Assessing Leadership Skills in Translational Science:  
The Rockefeller University Team Science Leadership Survey

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**INTRODUCTION:**
While there is universal recognition of the importance of team science and team leadership in clinical and translational science, there is a remarkable dearth of valid and reliable outcome measures on team science leadership. As a result, we developed a semi-quantitative translation-specific team leadership competency assessment tool and have begun pilot studies to validate it and use it to assess the impact of personalized feedback on the team science leadership skills of KL2 Clinical Scholars. We continue testing and refinements and will make the tool available to the CTSA community.

**METHODS:**
To create the instrument, we employed a modified Delphi approach by conducting a thorough literature review on Team Science Leadership to help concretize the relevant constructs, and then using these extracted constructs as a springboard for the Rockefeller Team Science Educators (TSEs) to discuss and refine the leadership domain areas, collectively creating domain-specific survey items, and then further discuss and refine the number, grouping, and wording of the items. Colleagues at Yale and the University of Pennsylvania participated in the development of the competencies. We piloted the Leadership Survey by having all Rockefeller TSEs rate Clinical Scholars using Leadership/Management items. Each item was answered using a six-point Likert scale where a low score indicates low expression of the specific leadership attribute and a high score represents excellent expression of the specific leadership attribute.

**LEADERSHIP – FOUNDATIONAL COMPETENCIES**

1. Establishes a compelling vision and sets appropriate goals
2. Creates a culture that values and supports diversity
3. Fosters an environment of mutual trust
4. Develops and nurtures collaborations and external relationships
5. Explores opportunities for growth and development on a continuous basis
6. Anticipates obstacles and devises strategies to overcome them
7. Supports and mentors all members of the team
8. Anticipates the need for resources to carry out initiatives and obtains them in a timely manner
9. Establishes and oversees communication structure and processes that ensures that both oral and written communication with and among all team members and other stakeholders is timely and effective.

**LEADERSHIP – PROFESSIONALISM**

1. Accepts responsibility as PI for the conduct of all aspects of the study
2. Establishes and adheres to the highest professional and ethical standards
3. Commits to continuing education
4. Commits to transparency, invites feedback from all team members, and implements ideas that garner broad support
5. Recognizes and rewards contributions of all team members

**RESULTS:**
We have completed 77 ratings of 14 scholars in the 2020 academic year, and all scholars have also rated themselves across the same dimensions. The results are returned to the Scholar in person by their mentor and the Director and Co-Director of the program. Results include the item, the average rating from all TSEs, the Scholar’s rating, and comments from the TSEs and the Scholar. Scholars are also offered an opportunity for self-reflection. We are working with Vanderbilt to install survey onto REDCap for ease of dissemination.

**MANAGEMENT – TEAM BUILDING**

1. Articulates vision and goals clearly and unambiguously
2. Insures timely and effective bidirectional communication with all team members and among team members
3. Demonstrates respect for team members via active listening and rapid follow up, and sensitivity to both verbal and nonverbal communication
4. Leads team meetings effectively, with defined agenda, adequate time for discussion, and adherence to starting and stopping times. Summarizes meetings and creates action plan with clear assignment of responsibility and expected completion dates
5. Celebrates milestones and accomplishments
6. Recognizes and acknowledges strengths of team members
7. Takes responsibility for all team errors and immediately develops corrective action plan based on detailed analysis of system failures leading to error
8. Intervenes as rapidly as possible to resolve conflicts, listening carefully and in confidence to all parties, and mediating resolution via building out fairly and equitably from shared values and goals
9. Seeks assistance from more senior investigator(s) and administrators when unable to successfully address problems
10. Communicates with, and is available to, clinical staff in labs and Hospital participating in the study.

**MANAGEMENT – APPROPRIATE USE OF RESOURCES**

1. Takes initiative in planning for appropriate staffing and identifying appropriate space, equipment, and other resources needed to conduct study
2. Formulates with the help of others effective and innovative strategies to achieve goals and reformulates strategy as appropriate to address unexpected obstacles and/or new opportunities
3. Monitors results and team function continuously and makes adjustments when necessary as rapidly as possible
4. Delegates responsibilities appropriately while still maintaining oversight and performing systematic review of actions taken by others
5. Provides constructive critical feedback to members of the team discretely on an ongoing basis.

**MANAGEMENT – REGULATORY ACCOUNTABILITY**

1. Knows, understands, and transmits to team members information about applicable regulations related to hospital accreditation, protection of human subjects, Good Clinical Practice (GCP), research sponsor requirements, FDA, New York State Department of Health, and Rockefeller University policies, as well as local, state, and federal laws
2. Knows acceptable methods of data analysis and proper methods of transmission of data to regulatory agencies and to appropriate databases to comply with data sharing responsibilities
3. Creates financial plan in accord with University and sponsor requirements and oversees budget and payments
4. Understands responsibilities in protecting intellectual property and complies with University and sponsor requirements for invention disclosures

**NEXT STEPS:**
1. We are partnering with the CTSA programs at Penn, Yale and Columbia to assess issues of generalizability and scalability
2. We are working with Vanderbilt to install survey onto REDCap for ease of dissemination
3. Will continue to assess psychometric properties and refine as we receive more input.