

# *EHP* Author Guidelines

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Preparing and submitting your article to  
*Environmental Health Perspectives*



*Environmental Health Perspectives (EHP)* is a monthly journal of environmental health research and news published with support from the National Institute of Environmental Health Sciences.

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Visit EHP's [Author Hub](#) to view the author guidelines and more online.

This document was last updated on March 30, 2020.

## What *EHP* Publishes

*EHP* publishes a variety of article types. Summaries of each are provided below along with links to more information when applicable. We encourage authors to thoroughly review the requirements for each article type before submitting their manuscript for review.

### [Research Articles](#)

Research articles report original research results that have direct relevance to the relationship between the environment and human health.

### [Commentaries](#)

Commentaries provide perspectives on environmental health topics and offer new solutions for environmental health problems. Commentaries that stem from discussions at workshops and other forums should acknowledge the meeting content and its purpose but should not be presented as a narrative summary of the meeting. This article type is not used to discuss individual articles published by *EHP* or elsewhere.

### [Reviews](#)

Reviews collect, summarize, and evaluate previously published information and findings specific to a defined environmental health issue. *EHP* will consider a variety of review formats including state-of-the-science reviews (also called scoping reviews), systematic reviews, and meta-analyses. However, the journal does not publish narrative reviews or reviews based on meetings (meeting summaries or reports).

### [Consensus Statements](#)

Consensus statements succinctly state the conclusions or recommendations of an organized group of experts based on current scientific evidence and other relevant information related to an environmental health topic. Contact the Editor-in-Chief to propose a consensus statement.

### [Editorials](#)

Editorials are published only by invitation from the Editor-in-Chief. *EHP* editorials comment on journal practices and policies, and on topics relevant to the environmental health community.

### [Errata](#)

Errata are published to correct errors in a scientific article or news story that are identified after publication. [Notify \*EHP\*](#) of your intention to submit an erratum prior to submission.

### [Retractions](#)

Retractions are published at the discretion of the *EHP* editors according to guidelines from the [Committee on Publication Ethics \(COPE\)](#). [Contact \*EHP\*](#) for inquiries regarding retractions.

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### In Memoriam

*EHP* publishes obituaries that recognize individuals within the environmental health sciences. [Contact \*EHP\*](#) to request permission to submit an obituary and for guidance on content and length.

### News

The News section includes feature-length articles on current environmental health topics, brief summaries of *EHP* research content, and [podcasts](#) related to *EHP* articles. News articles are written by freelance science writers. *EHP* does not accept unsolicited News manuscripts.

## Publication Ethics

As a [Committee on Publication Ethics \(COPE\)](#) member, we follow COPE's guidelines for investigating and addressing allegations or suspicions of misconduct.

### Competing Interests

#### Authors

Authors must declare all actual or potential competing financial interests that might reasonably be perceived as relevant. Disclosure of competing financial interests does not imply that the information in the article is questionable or that conclusions are biased. Decisions to publish or reject an article will not be based solely on a declaration of a competing financial interest.

For each manuscript, the corresponding author must submit a [Competing Financial Interests Declaration \(CFID\) form](#) on behalf of all authors.

#### *What Qualifies as a Competing Financial Interest?*

Authors must disclose all actual or potential competing financial interests occurring within the last three years, including but not limited to:

- Grant support
- Relevant employment (past, present, or firm offer of future)
- Patents (pending or applied)
- Payment for expert witness or testimony
- Personal financial interests by the author(s), immediate family members, or institutional affiliations that may gain or lose financially through publication of the article
- Forms of compensation, including travel funding, consultancies, board positions, patent and royalty arrangements, stock shares, or bonds

Diversified mutual funds or investment trusts do not constitute a competing financial interest.

As a condition of review and publication, authors must further certify that their freedom to design, conduct, interpret, and publish research is not compromised by any controlling sponsor. Authors should carefully examine the wording of documents such as grants and contracts to determine whether a sponsor has the authority to control the content or conclusions of their manuscript or its publication.

#### *Manuscript CFI Declaration*

Each manuscript must include a “Competing Financial Interests” statement on the title page that covers all authors and is consistent with the information contained in the CFID form.

If no competing financial interests exist, the “Competing Financial Interests” section should include the following statement:

*The authors declare they have no actual or potential competing financial interests.*

If only some authors declare competing financial interests, detail those interests and then include the following statement:

*The other authors declare they have no actual or potential competing financial interests.*

### *Misreporting or Failure to Report Competing Financial Interests*

EHP relies on the integrity of all authors to accurately disclose competing financial interests. Authors can expect scrutiny of their statements by the editors, reviewers, and readership.

