

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

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*I was 19 when I started Facebook, and I didn't know anything about building a company. Over the years I've made almost every mistake you can imagine. I've made dozens of technical errors and bad deals. I've trusted the wrong people and I've put talented people in the wrong roles. The reason our community exists today is not because we avoided mistakes. It's because we believe what we're doing matters enough to keep trying to solve our greatest challenges.*

- Mark Zuckerberg, on Facebook's 14<sup>th</sup> birthday, Feb 4, 2018

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 research teams as they launch independent careers. Junior investigators universally feel ill-equipped to run a team. 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.<sup>1,2</sup>

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) — that are vital to the successful development and cultivation of an effective research group. These core 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**

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 for a team's goals and aspirations. The vision statement of a research group outlines its trajectory – both short-term 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.<sup>3</sup> Time spent in developing a vision, 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, 5-year research plan, financial goals, approach to work-life balance and importantly, building connections to achieve this vision.

### **Building the Research Team: Composition and Communication**

Building a successful research team requires understanding the relevant roles, responsibilities, and skills that are 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 ample 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 (i.e., survey administration, focus groups, and regulatory paperwork). 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 several medical and surgical subspecialties,<sup>4</sup> bioinformatics, implementation and dissemination science; recognizing the necessary expertise and networking early with collaborators is crucial to move local projects into multi-site trials that have potential for greater impact and reach.

When assembling a research team, it is important for the PI and/or project manager to review at least two letters of recommendation evaluating a candidate's strengths and weaknesses. There is reluctance by many to provide negative recommendations, especially in writing. Many recommendation letters are written by the person being recommended. Thus, follow-up telephone calls with references are critical for uncovering issues not mentioned in a letter of support. Furthermore, each candidate should be interviewed by more than one team member. During interviews, key questions should target characteristics of honesty, integrity, work ethic, curiosity, and importantly, how well he or she will fit in the team. Other skills that are easier to list in an application (i.e., learning the local regulatory process, survey administration, data entry and management, new statistical methods) can be learned, albeit require time and attention to detail.

New research team members have varying levels of experience and often need to develop additional 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 since each PI supports a percentage of an individual's time. Other benefits include more efficient training in diverse skill sets. The disadvantages include shifting priorities (of the various PIs) and task-switching 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 Communications 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 the PI, we must be decisive, understand when it is appropriate to lead and when to build consensus first.<sup>5</sup> 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 successfully leading and guiding an effective research team that includes firmness and direction, along with kindness and humility.<sup>6</sup>

Day-to-day dynamics of a team are strongly influenced by individual behavioral and communication styles. Junior faculty hiring their first research team are often surprised by the effort it takes to ‘balance’ their team in terms of skills, personality and work ethic (see scenario 2 in Table 1). Recognizing and understanding each individual’s behavioral and communication style helps improve interpersonal interactions and achieving conflict resolution. Personalities not withstanding, honesty, integrity, and work ethic are core criteria, as is the ability of an individual to work as a member of a team. Humility and the ability to celebrate the success of other members are important qualities to consider when assembling a balanced group.<sup>7</sup>

### **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. It often

comes as a surprise to junior investigators 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 key 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, morale of individual team members and 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 where 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 to 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 where personalities differ. Although not discussed often, it is important to recognize and incentivize high-achieving team members (Case Scenario 4, Table 1). Accomplished business leaders often acknowledge that one of the biggest mistakes they have made is having talented people in wrong roles. While an academic structure does not allow for flexibility to change roles rapidly, acknowledging team members' strengths and aligning their role in the team with their strengths helps with job satisfaction and reduces attrition.

Investing time early in these team-building strategies serves many purposes. First, it motivates the team to execute the team's vision. Impact from everyday research activity can be recognized only after many years. Team-building activities then serve as short-term celebratory

events. Second, it will allow the team members to know their leaders at a personal level. It creates a comfortable environment for team members to share ideas and thus serve as a milieu to generate new ideas and research directions. Third, it allows team members to understand daily pressures felt by new and seasoned PIs, including promotion and tenure, publishing in a timely fashion, and securing ongoing funding. Fourth and most importantly, it serves as 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**

While the core components outlined in this article have focused on clinical research teams, similar concepts of team building and leadership apply 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 in time or passed on from mentor to mentee, however, supplementing these skills with more formal leadership workshops should be an institutional priority. It is clear, as seen in the business world, that investing in leadership skills is essential to the success of the future front lines of clinical care and research in the era of collaborative care and team science.



