

Appendix 1. Fostering collaboration within a multidisciplinary research team: a checklist of considerations (part 1 of 2). Source: Bennett LM, Gadlin H, Levine-Finley S. *Collaboration & Team Science: A Field Guide*. Bethesda (MD): National Institutes of Health (US); 2010. Available from: <http://teamscience.nih.gov>. Permission to create a checklist provided by L Michelle Bennett.

Preparing to be on a research team

- Identify and live your role as a mentor or mentee.
- Undertake some self-reflection about yourself, your behaviour, and the impact it may have on others. (Consider using tools such as the Myers-Briggs Type Indicator tool; www.myersbriggs.org)

Building a research team

- Bring together members with diverse backgrounds and experiences to promote mutual learning.
- Make sure each person understands his or her roles, responsibilities, and contributions to the team's goals.
- As a leader, establish expectations for working together; as a participant, understand your contribution to the end goal; as a group, agree on expectations.
- Recognize that discussing team goals openly and honestly will be a dynamic process and will evolve over time.
- Be prepared for disagreements and even conflicts, especially in the early stages of team formation.
- Agree on processes for sharing data, establishing and sharing credit, and managing authorship immediately and over the course of the project.
- Regularly consider new scientific perspectives and ideas related to the research.
- When bringing on new team members: (1) Develop interview questions that require the candidate to articulate his or her interest and experience in working on a research team. (2) Ask for examples of how the candidate has successfully contributed to a team and what challenges he or she encountered. (3) When checking a candidate's references, inquire about his or her capacity to collaborate and function as a supportive member of a team.
- Whether you are building a team or considering becoming part of a team, ask questions of team participants and listen carefully to their answers.
- Understand that teams evolve over time and may go through "rocky" periods before reaching peak performance.

Fostering trust

- Structure activities that allow team members to learn about each other through various interactions.
- Hold weekly data meetings or case conferences—be sure that all team members have the opportunity to present data and receive feedback, as well as to hear data and give feedback.
- Model and teach team members how to give feedback that is critical and supportive.
- Encourage scientific debate and exchange—challenge ideas with the goal of making a decision or reaching a conclusion based on scientific information.
- Teach and train others.
- Receive instruction and assistance from others.
- Develop a process to handle disagreements over clinical issues or science or other lab issues.

- Ensure that team members follow through on their commitments.
- Use written collaborative agreements to provide guidelines and processes for addressing every major issue that might arise in a collaboration.

Developing a shared vision

- Write a vision statement for your laboratory, collaboration, or team.
- Ensure that all team members can describe the team's goal, or the "big picture".
- Encourage all team members to articulate their own research goals and how these goals relate to the "big picture".
- Discuss as a group each team member's accomplishments and challenges and how these relate to the team's overall mission.
- Instill in team members a sense of ownership of their contributions to the team's goals.
- Encourage team members to accept responsibility and be accountable for their accomplishments and failures—without blaming.
- Credit team members for their contributions.
- Encourage sharing and mutual learning across disciplines to enhance the overall vision.
- A team's vision is dynamic and will change over time; regularly review and revise (as needed) the team's vision statement and that of each team member.

Communicating about science

- Ensure that all team members feel able to participate in discussions about data, methods, results, and other aspects of the science, as well as various issues affecting the group.
- Conduct regular meetings in which team members take turns presenting data and providing feedback.
- Establish ground rules for how people are expected to communicate with each other during meetings.
- Develop an expectation that data and results will be shared with all team members as well as procedures for doing so.
- Convene a journal club or other forum to discuss current topics and methodologies.
- Respectfully address and resolve debates over science or scientific results through literature reviews, experimentation, outside expert opinion, and other relevant methods.
- Help people translate when there are differences in concepts, methodologies, and frameworks.
- When disagreeing, be sure to disagree with the idea, not the person.
- Provide an environment and opportunities for team members to talk informally about their work.
- Embrace the notion that differing opinions may hold the seeds to creativity and important new ideas.
- Support the contributions of team members at all levels of seniority.

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Supplementary material for Dolovich L. Playing in the sandbox: considerations when leading or participating on a multidisciplinary research team. *Can J Hosp Pharm.* 2015;68(5):401-5.

Appendix 1. Fostering collaboration within a multidisciplinary research team: a checklist of considerations (part 2 of 2). Source: Bennett LM, Gadlin H, Levine-Finley S. *Collaboration & Team Science: A Field Guide*. Bethesda (MD): National Institutes of Health (US); 2010. Available from: <http://teamscience.nih.gov>. Permission to create a checklist provided by L Michelle Bennett.

Sharing recognition and credit

- Build and maintain trust among team members (see the section “Fostering trust” above).
- Clearly define project roles and responsibilities for each team member.
- Unambiguously assign or negotiate roles and responsibilities for the various team members—this is especially important for team leaders.
- Establish as early as possible a process and criteria for determining how authorship and other forms of credit will be decided. Ideally, this will be laid out in a collaborative agreement before starting the project (see the section “Fostering Trust”, above).
- Create an approachable means by which team members can raise concerns about how credit is being or will be determined as soon as potential problems emerge.
- Agree early on in your scientific relationship who will be responsible for answering questions and responding to outside inquiries about various scientific aspects of the project.
- In public presentations, identify team members and explicitly acknowledge their contributions to the research endeavour.
- Be mindful of team members’ career development when developing agreements and consider for whom the credit and recognition is most critical and whether there any team members who can begin letting more junior members have greater recognition. This may take the form of authorship, corresponding authorship, and/or presentation of invited talks.
- When joining an organization, ask it to outline how your contributions to team science will be formally reviewed and recognized.

Handling conflict

- Do not ignore conflict, take the time to understand what is driving the conflict, so as to help to resolve it.
- Consider strategies to handle conflict skillfully, including developing thorough listening skills to thoughtfully and fairly intervene in conflicts.
- Teams should be proactive and establish processes to handle conflicts, ambiguities, or other concerns when they arise.

Strengthening team dynamics

- Schedule regular meetings to check on how the team is functioning.
- Foster an environment that is collegial and nonthreatening.
- Recognize the strengths that each team member brings to the group.
- Encourage open and honest communication.
- Identify personnel issues early and address them swiftly.
- Recognize that individual success reflects the success of the team.
- Find ways to integrate individual career needs with the achievement of team goals.
- Stay attuned to each other’s needs.

Navigating and leveraging networks and systems

- Ensure that processes and procedures are in place to robustly and rigorously review, recognize, and reward researchers involved in highly collaborative research teams.
- Communicate and demonstrate to those participating on and leading research teams that their efforts, if truly outstanding, will be appropriately rewarded.
- Consider doing a Social Network Analysis to help you and other team members to understand the interactions that are or are not taking place within and outside of the team.

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