Leadership Lessons: Building and Nurturing a High-Performing Clinical Research Team

Leading a successful research program is akin to running a business. Both depend on innovation, collaboration, and reputation for success, yet few young investigators are prepared to lead their teams as they launch independent careers. To achieve their research and career goals, new principal investigators (PIs) must go beyond the science and refine their leadership and mentorship skills early in their careers.[1,2]

In this article, we outline the three core research leadership components—developing a mission and vision, building (composition and communication), and nurturing the team (proactive team-building strategies for long-term success). These components are scalable and applicable to a broad range of investigators and types of clinical research. In Table 1, we outline case scenarios and summarize strategies for building and leading a research team.

Mission and Vision Statements as a Research Compass

Every research team must have a mission and a vision statement. The mission statement for a research group describes its purpose and reason for existing, along with its values and overarching purpose. In other words, a mission statement is a succinct summary of a team's goals and aspirations. The vision statement of a research group outlines its trajectory—short and long term—while staying true and connected to its mission. Together, the mission and vision statements of a group anchor the research team, serving as a research, moral, and cultural compass during project management, execution, and implementation.[3] Time spent in developing a vision statement, with help from mentors and coaches if needed, becomes the most productive time spent in a new PI's career. Important domains to consider while developing a vision statement include a 5-year career plan, a 5-year research plan, financial goals, approach to work-life balance, and building connections to achieve this vision.

Building the Research Team: Composition and Communication

Building a successful research team requires understanding of the relevant roles, responsibilities, and skills necessary for achieving the outlined mission. Hiring and training the

appropriate individuals for a project is paramount to the success of any team. Specific roles will vary based on the type of research being conducted and the funding available.

Composition of a Clinical Research Team. In a clinical research group with funding, hiring an experienced project manager who can help coordinate and organize the team (including research assistants and associates to conduct field work) is beneficial. A project manager can also assist with regulatory paperwork and delegate tasks (e.g., survey administration, focus groups, data entry). Research associates perform day-to-day research activities, collect clinical data, enter data and help prepare reports and data tables. Data analysts help with data cleaning and management and must be engaged early in the process of planning and data collection. Team science often involves collaborating with experts in related fields, including medical and surgical subspecialties,[4] bioinformatics, and implementation and dissemination science. Recognizing the necessary expertise and networking early with collaborators is crucial to moving local projects into multisite trials that have potential for greater effect and reach.

When assembling a research team, it is important for the PI or project manager to review at least two letters of recommendation evaluating each candidate's strengths and weaknesses (Scenario 3, Table 1). Many supervisors are reluctant to provide negative recommendations, especially in writing. The applicant often writes his or her own recommendation letter. Thus, follow-up telephone calls with previous supervisors are critical for uncovering concerns not mentioned in a letter of support. More than one team member should interview each candidate. During interviews, questions should target honesty, integrity, work ethic, curiosity, and how well he or she will fit in the team. Other skills that are easier to list in an application (e.g., experience with regulatory processes, survey administration, data entry and management, new statistical methods) can be learned, although they require time and attention to detail.

New research team members have varying levels of experience and often need to develop skills that complement the needs of the research group. Investing time in training people can take a toll on research productivity. A practical and common scenario, especially in centers with multiple PIs, is sharing research staff. The benefits of sharing staff include lower cost because each PI supports a percentage of an individual's time and access to diverse expertise and skill set. The disadvantages include shifting priorities (of the various PIs) and task-switching

Table 1. Common Leadership Challenges and Potential Outcome-Driven Strategies

Quality	Case Scenario	Desired Outcome	Strategies
Establish trust as new PI.	PI was recently awarded a Career Development Award. Three candidates were interviewed, and Ms. Jones was hired because of her personable nature. Ms. Jones started off well as a new employee, but on the third day and in the middle of an important study procedure, she asked for time off for a family health emergency. Although, the PI was glad that Ms. Jones confided in him, he felt that this event would put him behind in his experiments. How should he respond?	Strong, cohesive, loyal team.	• Listen to, support, and address team member concerns. A health or personal crisis for any team member, even if it is a new hire, should be addressed immediately with unequivocal support. • Facilitate open, honest discussion at team meetings of each member's perspectives, aspirations, and motives. • Ensure appropriate follow-up or coverage for tasks when a team member is absent. • To be ethical is to be trustworthy. Emphasize ethical conduct as the most important quality of the research team.
Respect and understand value of every team member; recognize generational differences.	Ms. S. is an exceptional team member. She works hard, is on time, loyal, and knowledgeable and strives to achieve perfection. A post-doctoral trainee was recently added to the team who has limited experience and is aggressive about deadlines and manuscripts. During team meetings, it is clear that the post-doc is not open to feedback from Ms. S., the project coordinator. Ms. S. is intimidated by the post-doc.	A culture of open, honest, and respectful scientific discourse. Manage team dynamics so that science advances.	• PI to ensure that individual team members understand each other's goals, expertise, and priorities. • Set an example by defining issues that are perceived to be bothersome. • Know the personality type of each team member. Recognize differences but do not stereotype. • Use all forms of communication, but be cognizant of when in-person communication is best. Know what not to communicate, such as personal details about team members or disparaging remarks about other teams or colleagues. • Take time to meet one-on-one with each team member at least quarterly.
Build investment and enthusiasm with new independent funding.	PI recently received her first independent grant that expanded her research group from 0.5 FTE to 3.5 FTE with a post-doc, research fellow, research coordinator, and student.	Create a team that can successfully work together toward a goal and set a course toward sustained success.	• Create a vision and a mission statement. • Discuss how each team member contributes to the project and, in turn, the team's vision. Allow team members to provide input and ideas. • Support team members in achieving their professional growth (e.g., seminars, coursework). • Create and frequently discuss short- and long-term milestones and celebrate team achievements when each milestone is achieved. Schedule or integrate regular team-building and social activities; create rituals of celebrations when a paper gets published, a grant is funded, or a recruitment milestone is achieved.
Recognize high achievers.	Dr. P. has a successful, mature research group. She has three research associates who are excellent team members, but one is clearly outperforming the other two.	Match individual team member's potential with opportunities.	• Create an incentive structure including monetary bonuses, pay raises, and promotions commensurate with institutional human resources policies. • Do not promote members casually; promote on the basis of competence, new responsibilities, and ability to perform in a team. • Advocate for all team members and provide challenges that match their strengths and interests.

