C-CoMP Guiding Principles for Collaboration

Executive Summary

This "Collaboration Agreement" identifies a set of guiding principles for the Center. These guiding principles highlight expectations and the document both outlines best practices and provides tools to thoughtfully and intentionally foster healthy collaborations. By establishing this document early in the life of C-CoMP, we aspire to outline our philosophy of collaboration and facilitate the development of the culture and norms within which we pursue our work. As such, the agreement is a living document, whose evolution is guided by our collective experiences. **Here we highlight the importance of communicating, building trust, fostering access, and acknowledging all types of Center contributions as they relate to a positive collaborative environment.** Finally, differences will arise and working through these differences will build a stronger sense of shared purpose and community in the long-term. This executive summary highlights core aspects of the Collaboration Agreement which contain more detail and resources for implementation.

Guiding Principle for Interpersonal Dynamics: In our collaborations, we will strive to build trust and intentionally design processes and supports for team members to do their best work to achieve our Center goals. Taking time to develop positive working relationships and trust with our colleagues is essential for enabling effective teamwork. As we build collaborations, we should aim to initiate, develop, and sustain collaborations that are productive and trust-building. Building our awareness of how teams form and using strategies to help us establish guidelines for collaborative work will help us reach our scientific and interpersonal goals. As we build collaborations, we need to be aware that members of our teams will have different physical and cognitive needs that may fluctuate over time. Perhaps you have an injury making it hard to type, maybe there are time constraints due to an illness in your family, or perhaps you synthesize information best when reading. We can call these differences "access needs." Access needs affect how we approach our work and our collaborations. As we create

collaborations within C-CoMP, we should strive to create spaces in our collaborations for team members to share their access needs. Once we are aware of access needs in our collaborations, we should intentionally design processes and provide supports that enable team members to do their best work to achieve our collective goals.

Guiding Principle for Team Dynamics & Team Science: In our collaborations we will prioritize communication by intentionally listening to our colleagues, acknowledging and responding to different communication styles, and supporting each other to communicate equitably and effectively. We strive to be at the forefront of team science, serving as a model for others building new collaborations. Productive and respectful scientific collaborations are based on effective communication. Prioritizing communication within our collaborations, intentionally listening to our colleagues, and developing awareness of the communication styles present in the group can help us become more effective communicators. Explicit awareness of communication styles can create a comfortable environment in which to freely share ideas. Team meetings should incorporate time for introductions, access check-ins, and recurring opportunities to learn more about our team members, as this works to build trust.

Guiding Principle for Attributions: As a Center, we emphasize that all contributions of ideas and products should be attributed in appropriate ways in accordance with the C-CoMP open data handbook guidelines. The Center values and acknowledges the wealth of diverse contributions that help us work towards our goals. Good communication and documentation practices are advised for all meetings, as it is valuable for open science, and for us to ensure transparency and acknowledge contributions from meeting participants. The Authorship Guidelines recommend communicating early and throughout the work, listing the requirements for attribution of authorship, and advising individuals to take accountability for all aspects of the published work. Other activities and outcomes, including, but not limited to, education and outreach, workshops, and data products, are valued by C-CoMP and should be acknowledged properly; it is recommended that attributions in this context are documented and publicly displayed.

Guiding Principle for Resolutions: In our collaborations, we acknowledge that conflicts are a normal part of teamwork. We will strive to reduce conflicts by working to build trust, aligning expectations over time, and properly attributing credit for products and outcomes. We will strive to effectively navigate differences by listening actively, focusing on joint interests, engaging jointly in problem solving based on agreed-upon, interests-based criteria, and checking in to evaluate and refine ways forward as needed. As a diverse team, everyone in C-CoMP should be aware that differences in opinion can arise. Those in leadership roles should demonstrate Center norms in their actions and help foster positive communication among team members. It is important to communicate early about expectations when starting new activities, releasing any products and properly attributing credit regarding outcomes. A key component to communication and problem solving is listening to gather information, reframe differences, and work jointly to resolve differences of opinion. Resolving differences can further benefit from focusing on joint interests, and by acknowledging that differences are not personal and that everyone wants a positive outcome for the collective

good. Ideally, a solution will arise that is acceptable to all stakeholders and that will leave everyone with the feeling that team goals and efforts are the better for principled discussion. Ultimately, acknowledging our differences and working toward resolution in the spirit of the Collaboration Agreement will help strengthen our collaborations.