### Competing Interests in Peer Review

Editors and reviewers must disclose to any actual or potential competing interests, both financial and nonfinancial, that could reasonably be perceived as relevant to the manuscript under review. Competing interests include recent (within 3 years) or current mentor–mentee relationships, appointments in the same department or organization, personal or familial relationships, service on advisory boards that oversee the research under review, close collaborations, or membership in organizations that hold ideological views that are contradictory to the theme or topic under review. Authorship on a closely related manuscript that is in preparation, under consideration, or under review is also a potential conflict.

Potential competing interests must be disclosed, but do not automatically disqualify a potential reviewer. Consult [COPE guidelines](#) for more information about competing interests and other ethical issues.



### Other Ethical Issues

#### Plagiarism

Previously published text or data must be attributed to the original source and may require permission from the original publisher, even if previous publication included the same authors. As such, all papers submitted to EHP are screened for plagiarism and duplicate publication before review using online plagiarism detection services.

#### Research Involving Animals

EHP requires assurances both during submission and in the “Methods” section of the manuscript that the protocol was approved by an institutional animal care and use committee.

### Protection of Human Subjects

Research involving human subjects must have been conducted according to the [Common Rule](#), and such studies must be approved by an appropriate institutional review board and comply with all relevant national, state, and local regulations. For research conducted outside the United States, authors must have performed the research in accordance with the principles of the [Declaration of Helsinki](#).

Approval and compliance with research requirements regarding human subjects must be noted, and information regarding informed consent procedures must be described in the “Methods” section of manuscripts concerning human subjects research.

### Authorship

*EHP* expects that each author has made a substantial contribution to the work. All authors also must be accountable for their own contributions and must have confidence in the integrity of the contributions of their coauthors. The corresponding author must confirm that each author agrees with the author lineup, the order of the names, and the content of the manuscript. Changes to the author lineup after submission (i.e., to add or remove an author, or to change the order of authors) require written approval from each author.

### Originality of Submissions

Contributions submitted to *EHP* must be original works of the authors and must not have been previously published in print or online or simultaneously submitted to another publication. Previously published material (e.g., figures, tables) may be included with the proper attribution and permission.

The following content may be considered for publication by *EHP* if fully disclosed by the authors:

- Manuscripts based on dissertations that have been published in their entirety by a university in partial fulfillment of a degree
- Manuscripts that include data presented at a scientific meeting but not published in full or under review for publication elsewhere
- Manuscripts deposited in a preprint service such as [bioRxiv](#)

It is the authors’ responsibility to make a full statement to the Editor-in-Chief concerning materials in a manuscript that might be considered redundant or duplicative.

### If You Suspect Misconduct

Suspicious of misconduct should be reported to [ehponline@niehs.nih.gov](mailto:ehponline@niehs.nih.gov).

*EHP* will report credible allegations or evidence of misconduct to the responsible authors’ host institution(s) for investigation. Confirmed cases of misconduct will result in a three-year ban on contributions to *EHP* and manuscript retraction as appropriate.

## Preparing Your Manuscript

### General Guidelines

A few requirements apply to all manuscript types; those requirements are listed below. Consult separate sections for more detailed information on preparing specific article types.

#### General Guidance

Manuscripts should be as concise as possible without sacrificing clarity or limiting reproducibility. When appropriate, use active voice to avoid ambiguity. *EHP* covers all disciplines engaged in the broad field of environmental health science. Therefore, we ask authors to avoid jargon and define any terms that may not be universally recognized or consistently used.

#### Line Numbering

Enable continuous line numbering on all manuscripts (i.e., line numbers should NOT restart at 1 on each page). Manuscripts received without continuous line numbers will be returned to the author for revision before peer review.

#### Title Page

Include the following items in the order shown, beginning on the first page of the manuscript:

- Manuscript title
- Names of the authors, with the first name provided first
- Affiliations of all authors (department, institution, city, state/province, and country)
- Complete contact information for the corresponding author (name, email address, and postal address)
- [Declaration of competing financial interests \(CFI\)](#)

#### Symbols and Equations

Use MathType or Word's Equation Builder tool to generate mathematical expressions and equations, as well as any equation variables used within the text itself.

- Place simple expressions and equations in line. Present in-line equations on one line, and do not stack fractions. Example:

Average air concentration ( $C_{air}$ ) was derived using  $C_{air} = M_{pas}/(R_{PUF-PAS} \times t)$ .