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**References:**

1. Bennett LM, Gadlin H. Collaboration and team science: From theory to practice. *J Investig Med*. 2012 Jun;60(5):768–75.
2. Chopra V, Arora VM, Saint S. Will you be my mentor? Four archetypes to help mentees succeed in academic medicine. *JAMA Intern Med*. 2017 Nov 27. doi: 10.1001/jamainternmed.2017.6537. [Epub ahead of print]
3. Coleman J. Six components of great corporate culture. *Harv Bus Rev*. 2013 May 6 [cited 2017 Dec 4]. Available from: <https://hbr.org/2013/05/six-components-of-culture>.
4. Hurria A, High KP, Mody L et al. Aging, the medical subspecialties and career development: where we were, where we are going. *J Am Geriatric Soc*. 2017; 65:680-687.
5. Mandela: His 8 lessons of leadership. *Time Magazine*. 2008 July 9 [cited 2017 Dec 4]. Available from: <http://content.time.com/time/subscriber/article/0,33009,1821659,00.html>.
6. Ramey PG, Miller ED. A single mission for academic medicine: Improving health. *JAMA*. 2009 Apr 8;301(14):1475-6.
7. Benkler Y. The unselfish gene. *Harv Bus Rev*. 2011 Jul-Aug;89(7-8):76–85, 164.

**Table 1.** Common Leadership Challenges and Potential Outcome-driven Strategies

Quality	Case Scenario	Desired Outcome	Strategies
Establish trust as new PI	PI is recently awarded a Career Development Award. Three candidates were interviewed and Ms. Jones was hired due to her personable nature. Ms. Jones started off very well as a new employee, but on the third day and in the middle of an important study procedure, she asked for time off due to a family health emergency. On the one hand, PI was glad that Ms. Jones confided in him. However, he did feel that this event will put him behind in his experiments. How should he respond?	A strong, cohesive, loyal team	<ul style="list-style-type: none"> <li>-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 dealt with immediately with unequivocal support.</li> <li>-Facilitate open, honest discussion at team meetings to each member's perspectives, aspirations, and motives.</li> <li>-Ensure appropriate follow-up or coverage for tasks when a team member is absent.</li> <li>-To be ethical is to be trustworthy. Emphasize ethical conduct as the most important quality of the research team.</li> </ul>
Respect/understand the value of every team member; recognize generational differences	Ms. S. is an exceptional team member. She works hard, is on time, loyal, 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.	<p>A culture of open, honest, and respectful scientific discourse</p> <p>Manage team dynamics so that science advances</p>	<ul style="list-style-type: none"> <li>-PI to ensure that individual team members understand each other's goals, expertise, and priorities.</li> <li>-Set an example by defining issues that are perceived bothersome.</li> <li>-Know the personality type of each team member. Recognize differences but do not stereotype.</li> <li>-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.</li> <li>-Take time to meet one-on-one with each team member at least quarterly.</li> </ul>
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 a student.	Create a team that can successfully work together towards a goal <i>and</i> set a course towards sustained success	<ul style="list-style-type: none"> <li>-Create a vision and a mission statement.</li> <li>-Discuss how each team member contributes to the project, and in turn, the team's vision. Allow team members to provide input and ideas.</li> <li>-Support team members in achieving their professional growth (i.e., seminars, coursework, etc.).</li> <li>-Create and frequently discuss short-term and long-term milestones and celebrate team achievements when each milestone is achieved. Schedule or integrate team-building and social activities routinely; create rituals of celebrations when a paper gets published or a grant is funded or a recruitment milestone is achieved.</li> </ul>
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 over-performing as compared to the other two.	To match individual team member's potential with opportunities	<ul style="list-style-type: none"> <li>-Create an incentive structure including monetary bonuses, pay raise, and promotions that is commensurate with institutional human resources policies.</li> <li>-Do not promote members casually; promote on the basis of competence, new responsibilities, and ability to perform in a team.</li> <li>-Advocate for all team members and provide challenges that match their strengths and interests.</li> </ul>

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