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Preamble

Collaboration and team science lie at the foundation of C-CoMP's mission. This "Collaboration Agreement" establishes the guiding principles of our Center, in which we highlight expectations and best practices as well as provide tools to thoughtfully and intentionally foster healthy collaborations. Here we highlight the importance of communicating, building trust, fostering access, and acknowledging all types of Center contributions as they relate to a positive collaborative environment. We focus on the key aspects of a collaboration including: interpersonal dynamics, team dynamics and team science, attribution, and resolution guidelines. We note that this is a 'living document', and its evolution is guided by our collective experience as our collaborations continue to grow. At the core of the guiding principles lies the encouragement to thoughtfully and intentionally consider how we approach collaboration and Center goals.

Interpersonal dynamics

Establishing interpersonal dynamics that support our scientific collaborations are key for our continued success as a Center. Interpersonal dynamics arise from interactions people experience within a particular social context. The quality of these dynamics speaks to the underlying social and emotional status of a group, which we can monitor by asking ourselves questions like: What verbal and nonverbal messages are being expressed by the group? Does our group enjoy working together? Do group members participate equally? Our answers to these questions will influence what, if any, actions we take to enhance interpersonal dynamics across our working groups.

Interpersonal dynamics are largely driven by the norms we establish in our social interactions. Norms are explicit and implicit rules—or standard operating procedures—that guide how we interact when we are in a group. Norms are powerful. Norms determine the roles we fill and the behaviors we engage in. It is through norms that we instill a degree of predictability in our social interactions through time in our groups.

Given the importance of norms in interpersonal dynamics, we briefly review how norms are established. As social creatures, humans bring with them a wealth of previous experience working in groups. Thus, as we form new groups, we carry over many group norms from our similar previous experiences. For any new group, the first meeting is especially formative. It is in the first meeting that we set the stage for subsequent interactions. Leaders and influential group members have power to shape the norms present in a group by introducing new norms, reinforcing existing norms, or challenging existing norms. Finally, norms may evolve following some sort of critical event. Typically, these events are initially negative in that they challenge interpersonal dynamics or scientific progress. It is in these circumstances that a group is forced to question existing norms and develop new norms. In general, we want to avoid critical events and instead engage in ***ongoing self-evaluation*** and ***ethical standards of behavior*** to create and sustain highly-productive groups. When critical events nevertheless emerge, they represent an opportunity for collective growth.

The Collaboration Agreement aims to support the development and evolution of positive interpersonal dynamics across the Center. In pursuit of this goal, here we introduce two tools that can support positive interpersonal dynamics. Over time, we will add to and revise this list of tools based on the needs of the Center.

> ### Tool 1. Access check-ins
> This tool is used to establish and maintain accessibility within our working groups. Ensuring the accessibility of our meetings and collaborations is a form of ongoing self-evaluation and an ethical standard of behavior. Access check-ins are done either before or right at the start of a meeting to make sure that everyone in the meeting has what they need to fully participate in the conversation and collaboration. Learn more about access-ins [here](#).

> ### Tool 2. thinkLets
> thinkLets (Briggs & Jan de Vreede, 2001) are activities that are designed to help teams problem-solve. There are many different types of thinkLet activities that teams may use given the nature of the problem they seek to address. thinkLets are particularly effective in that they open lines of communication between members of the group, enabling problem solving. Learn more about thinkLets [here](#).

Citations:

Briggs, R. O., & de Vreede, G. J. (2001). ThinkLets: Building Blocks for Concerted Collaboration: GroupSystems.com.

Griffith, B., & Dunham, E. (2015). Working in teams. SAGE Publications, Inc., https://doi.org/10.4135/9781506300153

Reinholz, D. L., & Ridgway, S. W. (2021). Access needs: Centering students and disrupting ableist norms in STEM. CBE—Life Sciences Education, *20*(3), es8. doi: https://doi.org/10.1187/cbe.21-01-0017.