- Place complex expressions and equations, including those with stacked fractions, on a separate line. Equations or expressions that are referred to later in the text should be numbered sequentially, with each number indicated in brackets to the right of the equation. Example

$$CD = \left( \frac{100 \times C_B^Y}{E_{50}^Y + C_B^Y} \right) \quad [1]$$

- Define all variables, including superscripts and subscripts.
- Use bold text to represent vectors.

#### Footnotes

Do not use footnotes in the main manuscript text.

## Reviews

Review articles present, contrast, and combine information from previously-published research to address a specific question or issue related to environmental health. Although *EHP* does not publish narrative reviews or reviews based on meetings (meeting summaries or reports), we may consider a variety of review formats:

State-of-the-science review (also called scoping review): examination of the extent, range, and nature of evidence on a well-defined environmental health topic or question.

- Provides an overview of the current knowledge base and identifies potential gaps and priorities for future research.
- May include evidence maps to display study characteristics and results.

Systematic review: comprehensive collection, critical evaluation, and synthesis of previous studies to address predetermined research question(s).

- Specific requirements vary depending on the goals of the review. Systematic reviews performed to inform regulatory decision-making processes generally require an a priori protocol and formal study quality assessment.
- Systematic reviews may include quantitative meta-analyses depending on the goal(s) of the review and the suitability and extent of the available data.

Regardless of review type, authors are required to integrate and critically analyze information from previous research. They should identify information gaps, make recommendations for future research, and draw conclusions based on the stated purpose of the review.

Systematic methods, including comprehensive and clearly defined search strategies and study eligibility criteria, must be used to identify the relevant literature and current state of knowledge in an unbiased and comprehensive manner.

Note: Before conducting a review, authors should consult appropriate guidelines, such as [PRISMA](#) (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) and the [EQUATOR network](#), for guidance on planning, executing, and reporting of systematic reviews and meta-analyses, and scoping reviews.

### Suggested Length

The suggested review length is < 10,000 words, excluding the text in the abstract, [references](#), [tables](#), [figure](#) captions, acknowledgments, and [Supplemental Material](#).

### Title

The title should consist of  $\leq 300$  characters and state the subject of the review including exposures, outcomes, and evidence types (e.g., epidemiological, experimental animals, mechanistic, etc.) assessed. The type of review (e.g., state-of-the science, systematic review) should also be stated, when appropriate. The title should not be a declarative statement of the review results or conclusions.

### Abstract

Authors should include a structured abstract of  $\leq 300$  words using the following headings: Background, Objectives, Methods, Results, Discussion. The abstract should not include references or any information that does not appear in the text of the manuscript.

We recommend that authors summarize the main takeaways from the review such as key characteristics of included studies, challenges and limitations of the current knowledge base and review approach, and recommendations to address potential knowledge gaps.

### Main Text Structure

Sections should appear in the following order:

- Introduction
- Methods
- Results
- Discussion
- [References](#)
- [Tables](#)
- [Figure captions](#)

Concise subheadings ( $\leq 8$  words each) may be used to designate major topics within each of these sections. Subheadings should be used to organize information but should not summarize or interpret results or conclusions.

### Introduction

Define the question or problem and provide enough background to allow the reader to understand the importance of the review. Provide a rationale based on previous research and relevant reviews, including how the current review advances upon previously published reviews. Provide specific aims of the review with reference to study questions, including relevant population(s) and exposure(s).

## Methods

For all types of reviews, provide detailed descriptions and rationales for processes used to identify the relevant scientific literature, including but not limited to:

- **Protocols:** Describe the planning stage of the systematic review process including links to protocols deposited in online databases (e.g., [PROSPERO](#)) as appropriate.
- **Search strategy:** Describe the full electronic search strategy, databases searched, and date of final search, such that the search could be fully replicated by other researchers.
- **Study eligibility criteria:** Provide a detailed description of and rationale for all study inclusion/exclusion criteria, including population(s), exposure(s), evidence stream(s) (e.g., human observational, experimental animal, in vitro, etc.), date and language limitations, etc.
- **Study selection:** Describe the formal screening process used to select studies, such as number of screeners, conflict resolution, and any computer-assisted techniques (e.g., machine learning, automated text recognition).
- **Data extraction:** Indicate the data that were extracted and how meta-data and results were collected from records.
- **Study quality:** Describe quality assessments of individual studies, lines of evidence, or outcomes (e.g., internal validity, risk of bias) as appropriate. Discuss the strengths/limitations of individual studies, as well as the body of evidence and any knowledge gaps.
- **Meta-analyses (if applicable):** Provide all details of statistical analyses used to quantitatively synthesize data across studies, including summary measures, consistency measures, and subgroup analyses.

