



N3C Attribution and Publication Principles

Version history

Version	Description of changes
All versions	https://doi.org/10.5281/zenodo.3992394 This DOI represents all versions, and will always resolve to the latest one.
1.0-2020-08-07	<ul style="list-style-type: none"> • First draft
1.1-2020-08-25	<ul style="list-style-type: none"> • First official release • Link to N3C marker paper updated from preprint to in press DOI • Manuscript submission form language and link updated
1.2-2020-08-25b	<ul style="list-style-type: none"> • Citation of marker paper requested • N3C enclave link added • Change log added to header

The N3C is more than simply a data enclave; it is also a collaborative research community committed to the rapid generation and dissemination of scientific knowledge for the public good, and to the advancement of COVID-19 science.

Purpose: This document provides community-driven guidelines and approaches that all users within the N3C research community uphold, and it addresses attribution and publication principles with regard to N3C Community dissemination of research. Here, we define publication and attribution principles that apply to N3C analysis reports, data, resources, abstracts, presentations, preprints, and publications arising from the use of content in N3C Enclave. This document will be reviewed and updated regularly as N3C evolves, but at least annually by the N3C Governance Workstream and modified or recertified as deemed necessary.

Overview: These guidelines are intended to enable the following:

- A transparent and collaborative environment within the N3C where all contributions are acknowledged;
- Promote provenance and reproducibility of COVID-19 research;
- Sharing research results with N3C users as soon as they are mature enough;

- Support opportunities to publish in high-impact journals; and
- Clarify attribution expectations for all N3C artifacts, specifically publications.

Community Attribution Guidelines: The N3C community is dedicated to the goal of collaboration and rapid knowledge generation and dissemination to help combat COVID-19.



To simultaneously support career development and demonstrate contribution and acknowledgement from all types of contributors throughout the research process, the N3C takes a proactive approach to attributing and tracking all contributions to any result or artifact derived from the use of N3C.

- The N3C Enclave supports robust tracking of provenance and attribution.
- Every contributing organization (e.g., data contributors, software developers, etc.) will be listed on the N3C Enclave website along with their [Research Organization Registry](#) identifier where available;
- All users share [ORCIDs](#) through N3C registration, supporting attribution within the N3C Enclave and in subsequent artifact dissemination.
- Users are encouraged to list all contributors to any Data or Resource that is ingested, as well as on any report or outcome, whether they are automatically tracked within the analysis workflow or not.
- All workflows and their resulting reports will indicate any upstream contributors to data and code automatically. These may be added to for upstream or downstream contributors not automatically tracked in the workflow.

The N3C Enclave uses the [Contributor Attribution Model \(CAM\)](#) to capture the aforementioned granular contributions automatically as part of provenance tracking. The resulting set of contributors will be included as part of N3C “reports” – finalized reproducible analysis documents that link to specific versions of all code, data, resources, and contributors. The CAM has been developed by the NCATS Center for Data to Health (CD2H) and provides a simple data model for representing information about contributions made to research-related artifacts - for example, a curator contributing to a mapping file.

Manuscript Designations

- **N3C Consortial manuscripts.** Manuscripts put forth by members of the N3C community describing research, software development, etc., that involve substantial contributions from the N3C community. Such manuscripts and associated works represent the N3C Community as a whole, and are central to the N3C collaborative (e.g., commentaries on the vision of the N3C program, methodological papers describing the N3C data, quality assurance processes, or other endeavors requiring broad community contribution and endorsement).
- **Project-based team manuscripts.** Manuscripts put forth by members of the N3C community describing research, software development, etc., but do not involve substantial contributions from the N3C community. Such manuscripts and associated works do not represent the N3C Community as a whole.

Authorship criteria: Data contribution does not provide automatic authorship on the data user's manuscript. Authors are encouraged to follow the ICJME standards. Co-authorships should reflect a common-sense assessment, but in general, should reflect substantial work or intellectual contributions to the topic of the publication. Any N3C member can request to be included as an author on any project output. In general, we choose to take an inclusive approach to authorship, with contributions including any type or size of intellectual contribution. Authors are expected to do at least one of the following: edit or write manuscript; provide data, figure, or table; provide critical ideas; and/or write code. Students and postdocs are encouraged to participate in these discussions and to be afforded leadership opportunities for manuscript development based on the project role.