Sins Invalid. (2019). Skin, tooth, and bone: The basis of movement is our people (2nd ed.). Berkeley, CA.

Team dynamics, team science

As a Center, we strive to be at the forefront of team science, serving as a model for others building new collaborations. When forming a new working group or collaborative initiative, it may be useful to review strategies that foster collaboration. One example is the 5 stage model of team development (forming, storming, norming, performing, ending), where each stage has a task to focus on team dynamics (see Using the Stages of Team Development | MIT Human Resources).

Productive and respectful scientific collaborations are based on effective communication. Teams in productive and respectful scientific collaborations should be cognizant of the wide range of communication styles that can be present in a group. As a collaboration begins, shifts goals, or welcomes new members, it may be helpful to do an "inventory" of communication styles. Personalities are typically revealed in a group over time and with built trust, explicit awareness of communication styles can help create a comfortable environment where the group can begin to freely share ideas. Additionally, frameworks that indicate social styles can be informative of how people interact with each other. The 'social styles' framework (Griffith and Dunham, 2017) compares asking vs. telling and controlled vs. emotive social styles (see figure). Having group members recognize their social style along these axes may help team members and leaders inventory their collaboration styles. Knowing where your group members fall along these axes can help you recognize, either as a group member or leader, how to better communicate with other group members and even how to adjust your style in order to be a better collaborator. In some cases, it may be helpful to suggest that group members complete one of several online assessments like PrinciplesYou (PrinciplesYou) or some of Adam Grant's other "quick quizzes,": https://adamgrant.net/quizzes/. At best, these efforts may reinforce or give group members new insights into working with others in the group. If nothing else, it may be a fun exercise to do together to begin to build a sense of group camaraderie and trust.
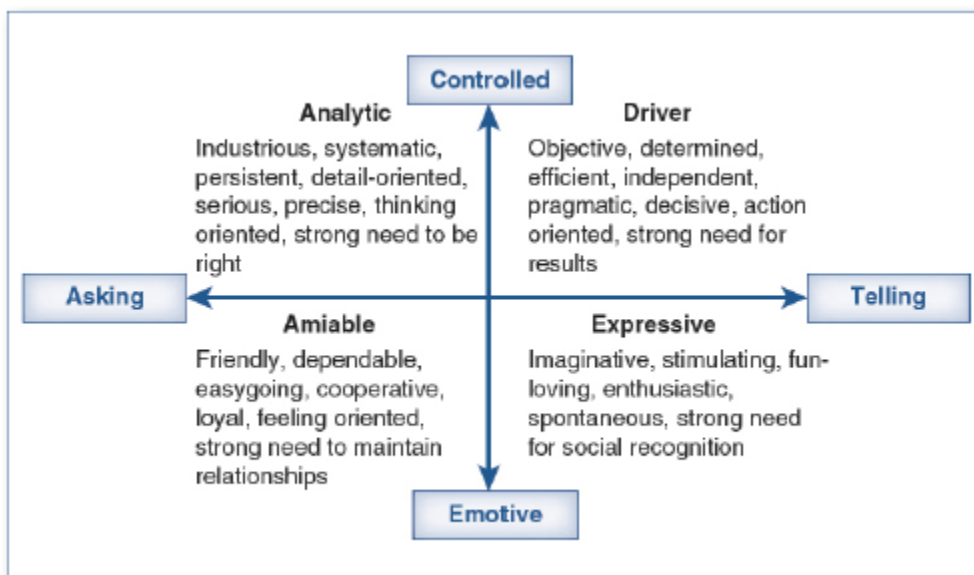
Social styles framework (Griffith and Dunham, 2017).

In addition to group dynamics, an important part of team science is knowing the strengths and skills within your group. Knowledge of collaborators' areas of scientific and technical expertise is key to the division of labor in a project. Especially in larger collaborations with a changing group of people, meetings should incorporate time for introductions and refreshers on participants' present and past areas of study. Rather than superficial introductions, participants should offer details of their interests, technical skills, and perceived roles in the research, and others should ask questions. If you are a group leader or are facilitating a meeting, it may be beneficial to offer a prompt to the group at the start of the meeting. If you do not have time for everyone to verbally share their expertise, you could create a JamBoard where group members can add their answers to the prompt.

