetings, which are open to the public. The Science Council Secretariat is provided by the FSA Chief Scientific Adviser's Team.
5. Full details of the responsibility of the Science Council can be found on its website (including the Code of Practice, meeting papers, minutes and member biographies).¹

¹ <https://science-council.food.gov.uk/>

SCIENCE COUNCIL WORK PROGRAMME

6. The Committee met twice, in open session, during the period of this report: on 27th June 2018 and on 12th December 2018. It also continued to develop its work between meetings through formal Working Groups. The Science Council Chair provided her second annual report to the FSA Board on 13th March 2019.²
7. Over the period, the Science Council continued the work of three existing Working Groups considering three key questions posed by the FSA Chair Heather Hancock at the first Council meeting in June 2017:
 - i. **Science capability and assurance:** To advise the Board on how it can get confident that we have access to the right science capability and capacity.
 - ii. **Risk and uncertainty:** What does the Council advise to be best practice in establishing and communicating risk and un-certainty?
 - iii. **Global food systems and horizon scanning:** What should the FSA do to improve its horizon scanning and its understanding of global food systems risks and opportunities?
8. In addition, the Science Council established a fourth Working Group in September 2018, to answer the question co-developed with the FSA about **data usage and digital technology**³ and how the FSA might best use in the future:
 - iv. emerging tools and technologies over the next 2-5 years;
 - v. advances in open data and data sharing and;
 - vi. the right controls and governance around digital data.

SCIENCE COUNCIL OUTPUTS

9. The final reports and recommendations from the Working Groups on [Science Capability and Assurance](#)⁴, chaired by Professor Laura Green, and on [Risk and Uncertainty](#)⁵, chaired by Professor Mark Woolhouse, were finalised by the Council at its plenary meeting on 27th June 2018.

² <https://www.food.gov.uk/about-us/fsa-board-meeting-march-2019>

³ <https://science-council.food.gov.uk/science-council-subgroups/science-council-working-group-on-data-usage-and-digital-technology>

⁴ <https://science-council.food.gov.uk/sites/default/files/fsascwg1finalreport.pdf>

⁵ <https://science-council.food.gov.uk/sites/default/files/fsascouncilwg2riskuncertaintyfinrep.pdf>

10. Working Group 1 & 2 recommendations and an initial FSA implementation response were endorsed by the FSA Board at their [December 2018](#) meeting.⁶

FUTURE WORK

11. In May, after the period covered by this report, the recommendations of Working Group 3 were [published](#)⁷ and then accepted on [19th June 2019](#)⁸ by the FSA Board. Progress on implementing these recommendations will be reviewed after 12 months at the summer 2020 plenary meeting of the Science Council.
12. The Science Council agreed it will provide strategic advice and assurance to the FSA on its growing programme of works on food hypersensitivity over the next reporting period.
13. The Science Council will also be working to strengthen its relationship with the FSA SACs, especially the new Advisory Committee for Social Sciences; Whilst further building new relationships with similar independent science advisory groups advising Government to share experiences, improve communications and awareness of emerging issues.

ANNUAL COSTS

14. The operation of the Science Council is funded by the FSA. For the financial year 1 April 2018 to 31 March 2019 - covering members' expenses and fees and administrative costs for meetings – total costs were £67,493. Information on fee rates and expenses guidance are included in the Science Council Code of Practice.⁹

⁶ <https://www.food.gov.uk/about-us/fsa-board-meeting-december-2018>

⁷ <https://science-council.food.gov.uk/sites/default/files/fsascwg3finalreport.pdf>

⁸ <https://www.food.gov.uk/other/fsa-board-meeting-june-2019>

⁹ <https://science-council.food.gov.uk/sites/default/files/science-council-code-of-practice.pdf>

ANNEX 1: SCIENCE COUNCIL SELF-ASSESSMENT AGAINST THE GOOD PRACTICE GUIDELINES

Twenty-nine principles of good practice have been developed by the SACs that advise the FSA. These were reviewed and updated in 2012.¹⁰ Different committees have different duties and discharge those duties in different ways. Therefore, not all of the principles set out below will be applicable to all of the committees, all of the time. This list of principles is considered by each committee annually as part of the preparation of its Annual report, and is attached as an Annex to it.