## Results

Provide the results of study screening, summaries of extracted data, and any synthesis measures across studies using tables and figures that allow readers to draw their own conclusions rather than solely being led by the authors' narrative.

- **Study selection:** Provide numbers of studies screened and included in the review, along with reasons for exclusion at each stage. Flow diagrams (see [PRISMA](#)) are generally effective and may be included as Supplemental Material.
- **Summary of findings:** Present extracted data, justifications for data selection or exclusion, and any individual study quality ratings along with citations for each study in summary tables.
  - For broad scoping reviews, online interactive visualizations may be used to complement tables and figures within the main body of the manuscript.
  - For meta-analyses, include confidence intervals and consistency measures along with results of any additional analyses. Individual estimates used to derive summary estimates should also be reported.

### Discussion

Summarize the main findings for primary exposures or outcomes and put them into context with previous related research and reviews. Discuss any limitations of the body of evidence at the exposure and/or outcome level as well as any limitations of the review process.

Conclude with a brief overview of the main objectives and results of the review, including summaries of the state of the knowledge and potential knowledge gaps.

### Acknowledgments

Include sources of funding for the research (if applicable), such as granting agencies, foundations, private support, etc. Authors may also include (as relevant) specific author contributions, acknowledgment of other contributors, information about data sharing, or names of large cohort groups.

## Research Articles

Research articles report original research results that are relevant to the relationship between the environment and human health. For research articles involving animal subjects, authors must adhere to the [ARRIVE](#) (Animals in Research: Reporting *in Vivo* Experiments) guidelines for reporting animal research ([Kilkenny et al. 2010](#); [Tilson and Schroeder 2013](#)). For observational research studies, *EHP* strongly recommends that authors consult an appropriate version of the [STROBE](#) (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines.

## Suggested Length

Suggested length is < 7,000 words, excluding the text in the abstract, [references](#), [tables](#), [figure](#) captions, acknowledgments, and [Supplemental Material](#).

## Title

The title should consist of ≤ 300 characters and should state the subject of the paper and include relevant information to help potential readers determine whether the paper might be related to their interests or needs. Relevant information includes the exposure(s) and outcome(s) assessed, and whether the study was observational or experimental. For epidemiological studies, consider key characteristics of the study population (e.g., gender, age, location, cohort) and design. For experimental studies, indicate the experimental model, including species or *in vitro* system(s). The title should not be a declarative statement of the study results or conclusions.

## Abstract

Include a structured abstract of ≤ 300 words using the following headings: Background, Objectives, Methods, Results, Discussion.

The abstract should not include references or any information that does not appear in the text of the manuscript. We recommend that authors indicate study names or sources of data that are integral to the study. Summarize major findings in a balanced manner, rather than focusing only on findings that support the study hypothesis.

## Main Text Structure

Sections should appear in the following order:

- Introduction
- Methods
- Results
- Discussion
- [References](#)
- [Tables](#)
- [Figure](#) captions

Concise subheadings (≤ 8 words each) may be used to designate major topics within each of these sections. Subheadings should be used to organize information, but should not summarize or interpret results or conclusions.

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### Introduction

Provide background information to support the motivation for the study and state the study objectives or hypotheses. Specifically,

- Provide context for the study, including information on the exposures and outcomes and why they are relevant to environmental health.
- Briefly review the literature to summarize current knowledge.
  - Present a balanced review of the literature, and acknowledge inconsistencies, rather than noting only findings that support the present study hypothesis.
  - For each cited study, indicate whether the research was observational or experimental, and note key characteristics of study populations or experimental models.
- Identify knowledge gaps addressed by the current study.
- Provide a clear description of the study questions/hypotheses, aims, or objectives, and, if appropriate, an overview of the approach used to address them.

Do not summarize study results or conclusions in the Introduction.

