Acknowledgement for one’s scientific contributions through authorship on scientific papers, posters, and other forms of scholarly dissemination is fundamental to the research enterprise. Authorship simultaneously confers credit for one’s work as well as responsibility/accountability for what is being disseminated.

However, determining appropriate acknowledgement for the range of contributions made to the scientific process is not always straightforward. Some contributions clearly justify authorship credit, whereas other contributions do not rise to this level but should be acknowledged in other ways.

To aid its investigators in making such determinations, the following guidelines have been adopted by the New Hampshire INBRE network. It is the intent of NH-INBRE to adhere to the recommendations of the International Committee of Medical Journal Editors (ICMJE), which have been adopted in whole or in part by many bodies, including the National Institutes of Health. (See http://www.icmje.org/recommendations/browse/roles-and-responsibilities/defining-the-role-of-authors-and-contributors.html for the current version.)

Authorship should meet the following four criteria, which are intended to reserve the status of authorship for those who deserve credit and can take responsibility for the work:

1. Substantial contributions to conception and design, or acquisition of data, or analysis and interpretation of data;
2. Drafting the article or revising it critically for important intellectual content;
3. Final approval of the version to be published; and
4. Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

Other Considerations:

- Coauthor Notification: Investigators should be aware that many journals require the author who submits the manuscript to accept the responsibility of notifying all coauthors that the manuscript is being submitted, and may require full contact information for all coauthors. Additionally, deletion of an author after the manuscript has been submitted may require confirmation to the journal editor from the author whose name is being deleted. Notwithstanding such requirements on the part of the journal, this is good professional practice expected of all participants in NH-INBRE. All persons designated as authors should qualify for authorship, and all those who qualify should be listed. Adapted from: http://pubs.acs.org/userimages/ContentEditor/1218054468605/ethics.pdf

- Large, multi-author investigations: When a large multi-author group has conducted the work, the group ideally should decide who will be an author before the work is started and confirm who is an author before submitting the manuscript for publication. All members of the group named as authors should meet all four criteria for authorship, including approval of the final manuscript, and they should be able to take public responsibility for the work and should have full confidence in the accuracy and integrity of the work of other group authors.

- Non-Author Contributors: Contributors who meet fewer than all 4 of the above criteria for authorship should not be listed as authors, but they should be acknowledged. Examples of activities that alone (without other contributions) do not qualify a contributor for authorship are acquisition of funding;
general supervision of a research group or general administrative support; and writing assistance, technical editing, language editing, and proofreading. Those whose contributions do not justify authorship may be acknowledged individually or together as a group under a single heading (e.g., "Clinical Investigators" or "Participating Investigators"), and their contributions should be specified (e.g., "served as scientific advisors," "critically reviewed the study proposal," "collected data," "provided and cared for study patients", "participated in writing or technical editing of the manuscript"). Because acknowledgment may imply endorsement by acknowledged individuals of a study's data and conclusions, some journal editors require that you obtain written permission to be acknowledged from all acknowledged individuals.

• Authorship Disputes: NH-INBRE Investigators should attempt to resolve authorship disputes themselves. However, in the event that these efforts prove unsuccessful, the investigators should bring the issue to the attention of their NH-INBRE Steering Committee member(s) for assistance. The Steering Committee will gather the necessary information from each party to understand the circumstances, and will then apply the guidelines outlined herein to make a final decision. If needed, the Provost for Research at Dartmouth College is available to assist the Senior Leadership in resolving the issue.

Implementation of Authorship (from http://www.dartmouth.edu/~osp/docs/Authorship.pdf)

1. The primary author should carefully review the policies and procedures of the journal prior to submission in order to adhere to all applicable requirements;

2. Authorship should be discussed early and reviewed periodically in every collaborative relationship;

3. One author (primary/senior/submitting/responsible) should assure the following:
   a. Each author meets criteria for authorship;
   b. Each author has reviewed the whole scholarly work;
   c. Each author has consented to authorship prior to the submission of the product.

4. One author should assume responsibility for coordinating the completion and submission of the work, for assuring adherence to the rules of submission, and for coordinating responses to inquiries or future challenges.

5. Junior researchers and students meeting the criteria for authorship must be included as authors.

6. The order of authorship may not necessarily indicate the magnitude of the contributions of the individual authors. Authors should adhere to the norm of their discipline and the publisher’s guidelines. The following are suggestions for determining order:
   a. The person who has made the major contribution to the product and/or taken the lead in writing should be first author;
   b. The person who has general responsibility for the project is frequently listed last;
   c. Authors who have made major contributions to analysis, interpretation, or writing may be listed immediately following the first author;
   d. Individuals who fulfil the criteria for authorship may be listed in alphabetical order.