EDITORIAL

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Editorial: Review of authorship principles

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Introduction

When the European Food Safety Authority (EFSA) was established in 2002, a new model for the generation of scientific advice was created that utilised expertise available in Member State organisations and placed EFSA at the hub of European food safety networks. With the challenges of the bovine spongiform encephalopathy (BSE) crisis still fresh in mind, the new model placed responsibility for providing scientific advice to risk managers in the hands of EFSA and obligated it to act independently of either national or private sector interests. It was evident from the outset that the model was predicated on the ready supply of expertise and data from across the Member States that the fledgling EFSA could tap into. The model has proved its value in the decade that has followed and more than 5,000 separate pieces of scientific advice have been issued that have formed the basis of many measures taken by the European Commission and the Member States to protect consumers. As such, EFSA's advice has proved influential not only in Europe but also worldwide, and its unique structure has aroused international interest.

Current practice

Like any scientific paper, the authorship of EFSA's scientific advice has significant implications for scientists in terms of (i) receiving due credit for the work undertaken, (ii) career aspirations, (iii) accountability for the accuracy and integrity of the work and (iv) legal responsibility. Since its inception, EFSA has displayed a rather conservative approach to authorship. Under EFSA's Founding Regulation,[1] its Scientific Panels and Scientific Committee are mandated with 'providing' its scientific opinions; as a result, corporate authorship has been ascribed only to these groups, and not explicitly to the individuals within them, nor to the experts and staff responsible for providing drafts. Under current practices, EFSA acknowledges the contribution of individual Panel, Working Group and staff members but does not attribute full authorship to them even when they have made substantial contributions to the published work.

[1] Regulation (EC) 178/2002.

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Drivers for change

EFSA has decided to review its current authorship model for a number of reasons. First and foremost, EFSA has embarked on a programme of further opening its scientific activities to scrutiny: its approach to openness and transparency[2] has been published and subjected to public consultation. Moreover, EFSA Strategy 2020[3] makes clear its commitment to the principles of open risk assessment. Clear authorship of its scientific outputs is a small but important consideration: it is essential that all stakeholders can identify the various actors involved and understand their roles in constructing a piece of scientific advice.

Secondly, it is important to consider the wider evolving economic and academic context in which both national and European food safety bodies operate. Any reduction in the resources of national food safety authorities has implications for the expertise at EFSA's disposal. In parallel, EFSA's own resources have plateaued while the range and complexity of its mandates have continued to increase. Against this backdrop, the public institutions, universities and scientific bodies in Member States that lend their experts to EFSA need to see the fruits of their contributions recorded and credited effectively in the scientific literature, thereby raising the scientific reputation of the experts and their affiliations. The same is true for ensuring that EFSA continues to attract high-quality scientific staff whose careers need to be built and maintained and their work documented during their employment at the agency.

In addition to these main drivers, the current authorship model also hinders the ability of individual authors of EFSA scientific outputs to share their work in the relevant social media, an increasingly important consideration for today's scientists.

Revised framework

As any working scientist will attest, allocation of authorship can sometimes be contentious and disputes sometimes pop up. Guidelines are available from organisations such as the International Committee of Medical Journal Editors (ICMJE; REF) and the Commission on Publication Ethics (COPE; REF), and systems are evolving to define the contribution and roles of the various actors in the research process. The generation of EFSA scientific advice is somewhat distinct from that of research at universities and research institutes, yet many principles in the drafting, data analysis, review, etc. are shared.

To reflect the collaborative nature of its work, EFSA has adopted, via endorsement by its Scientific Committee, a framework for attributing authorship based on the following roles (Table 1).

Table 1: Classification of roles in the generation of a scientific output

Role definition	Scope
Mandate	Framing of mandate, defining terms of reference
Methodology	Development or design of assessment methodology; definition of the methodology to be applied to a specific assessment; effective application of the methodology; creation of models
Evidence gathering	Data collection and data management
Computation	Programming, software development
Analysis	Application of statistical techniques to analyse data/information
Output preparation	Preparation/compilation of the draft scientific output
Review	Critical review, commentary or revision
Data presentation	Data visualisation, description, summary
Adoption/endorsement	Approval of a scientific output

While this framework is used to assess eligibility for authorship, the decision on whom to attribute authorship is based on the following criteria:

[2] https://www.efsa.europa.eu/en/topics/topic/openefsa
[3] https://www.efsa.europa.eu/en/corporate/pub/strategy2020

a) Significant scientific contribution to the work[4]
b) Role in drafting or critically appraising the work
c) Accountability for accuracy and integrity of the work
d) Approval of final version

Any contributor who fulfils *at least two of the above four criteria* can be listed as author, while all other contributors are included in the acknowledgements. Decisions on authorship always require a judgement call and that is taken by the Head of Unit responsible for the scientific output in question with referral to the Head of Department for arbitration if needed.

Order of citation

EFSA will list corporate (Scientific Panel, Scientific Committee or EFSA) and individual authors on the recto (front) page of a scientific output in the following order[5]:

1) Name of Scientific Panel, Scientific Committee or EFSA (lead author)
2) Chair of Panel or Scientific Committee
3) Panel or Scientific Committee members in alphabetical order
4) Working Group members in alphabetical order, excluding Chair
5) Staff members in alphabetical order
6) Trainees in alphabetical order
7) Chair of Working Group

Conflicting interests, minority opinions, right to refuse authorship

A Panel member who has declared a conflicting interest cannot be attributed authorship and the existence of a conflicting interest will be indicated in the verso (second) page of the output. The list of all Panel members will continue to be provided on the verso page. Similarly, minority opinions will continue to be recorded in the verso page of the output: a Panel member who expresses a minority opinion can still be listed as an author. All intended authors other than Panel members have the right to refuse authorship.

Conclusion

We trust that this review of EFSA's practices in this area will make for a better-documented, reliable and more transparent framework for all those who contribute to EFSA's scientific assessments. It will be supplemented by the introduction of author identifiers (ORCIDs) that will help to provide consistency in how the EFSA Journal cites authors as well as unambiguous identification of publication records.

[4] Or significant part thereof.
[5] Where applicable: EFSA produces a diverse range of scientific outputs, some of which do not follow the standard Scientific Panel workflow model. This is particularly true in the field of pesticides (Reasoned Opinions and Conclusions), the workflow for which involves Member States and several of EFSA's scientific units. These outputs will in future include extensive authorship lists that reflect those particular workflows.