Prompt communication and an awareness of the schedules of your collaborators builds trust and maximizes productivity. It is important to set expectations for communication within your group. For example, collaborators should reply in a timely fashion to messages – say, within a day – even if the response is that you are currently busy but will give a substantive response later. Intense collaborative work can be highly productive, especially when working on a paper, so it is useful to know when collaborators are more free in their schedules and the priority of the collaboration compared to the other claims on their time in order to synchronize periods of intensive work. It is important to be respectful of the working hours and boundaries of your collaborators, especially as some group members may have important duties outside of work, like childcare or other care duties. Group members should be sensitive to these time demands, and endeavor to create a working environment where all members are comfortable bringing up time or ability needs in order to be a successful member of the group.

C-CoMP values communication as a core aspect of team science, and the Collaboration Agreement aims to support this critical aspect of team dynamics through the annual listening tour by leadership, surveys and evaluation, and professional development programming around communication and team science.

Acknowledgement: We would like to acknowledge Dr. Erin Dolan for resource suggestions and early feedback on this section.

Citation:
Griffith, B., Dunham, E. (2017). SAGE Books: Working in Teams: Moving from High Potential to High Performance. https://doi.org/10.4135/9781506300153.)

Attributions
C-CoMP is a community with scientists, researchers, and students at diverse academic stages, and all members should be aware that **all contributions of ideas and works, no matter how small they are, should be attributed at appropriate levels**. As a center committed to scientific research, the norms of our communications and collaborations benefit from fair and honest

attribution, both formally and informally, to those who make contributions for C-CoMP activities. Oftentimes contributions can be subtle, for example as it relates to the open sharing of ideas. Through this Collaboration Agreement, we hope to help build awareness of good practices in documentation and communication that will assist us in properly valuing and acknowledging the various forms of contributions by our community members and other collaborators.

Good documentation practice is advised for all meetings, as it is valuable for open science, and for us to ensure transparency and acknowledge contribution from meeting participants. It is suggested that all meetings should be recorded and that notes should be taken during meetings. The recorded videos, notes, and discussion boards should be saved and made accessible to all parties, including those current or future members who were absent at the time of the meetings.

Contributions for scientific research-related activities that lead to publications, conference proceedings, or other forms of scientific documentations should be recognized following our Authorship Guidelines. To assist the C-CoMP community in documenting contributions to scholarly articles, we introduce the emerging CRediT standard (Allen et al., 2014) and the *tenzing* tool (Holcombe et al., 2020) [here](). Contributions for other activities, including but not limited to science education, workshops, data archive, software development, and event organizations, should also be valued and acknowledged properly, and it is recommended that these attributions are documented and displayed using publicly available resources (e.g., the webpage of an openly available data archive).

Authorship Guidelines (adapted from the [Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals]()): It is recommended that authorship is considered when authors have been directly involved in (1) the conception, design, or conduct of the work that leads to the paper, (2) the data acquisition, analysis, or interpretation, and/or (3) writing a draft of the paper or revising it for intellectual content. It is advised that the criteria for authorship or attribution should be discussed to clarify expectations as early as practicable. The principal investigator or lead scholar should initiate the discussion regarding authorship or attribution, and all parties are welcome to raise questions or concerns throughout the course of a collaboration. As a project moves forward, the criteria should be discussed and concerns regarding the criteria should be addressed when necessary. Authorship should be revisited when significant changes occur in collaborators' roles. All authors should have reviewed and approved the manuscript before submission and the final version before publication. Individuals who have provided valuable contributions to the work and do not meet the requirements for authorship should be acknowledged appropriately in the publication. By taking authorships, individuals agree to take accountability not only for their own contributions, but also for all aspects of the published work. Prior to the publication, all authors should have ensured that any questions regarding the accuracy and integrity of the work have been properly investigated and addressed.

Acknowledgement: We would like to acknowledge the insightful inputs by Dr. Krista Longnecker to this section.