## Methods

*EHP* requires complete methodological transparency—describe methods in enough detail to ensure that the study or analysis could be repeated by other researchers in the same field (at least in theory), and that the methods can be understood and interpreted by most *EHP* readers. Specifically,

- Thoroughly describe the methods used to generate all results reported in the manuscript, including (as appropriate):

Experimental studies	Observational studies
<ul style="list-style-type: none"> <li>• Study design and experimental model</li> <li>• Assay methods and conditions</li> <li>• Justification of exposure and/or doses</li> <li>• Number of biological and/or technical replicates</li> <li>• Statistical analyses</li> <li>• Accession numbers (or “rs” numbers for SNPs)</li> <li>• All criteria used to interpret results</li> <li>• Key assumptions and limitations of the methods</li> <li>• Model numbers of all equipment used</li> <li>• Company name, catalog number, and lot numbers for all reagents used</li> <li>• Names/version numbers for data analysis software packages or macros</li> <li>• All relevant details listed in the latest version of the <a href="#">ARRIVE</a> guidelines</li> <li>• Indication that the protocol was approved by an institutional animal care and use committee</li> </ul>	<ul style="list-style-type: none"> <li>• Study design and population</li> <li>• Methods to measure or estimate exposures and covariates</li> <li>• Outcome definitions and ascertainment or measurement</li> <li>• Assay methods and conditions</li> <li>• Statistical analyses, including               <ul style="list-style-type: none"> <li>▪ Statistical models and assumptions (with equations as appropriate)</li> <li>▪ Methods/rationale for selecting model covariates (provide directed acyclic graphs as appropriate)</li> <li>▪ Missing data methods</li> <li>▪ Methods for assessing linearity/non-linearity</li> <li>▪ Cutpoints for categorical variables</li> </ul> </li> <li>• Sensitivity and secondary analyses</li> <li>• All criteria used to interpret results</li> <li>• Key assumptions and limitations of the methods</li> <li>• Names/version numbers for data analysis software packages or macros</li> <li>• Information about institutional review board approval</li> <li>• Describe informed consent protocols or explain why informed consent was not required</li> </ul>



- If referring to previous publications for methods details, include a brief description of the approach, key assumptions and limitations, and any deviations from previously described methods.
- Do not report results in the Methods section unless relevant to explain the rationale for the approaches listed.

## Results

All results on which study conclusions or inferences are based (in whole or in part), including null findings and results of secondary or sensitivity analyses, must be reported in full in the main text or in supplemental tables or figures (see "[Supplemental Material](#)" for a list of materials that may be presented in this section).

The "Results" section may be organized using subheadings that describe the nature of the results, but do not use declarative statements indicating your conclusions about the findings.

- Provide a clear and concise description of all findings without extrapolating beyond the study results. Interpretations of the findings should be reserved for the "Discussion" section.
- Do not describe methods for the first time in the "Results" section.
- Do not limit results to statistically significant results or selected findings that support the study hypothesis.
- In general, *EHP* recommends that authors avoid using statistical significance testing as the sole or primary criterion for interpreting their findings, but if significance testing or p-values are used, report numeric p-values (rounded to 1-2 significant digits) for all results instead of indicating whether results are above or below a specific p-value only.
- Clearly indicate the number of observations for each analysis or experiment. Numbers should reflect observations included in each analysis after accounting for missing data.
- Include an appropriate measure of precision or variation (e.g., standard errors, 95% confidence intervals) with all summary estimates and estimates of effect.
- For observational studies, include a table or tables summarizing relevant population characteristics, including all covariates included in primary or secondary models. Indicate numbers of observations with missing data for all covariates. Provide detailed information about exposure distributions, including minimum and maximum values, percentiles, and numbers of samples above/below assay limits of detection or quantification.
- Although *EHP* encourages the use of supplemental tables or figures for secondary findings (see "[Supplemental Material](#)" for details), present primary results in the main text. This includes results that are mentioned repeatedly, are related to the primary study aims, or are mentioned in the abstract or manuscript conclusions.
- Provide tables with corresponding numeric data for all figures (in the main text or supplemental material, as appropriate) or include numeric data within figures (e.g., as forest plots).

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## Discussion

Begin with a *brief* overview of the main study findings, without repeating all results in detail.

- Provide a review of the relevant literature and other information needed to put the study findings into context.
- Provide a complete and balanced view of previous research, including findings that are inconsistent with the hypothesis, results, or conclusions of the present study.
- Describe sources in sufficient detail to ensure that readers can assess the quality and extent of the contribution, including:
  - study type or design
  - sample size
  - population or experimental model
  - specific exposures and outcomes
- Provide a frank discussion of study limitations.
- End with a summary of the key findings and their implications for the study question/hypothesis, future research, and policy, as appropriate.
- Do not describe methods or results for the first time in the "Discussion" section.