RESPONSE FOR THE FSA SCIENCE COUNCIL FOR THE PERIOD OF ITS SECOND ANNUAL REPORT (FROM 1 APRIL 2018 TO 31 MARCH 2019)

1. The role of the Science Council is to provide high-level, expert strategic insight, challenge and advice to the FSA's Board and executive of the FSA and Chief Scientific Adviser on the FSA's use of science to deliver FSA objectives. It did not carry out risk assessments or detailed investigations of scientific dossiers on specific risks, products or processes. It did, however, look at how these processes are conducted and make recommendations on good practice. In carrying out its work the Science Council did look at evidence - for example regarding current practices, developments in science and its governance - both from within the FSA and externally, and in doing so, it sought to abide by the principles of good practice developed by the FSA and elsewhere.

Issue	Complies?	NOTES/COMMENTS
<p>Defining the problem and the approach</p> <p>1. The FSA will ensure that issues it asks an SAC to address are clearly defined and take account of stakeholder expectations in discussion with the SAC Secretariat and where necessary the SAC Chair. The SAC Chair will refer back to the FSA if discussion suggests that further iteration and discussion of the task is necessary. Where an SAC proposes to initiate a piece of work the SAC Chair and Secretariat will discuss this with FSA to ensure the definition and rationale for the work and its expected use by the FSA are clear.</p>	Yes	<p>The FSA's Chief Scientific Adviser attends the Science Council meetings and discusses the rationale for the questions with the Council. FSA contribution to Working Groups (such as interviews with staff and contributions to meeting discussions) enables ongoing discussion and iteration as necessary.</p>
<p>Seeking input</p>		

¹⁰ <https://foodgov.sharepoint.com/science/Documents/Good%20Practice%20Guidelines%20for%20SACs%202012.pdf#search=good%20practice%20guidelines>

<p>2. The Secretariat will ensure that stakeholders are consulted at appropriate points in the SAC's considerations. It will consider with the FSA whether and how stakeholder views need to be taken into account in helping to identify the issue and frame the question for the committee.</p>	<p>Yes</p>	<p>Science Council meetings are held in public. Working Groups do not meet in public, but report their work to full meetings in open session. The Science Council publishes notes of Q&A sessions alongside formal minutes. Working Groups consult the FSA SACs as appropriate.</p>
<p>3. Wherever possible, SAC discussions should be held in public.</p>	<p>Yes</p>	<p>Science Council meetings are held in public. Working Groups do not meet in public, but report their work to full meetings in open session.</p>
<p>4. The scope of literature searches made on behalf of the SAC will be clearly set out.</p>	<p>N/A</p>	<p>The Council's Working Group 3 commissioned a desk study to synthesise information and insights from existing work on global food systems. This project includes an element of literature scanning and the scope and the approach for this will be clearly set out in the Working Group final report and within the commissioned report. The commissioned Rand report was published on the Science Council website during this reporting period¹¹.</p>
<p>5. Steps will be taken to ensure that all available and relevant scientific evidence is rigorously considered by the committee, including consulting external/additional scientific experts who may know of relevant unpublished or pre-publication data.</p>	<p>Yes</p>	<p>The Science Council does not routinely consider detailed primary scientific documents but it does examine rigorously the evidence that is presented. Members are expected to bring relevant additional materials to the attention of the Council.</p>
<p>6. Data from stakeholders will be considered and weighted according to quality by the SAC.</p>	<p>Yes</p>	<p>The Science Council weighed all relevant information according to quality, irrespective of its source.</p>
<p>7. Consideration by the Secretariat and the Chair (and where appropriate the whole SAC) will be given to whether expertise in other disciplines will be needed.</p>	<p>Yes</p>	<p>The Science Council kept this under review and it has the option to co-opt or invite external input where necessary, through mechanisms such as the FSA's Register of Specialists.</p>