Citation:

Allen L., Scott J., Brand A., Hlava M., & Altman M. (2014). [Publishing: Credit where credit is due](). Nature News, *508*(7496), 312.

Holcombe AO, Kovacs M, Aust F, & Aczel B. (2020). [Documenting contributions to scholarly articles using CRediT and *tenzing*](). PLoS One,*15*(12), e0244611.

International Committee of Medical Journal Editors (2022). [Recommendations for the conduct, reporting, editing, and publication of scholarly work in medical journals]().

Resolution Guidelines

The Collaboration Agreement is designed to foster communication and cohesion in Center efforts. Part of this task is recognizing that differences of opinion can arise, and that such conflicts should be addressed proactively. Differences of opinion naturally arise in collaborations from frequent and spirited dialogue, or, conversely, infrequent and unengaged interactions, so it is useful to prepare strategies to avert and resolve conflicts before they become entrenched. A key component to communication and problem solving is listening, to help gather information, reframe differences and work jointly to resolve differences of opinion. Resolving differences can further benefit from focusing on joint interests, and by acknowledging that differences are not personal and that everyone wants a positive outcome for the collective good. Ideally, a solution will arise that is acceptable to all stakeholders and leaves everyone with the feeling that team goals and team efforts are better due to principled discussion.

Steps can be taken to minimize conflicts when initiating collaborations, or working on new tasks. The atmosphere of the Center should be set by members in leadership roles through the demonstration of Center norms in their actions. It is important to establish expectations when embarking on a collaboration, including methods of sharing data and results among the members, product release guidelines, and work attribution. Team leaders should promote an environment where listening is valued, where differences are aired and worked through, and where civility is maintained. Everyone should work in the spirit that differences are not personal and are an aspect of productive dialogue. Worsening conflicts should be resolved through established channels depending on the context, through a supervisor, C-CoMP leadership, the Collaboration Committee, or others.

Here are some guidelines for conflict resolution adapted from the NIH Collaboration and Team Science Field Guide (Bennett et al. 2010):

Inquire. Communicate early about expectations around new activities, releasing any products from those activities, and crediting their outcomes (e.g. publications, C-CoMP data products etc.). For example, early agreements about what activities constitute authorship and author order are critical given the diversity of career stages and disciplines represented in C-CoMP. The Collaboration Agreement offers a guide for how to navigate these conversations and

C-CoMP norms and expectations in this regard. The Collaboration Committee can help review best practices and be a thought partner as needed.

Listening is key to problem solving. Listening with intention can help gather information, reframe, build rapport, and work jointly to resolve differences of opinion. There are several components to effective listening, which include visibly demonstrating your intent to understand each other and listening accurately. For example, you might recap or paraphrase others' points to ensure that you understand and, if something is unclear, ask for more information. Verbalizing and acknowledging others' perspectives by restating them can help solve problems from a space of understanding and respect.

Principled negotiation. Resolving forward progress in the face of differences of opinion can benefit from focusing on joint interests and making it about a positive outcome for the collective good, not about winners and losers. Ideally, a solution will arise that is acceptable to all stakeholders and will leave everyone with the feeling that the team goals and science efforts are improved for principled discussion. Again, the Collaborative Agreement, the Data Management Handbook and other C-CoMP policies, and procedures can be a guideline.

In addition to these suggestions, additional resources are available in the supplement.

Citation:

Bennett, L.M., Gadlin, H., Levine-Finley, S. (2010). [Collaboration and Team Science: A Field Guide](https://www.bumc.bu.edu/facdev-medicine/files/2011/03/TeamScienceNIH.pdf). https://www.bumc.bu.edu/facdev-medicine/files/2011/03/TeamScienceNIH.pdf

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A living document
The overarching goal of the collaboration agreement is to highlight our joint responsibilities in communicating, building trust, fostering access, properly attributing contributions and resolving differences, while consciously building a positive and inclusive culture. As our collaboration itself, it is the intention that this collaboration agreement will continue to evolve as our collective experience grows. As such, the collaboration agreement is a living document, and the committee welcomes feedback for improvement at any point, including in the direct response to novel experiences, both positive and negative, or in response to any period of reflection. In addition, the committee will regularly seek feedback from the C-CoMP community.