## Acknowledgments

Include sources of funding for the research (if applicable), such as granting agencies, foundations, private support, etc. Authors may also include (as relevant) specific author contributions, acknowledgment of other contributors, information about data sharing, or names of large cohort groups.

## Data Sharing

Information about data sharing protocols, options for accessing data, and links to data repositories may be provided in the "Acknowledgments" section, as noted above. Authors may also provide links to data repositories in the "Methods" or "Results" sections of their manuscripts, as appropriate. Genomics data should be deposited in an acceptable data repository (e.g., [the National Center for Biotechnology Information](#)) and made accessible to readers.

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## Commentaries

Commentaries provide perspectives on environmental health topics or problems. Commentaries that stem from discussions at workshops and other forums should acknowledge the meeting content and its purpose but should not be presented as a narrative summary of the meeting.

*EHP* Commentaries are not used to discuss individual articles published in *EHP* or elsewhere.

### Suggested Length

Suggested length is < 5,000 words, excluding the text in the abstract, [references](#), [tables](#), [figure](#) captions, acknowledgments, and [Supplemental Material](#).

### Title

The title should consist of  $\leq 300$  characters and should state the subject of the paper and include relevant information to help potential readers determine whether the paper might be related to their interests or needs. The title should not be a declarative statement of the authors' opinions or conclusions.

### Abstract

Include a structured abstract of  $\leq 300$  words using the following headings: Background, Objectives, Methods (if relevant), and Discussion. The abstract should not include references or any information that does not appear in the text of the manuscript. We recommend that authors indicate study names or sources of data that are integral to the study. Summarize major findings in a balanced manner, rather than focusing only on findings that support the authors' conclusions or hypotheses.

### Main Text Structure

Sections should appear in the following order:

- Introduction
- Methods (if appropriate)
- Discussion
- [References](#)
- [Tables](#)
- [Figure](#) captions

Concise subheadings ( $\leq 8$  words each) may be used to designate major topics within each of these sections. Subheadings should be used to organize information, but should not summarize or interpret results or conclusions.

### Introduction

Define and state the importance of the problem at hand. Cite relevant literature pertinent to the issue based on an unbiased search of the literature or on expert elicitation. Clearly state the specific aim(s) of the Commentary.

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### Methods

If appropriate, describe methodological details such that the approach can be understood and interpreted by most *EHP* readers.

### Discussion

Provide the authors' perspective(s) on the problem, and discuss data or knowledge gaps, research needs, and recommendations relevant to the problem at hand. Statements and conclusions should be clearly attributed to the authors or supported with appropriate references.

### Acknowledgments

Include sources of funding for the research (if applicable), such as granting agencies, foundations, private support, etc. Authors may also include (as relevant) specific author contributions, acknowledgment of other contributors, information about data sharing, or names of large cohort groups.

## References and Citations

### References

Begin the list of references on a new page after the “Discussion” section of the manuscript. Authors are fully responsible for the accuracy and completeness of their references. To avoid extensive queries, please provide complete, accurate information for references, including:

- Author/editor name(s) or authoring agency
- Year of publication
- Full title of article or chapter
- Title of journal or book/proceedings
- For books and meeting reports, city/state/country of publication and name of publisher
- Volume and inclusive page numbers
- PubMed article identifier (PMID) number
- DOI number
- For websites and online documents, the URL and date accessed
- For software, the version number
- For data sets or data files, the electronic location or identifier, and version number or date accessed as appropriate

If you are uncertain whether to include a piece of information, err on the side of inclusion.

List references alphabetically by the last name of the first author (or subsequent authors if papers have the same first author) followed by the year of publication (earliest to latest). Distinguish multiple publications in the same year by first authors with the same last name using a, b, c, etc. (e.g., Smith JM et al. 2017a, 2017b, 2017c, etc.).

Alphabetize government agencies that are listed as the author by their acronyms followed by the full name of the organization in parentheses, e.g., WHO (World Health Organization). For multiple citations by the same agency, spell out the acronym once at first mention.

### In-Text Citations

Place all in-text citations immediately after the information cited, using name/year format as shown below:

- Associations between PFAS exposure and brain function have been investigated in populations including men from the general population (Barker et al. 2005, 2014; Crandall and Borchardt 2015), incarcerated men (Blagell et al. 2018), women from the general population (Clancy et al. 2013; Glanville 2013), and teenage females (Bergin et al. 2012, 2014, 2015; Glanville 2013; Olvin et al. 1998).
- We adjusted for age, BMI, smoking, and education, because these are known to influence brain function (Carson et al. 2004; Janeway et al. 2004; Kidd and Bolan 2004).