¹¹ <https://science-council.food.gov.uk/sites/default/files/fsafoodsystoresightfinrep.pdf>

<p>8. Consideration will be given by the Secretariat or by the SAC, in discussion with the FSA, as to whether other SACs need to be consulted.</p>	<p>Yes</p>	<p>Working Groups consult the FSA Scientific Advisory Committees as appropriate. The Council is developing its engagement with the SACs and, as well as the Council Chair attending the regular workshops of SAC Chairs, the Council is trialling a pairing system where a Member of the Council is paired with a SAC, for regular update and cross-engagement.</p>
<p>Validation</p> <p>9. Study design, methods of measurement and the way that analysis of data has been carried out will be assessed by the SAC.</p> <p>10. Data will be assessed by the committee in accordance with the relevant principles of good practice, e.g. qualitative social science data will be assessed with reference to guidance from the Government’s Chief Social Researcher¹².</p> <p>11. Formal statistical analyses will be included wherever appropriate. To support this, each SAC will have access to advice on quantitative analysis and modelling as needed.</p> <p>12. When considering what evidence needs to be collected for assessment, the following points will be considered:</p> <ul style="list-style-type: none"> • the potential for the need for different data for different parts of the UK or the relevance to the UK situation for any data originating outside the UK; and • whether stakeholders can provide unpublished data. <p>13. The list of references will make it clear which references have been subject to external peer review, and which have been peer reviewed through evaluation by the Committee, and if relevant, any that have not been peer reviewed.</p>	<p>9 to 13: Science Council complies, to the extent these criteria apply to its work.</p>	<p>9 to 13: The Science Council does not generally consider the type of detailed reviews and analyses of scientific data that are the primary focus of these criteria. However, it does advise on best practice, governance and assurance of the FSA’s use of science.</p>

¹² Quality in Qualitative Evaluation: A Framework for assessing research evidence -

http://webarchive.nationalarchives.gov.uk/20140402165901/http://www.civilservice.gov.uk/wp-content/uploads/2011/09/a_quality_framework_tcm6-7314.pdf; The Magenta book - http://www.hm-treasury.gov.uk/d/magenta_book_combined.pdf

Issue	Complies?	NOTES/COMMENTS
<p>Uncertainty</p> <p>14. When reporting outcomes, SACs will make explicit the level and type of uncertainty (both limitations on the quality of the available data and lack of knowledge) associated with their advice.</p> <p>15. Any assumptions made by the SAC will be clearly spelled out, and, in reviews, previous assumptions will be challenged.</p> <p>16. Data gaps will be identified and their impact on uncertainty assessed by the SAC.</p> <p>17. An indication will be given by the SAC about whether the evidence base is changing or static, and if appropriate, how developments in the evidence base might affect key assumptions and conclusions.</p>	<p>14 to 17: Science Council complies to the extent these criteria apply to its work</p>	<p>14 to 17: The Science Council does not generally consider the type of detailed reviews and analyses of scientific data that are the primary focus of these criteria. However, it does advise on best practice, governance and assurance of the FSA's use of science. For example, its Working Group 2 developed high-level principles for establishing and communicating risk and uncertainty.</p>

<p>Drawing conclusions</p>		
<p>18. The SAC will be broad-minded, acknowledging where conflicting views exist and considering whether alternative interpretations fit the same evidence.</p>	<p>18 to 22: Science Council complies to the extent these criteria apply to its work.</p>	<p>This is implicit in the Science Council's role to provide high-level, expert strategic insight, challenge and advice to the FSA's Board and executive and Chief Scientific Adviser on the FSA's use of science to deliver FSA objectives</p>