of the research staff. As a result, having clear expectations and transparency on time lines and competing priorities and deadlines is important, especially for larger groups that share resources and people.

Effective Communication Strategies to Inspire the Team. Our identity and the kind of research group we want to lead are often inseparable. Therefore, it is critical to understand our predominant behavioral, communication, and leadership style. As PIs, we must be decisive and understand when it is appropriate to lead and when to build consensus first.[5] In academia, we learn (from personal experiences, observations, and mistakes) that it is not beneficial to develop a reputation of being too abrasive, domineering, or micro-managing. There is a fine balance to leading and guiding an effective research team that includes firmness and direction along with kindness and humility.[6]

Individual behavioral and communication styles strongly influence the day-to-day dynamics of a team. The effort it takes to balance the team in terms of skills, personality, and work ethic often surprises junior faculty hiring their first team (Scenario 2, Table 1). Recognizing and understanding each individual's behavioral and communication style helps improve interpersonal interactions and resolve conflicts. Personalities notwithstanding, honesty, integrity, and work ethic are core criteria, as is the ability of an individual to work in teams. Humility and the ability to celebrate the success of other members are important qualities to consider when assembling a balanced group.[7]

Nurturing a Research Team: Team Building Strategies for the Long Run

Understanding the currency of success for each team member, in the context of the team's mission and vision, is critical to achieving efficiency and productivity in a team. Junior investigators are often astonished to learn that what is important to them is vastly different from what is important to individual team members. Aligning personal success, team success, and organizational priorities is critical to retaining team members and facilitating their growth. Identifying and revisiting the goals for each member will allow the PI to keep up with project progress, the morale of individual team members, and the overall motivation of the team.

Motivation to generate and continue high-quality work is inspired when the team members see progress and are invested in the iterative revision and critical appraisal of the research questions and answers. Setting aside time for group meetings in which team members present their progress and understand how their work fits within the mission helps promote engagement and motivation. It is critical for the PI to have regular one-on-one meetings with team members to develop long-term relationships, discuss projects, and provide direction and mentorship in an inherently emotionally charged research environment. These meetings also provide a venue to have difficult conversations early. Team members, along with the PI, benefit from learning how to provide and receive constructive feedback, especially in instances in which personalities differ. Although not discussed often, it is important to recognize and encourage high-achieving team members (Case

Scenario 4, Table 1). Accomplished business leaders often admit that one of the biggest mistakes they have made is having talented people in the wrong roles. Although an academic structure does not allow for flexibility to change roles rapidly, acknowledging team members' strengths and aligning their roles in the team with their strengths increases job satisfaction and reduces attrition.

Investing time early in team-building serve many purposes. First, it motivates the team to execute the team's vision. Effects of everyday research activity can be recognized only after many years. Team-building activities serve as short-term celebratory events. Second, it allows team members to know their leaders at a personal level. It creates a comfortable environment for team members to share and generate new ideas and research directions. Third, it allows team members to understand daily pressures on new and seasoned PIs, including promotion and tenure, publishing in a timely fashion, and securing ongoing funding. Fourth and most importantly, it serves as a way to reduce stress and prevent burnout. Engaging team members in planning these team-building activities provides them with a sense of contribution that is outside of their work life.

Concluding Comments

Although the core components outlined in this article have focused on clinical research teams, similar concepts of team building and leadership apply to basic and translational research teams, and to the clinical care of complex older adults. Developing and leading a high-performing team takes vision, time, and management skills. Understanding and managing individual and team expectations is critical. Inevitably, the success of the team is what determines its productivity and lends to the success of the PI's and institution's academic missions. Acquiring these team leadership and personal skills is often learned over time or passed on from mentor to mentee, but supplementing these skills with more formal leadership workshops should be an institutional priority. As in the business world, investing in leadership skills is essential in the era of collaborative care and team science.

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