When citing an electronic source in the reference list (website/web page/database), use a direct link to the specific report, document, or fact sheet where possible. References that direct readers to a generic homepage should be removed from the reference list and inserted as an in-text citation.

## Tables

EHP formats tables prior to publication. The editors reserve the right to request that complex tables be simplified to comply with [Section 508 requirements](#).

Direct questions concerning tables to [ehponline@niehs.nih.gov](mailto:ehponline@niehs.nih.gov).

### Creating Main Text Tables

- Begin each table on a new page after the list of references.
- Create tables using the Table feature in Microsoft Word. Do not submit tables as images.
- Number tables using Arabic numerals (e.g., Table 1, 2, 3, etc.) according to the order in which they are first mentioned in the main text.
  - Tables may not contain parts (e.g., Table 1A, 1B, etc.; or Table 1.1, 1.2, etc.).
- Ensure that all tables are cited in the main text.
- Give each table a title that describes what is shown but does not summarize results or present conclusions.
- Adhere to the following guidelines to ensure table accessibility for readers with disabilities:
  - Avoid using more than three layers of row or column headings.
  - Do not change column headings within the body of a table
  - Do not merge cells across rows or columns within the body of the table. All columns within the body of a table must comprise the same number of rows, and all rows must comprise the same number of columns.
  - Do not use shading, color, italics, underlining, or bold type for emphasis or to denote significance.
  - Do not include images or complex equations in tables.

### Table Content

- Use the “±” symbol for arithmetic mean and standard deviation or standard error (e.g., “mean ± SE”) and parentheses for the standard error when presented with the geometric mean [e.g., “GM (SE)”].
- Present number and percent as “*n* (%)” in one column.
- Present confidence intervals in parentheses in the same column as the point estimate, with the upper and lower bounds separated by a comma [e.g., (0.1, 2.3)].

### Table Notes

- List abbreviations, definitions, and general information about the table in a note immediately under the table (e.g., “Note: All estimates are from logistic regression models adjusted for...”; see table example below).
  - Define relevant populations or samples, models, calculations, variables, and statistical analyses such that the table can be interpreted easily by the reader without having to read the entire manuscript.
  - Indicate numbers of observations (overall and according to subgroups, as appropriate) used to derive the data shown, after accounting for missing data
  - If  $p$ -values are reported:
    - Indicate the comparison to which the  $p$ -value applies (e.g., “compared with untreated controls”).
    - Indicate the statistical analysis used to derive the  $p$ -value
    - Provide numeric  $p$ -values for all estimates reported in the table, instead of using symbols to indicate  $p$ -value categories only
- List footnotes after the general note (if one is included) to explain or expand upon specific elements of the table.
  - Begin each footnote on a new line.
  - Indicate footnotes using lowercase italicized superscript letters, starting with “a” for each table. Lettered footnotes within the table should be ordered from top left to top right, next row left to right, and so on.
  - Do not use footnotes in the table title.



## Figures

EHP does not redraw or format author images prior to publication. It is the authors' responsibility to ensure appropriate figure numbering, quality, and sizing to avoid publication delays.

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### Creating Main Text Figures

- Number figures according to the order in which they are first mentioned in the main text.
- Ensure that all figures are cited in the main text.
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  - Ensure all words are spelled correctly.
- Clearly label all axes, giving both the measure and the unit of measurement where applicable.
- Ensure that letters, numbers, and lines are clearly legible and easy to differentiate and that all text within each image is of similar size, with type sizes at 6 point (minimum), though preferably at 8 points or above when reduced to final publication size.
- When possible, ensure that terms are styled the same in figures as they are in the main text (e.g., subscript the "10" in "PM<sub>10</sub>" in both the text and the figure labels/legends).
- Ensure that terms and styles (including symbols and colors) are consistent across figures. For example, if Figure 1 is a scatterplot and Figure 2 is a bar graph, you might use a black circle to represent the control in the scatterplot and a black bar to represent controls in the bar graph.
- For photomicrographs, provide a scale bar on the image or report the original objective used to take the image. Do not adjust the magnification based on camera adaptor or eyepiece lenses. If a scale bar is provided, specify the length in the figure caption (e.g., "bar = 10 μm"). You may adjust an image for brightness and contrast if you apply the change to the entire image. Do not remove background data of gels and blots. The final image must accurately represent the original data.
- Graphs used to summarize data should include individual data points in addition to summary values or regression lines when possible.