<p>19. Where both risks and benefits have been considered, the committee will address each with the same rigour, as far as possible; it will make clear the degree of rigour and uncertainty, and any important constraints, in reporting its conclusions.</p>		<p>The Science Council did not carry out assessments of risks and/or benefits as such. It would consider the advantages and disadvantages of different options in making its recommendations.</p>
<p>20. SAC decisions will include an explanation of where differences of opinion have arisen during discussions, specifically where there are unresolved issues, and why conclusions have been reached. If it is not possible to reach a consensus, a minority report may be appended to the main report, setting out the differences in interpretation and conclusions, and the reasons for these, and the names of those supporting the minority report.</p>		<p>This is covered explicitly in the Science Council Code of Practice.</p>
<p>21. The SAC's interpretation of results, recommended actions or advice will be consistent with the quantitative and/or qualitative evidence and the degree of uncertainty associated with it.</p>		<p>Science Council aimed to follow this principle.</p>
<p>22. SACs will make recommendations about general issues that may have relevance for other committees.</p>		<p>This is implicit in the Science Council's role to provide high-level, expert strategic insight, challenge and advice to the FSA's Chief Scientific Adviser and to the Board and executive of the FSA on the FSA's use of science to deliver FSA objectives</p>

Issue	Complies?	NOTES/COMMENTS
Communicating committees' conclusions		
23. Conclusions will be expressed by the SAC in clear, simple terms and use the minimum caveats consistent with accuracy.	23 to 29: Science Council complies to the extent these criteria apply to its work. See comments.	Concise reporting and articulation for instance supported by the review of Working Group 2 recommendations by the ACSS
24. It will be made clear by the SAC where assessments have been based on the work of other bodies and where the SAC has started afresh, and there will be a clear statement of how the current conclusions compare with previous assessments.		Science Council meeting papers and minutes made clear the origin of issues under discussion. It put its conclusions in the context of other work where appropriate.
25. The conclusions will be supported by a statement about their robustness and the extent to which judgement has had to be used.		The Science Council made clear the basis for its recommendations and any assumptions and caveats.
26. As standard practice, the committee secretariat will publish a full set of references (including the data used as the basis for risk assessment and other committee opinions) at as early a stage as possible to support openness and transparency of decision-making. Where this is not possible, reasons will be clearly set out, explained and a commitment made to future publication wherever possible.		The Science Council did not carry out risk assessment or assessment of detailed scientific data of the type that is the focus for this criterion.
27. The amount of material withheld by the SAC or FSA as being confidential will be kept to a minimum. Where it is not possible to release material, the reasons will be clearly set out, explained and a commitment made to future publication wherever possible.		The Science Council followed this criterion.
28. Where proposals or papers being considered by the FSA Board rest on scientific evidence produced by a SAC, the Chair of the SAC (or a nominated expert member) will be invited to the table at the Open Board meetings at which the paper is discussed. To maintain appropriate separation of risk assessment and risk management processes, the role of the Chairs will be limited to providing an independent view and assurance on how their committee's advice has been reflected in the relevant policy proposals, and to answer Board Members' questions on the science. The Chairs may also, where appropriate, be invited to provide factual briefing to Board members about particular issues within their committees' remits, in advance of discussion at open Board meetings.		This did not apply directly, since the Science Council did not carry out risk assessments or detailed reviews of scientific evidence. The Science Council Chair provided an annual report on the Council's work to the FSA Board in March 2019 . The Chair also attended the Dec 2018 FSA Board meeting for handover of the reports from WG1 and 2 on science capability and establishing risk respectively.

<p>29. The SAC will seek (and FSA will provide) timely feedback on actions taken (or not taken) in response to the SAC's advice, and the rationale for these.</p>		<p>The Council asks for feedback and reports from FSA on progress towards implementation of the Council's recommendations. For the period covered by this report FSA Executive has provided feedback at the 27th June 2019 meeting of the Science Council on implementation of the recommendations from WG1 and WG2.</p>
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