Community Publication Guidelines: An N3C Community Publications Committee will be established consisting of eight nominated members of the N3C User community. The Publications Committee's role is to monitor the output of the N3C member community and facilitate inclusive and appropriate attribution, as well as to help troubleshoot any authorship conflicts or questions with regard to publications resulting from consortial N3C collaboration on specific projects or efforts within the N3C Community.

- **N3C Consortium manuscripts:** Any research project that is expected to be an N3C consortium paper, should be indicated as such to the N3C Community Publication Committee prior to manuscript development, with an invitation to all N3C users to join. Submission of all consortium designated manuscripts require N3C Community Publication Committee review and approval as well as submitting the "Manuscript Concept Form" which collects pre-publication metadata (i.e., authors, title, abstract, target journal, attributions).
- **Project-based team manuscripts** Prior to submitting a publication, N3C community members submit a Manuscript Concept Form (cd2h.org/n3c-manuscript) to the Community Publication Committee for awareness and to inform the N3C Community regarding how quickly N3C data are being translated into publications. The Manuscript

Concept Form is also to ensure that authorship and contributions are aligned with these community publication guidelines and the N3C Community Guiding Principles. Once the Manuscript Concept Form is submitted (per above), authors on project-based manuscripts may proceed with their normal manuscript submission procedures for publication.

For all manuscripts, we recommend the following:

- Analytic pipelines: Manuscripts should reference a link to a reproducible analytic pipeline in the N3C Enclave. It is understood that only those with access will be able to view the pipeline. However, we anticipate that enough reviewers and editors will have platform access that this will be a meaningful demonstration of N3C's commitment to reproducibility.
- An open review or comment period, 48 hours in advance of abstract submission or presentation.
- N3C Users will strive to publish in open-access journals and will strive to make their results immediately available. Immediate availability can be accomplished via preprint submission to the N3C Zenodo community or other established preprint registry. Published manuscripts should be submitted to PubMed Central to be made publicly available immediately upon acceptance to publication without an embargo period.
- Every manuscript should include an "Author's Contribution" section or supplemental file that specifies the role of each contributor. This should use the CAM to list ORCIDS of all contributors, as described above.
- N3C conference abstracts and podium presentations need not receive review from the N3C Community Publications Committee. However, to demonstrate the positive impact of the N3C community's efforts, the N3C community requests sharing the abstracts and events with the Community Publications Committee through the Manuscript Concept Form (cd2h.org/n3c-manuscript) to celebrate and credit project team accomplishments by tracking the impact of the work done using the N3C resource.
- Draft manuscripts, abstracts, and podium presentations shared within N3C prior to publication will be treated as confidential within the N3C Community Publications Committee and N3C leadership. This includes, but is not limited to, information shared via the Manuscript Concept Form.
- Access to N3C Enclave resources does not imply endorsement of the research project and/or results by NIH or NCATS.

Acknowledgments statement: Please cite the N3C marker paper (<https://doi.org/10.1093/jamia/ocaa196/5893482>) and include the following acknowledgment statement in all publications and preprints. Use only the relevant grant numbers.

"The analyses described in this (publication /report /presentation) were conducted with data or tools accessed through the NCATS N3C Data Enclave <https://covid.cd2h.org> and

supported by NCATS U24 TR002306 and (insert additional funding agencies or sources and reference numbers). This research was possible because of the patients whose information is included within the data and the organizations (see covid.cd2h.org) and scientists who have contributed to the on-going development of this community resource [<https://doi.org/10.1093/jamia/ocaa196/5893482>].

Press releases: Press releases or announcements about the N3C Enclave must be coordinated with NCATS staff. Brief announcements that do not represent N3C as a whole, or findings that were made possible by N3C are allowed, however disclaimer language such as “these results represent the authors only” is recommended.