### Figure Size

- Figures may be no larger than 7.5 inches in width. Ensure that reducing a figure to this size does not compromise readability, quality, or interpretability.
- These guidelines also apply to figures with multiple panels. *EHP* does not have the ability to rearrange panels within a figure to meet the size requirement.

### Saving and Submitting Main Text Figures

- Save and submit each main text figure as an individual file in one of the following formats:
  - PDF (fonts must be embedded)
  - PS/EPS (embed fonts, or use system fonts only: Helvetica, Courier, Arial, Times)
  - TIFF (no layers, LZW compression, Interleaved Pixel Order, IBM Byte Order, minimum 300 dpi, 600 dpi preferred, minimum 8-bit color depth)
  - JPG (may be submitted if higher-quality image formats are not available; minimum 300 dpi, 600 dpi preferred, minimum 8-bit color depth)
- Submit only one version of each figure, but format can vary by figure.
- Submit figures with multiple panels as a single file.
- Include the figure number in the filename of each figure (e.g., “Figure 1.pdf”).
- Do not embed figures in the main text file.

### Main Text Figure Captions

- Provide main text figure captions on a new page of the main text after tables.
- Include a title for the entire figure and descriptors for each panel [e.g., “Figure 1. Incidence of hepatocellular adenomas (*A*) and carcinomas (*B*) in mice exposed to *DEHP*”].
- Figure titles should describe the figure and not interpret its meaning or present conclusions.
- Define all uncommon abbreviations.
- Define relevant populations or samples, models, calculations, observations per data point, and statistical analyses such that the table can be interpreted easily by the reader without having to read the entire manuscript.
- Define all elements of the figure, including error bars, confidence intervals, symbols, whiskers, and lines or bars that are not already defined within the image itself.
- If statistical significance or *p*-values are reported, clearly indicate the comparison(s) to which they apply (e.g., “compared with controls from the corresponding age group”).
- Provide a credit line for any images reused with permission from the copyright holder. Present credit lines as the copyright holder requires; do not reword.

## Supplemental Material

Reserve Supplemental Material for background information that is needed to support transparency but not required to understand key methods or interpret the primary findings. The main text must stand alone in the absence of Supplemental Material. Supplemental Material will be peer reviewed along with the manuscript and thus must meet the same rigorous standards. There is no limit on the number of [tables](#) or [figures](#) in Supplemental Material.

### What Goes in Supplemental Material?

In general, Supplemental Material should be limited to results of secondary analyses and background details needed to ensure transparency, such as:

- Study questionnaires
- Lists of reagents and sources, SNPs, and primers
- Background data, such as lists of consortium members or detailed information on studies in systematic reviews
- Tables and figures with results of sensitivity analyses
- Tables with numeric data corresponding to results shown in the main text figures
- Directed acyclic graphs (DAGs) used to select model covariates
- Software code
- Raw data

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- Tables or figures cited multiple times in the main manuscript, or that include results mentioned in the "Abstract" or "Discussion" sections
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- Excel files (ideal for large tables; see section below on "Preparing a Supplemental Excel File")
- Data analysis code and data files in appropriate formats for their intended use
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Supplemental Material files are linked to their associated articles through a common DOI. Supplemental Material will be published as is without additional formatting or copyediting. Therefore, please confirm that your files are complete, accurate, and appropriately formatted for publication.

- Provide text (if necessary) first, followed by all supplemental tables, then all supplemental figures; do not alternate between figures and tables.
- Use descriptive headings to indicate information other than tables and figures, and refer to the headings when citing the material in the main text. For example:
  - see Supplemental Material, qRT-PCR primers
  - see Supplemental Material, Reagents
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  - Follow the formatting guidelines provided for main text [tables](#) and [figures](#).
  - Provide the title and caption for each figure below the figure, on the same manuscript page.
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- Conclude the main Supplemental Material file with a list of references for any sources cited in the Supplemental Material, even if they are also cited in the main paper.

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Use Excel format only when it is not practical to include a table in the main Supplemental Material file (e.g., if it is too wide to fit on a single manuscript page or is more than two pages long).

- Provide multiple Excel tables in a single Excel workbook as separate worksheets.
- Label the tab for each worksheet with the indicator “Excel” and the table number (e.g., Excel Table S1). Number Excel tables separately from other supplemental tables.
- In the first row of the table, include the table number and title.
- Include a separate worksheet with explanatory information that applies to multiple tables as appropriate.
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