



Team Science Toolkit

Kara L. Hall, Ph.D.

**Director, Science of Team Science Team
Office of the Associate Director
Behavioral Research Program
Division of Cancer Control and Population Sciences
National Cancer Institute**

Science of Team Science Team

- **Team Members**
 - **Kara Hall, PhD**
 - **Daniel Stokols, PhD**
 - **Annie Feng, PhD**
 - **Brooke Stipelman, PhD**
 - **Amanda Vogel, PhD**
- **Additional NCI Collaborators**
 - Richard Moser, Glen Morgan,
Stephen Marcus, Linda Nebeling, Brad
Hesse, Shobha Srinivasan,
David Berrigan, James Corrigan,
Lawrence Solomon, William Klein



Science of Team Science Team Foci

1) Studying Team Science

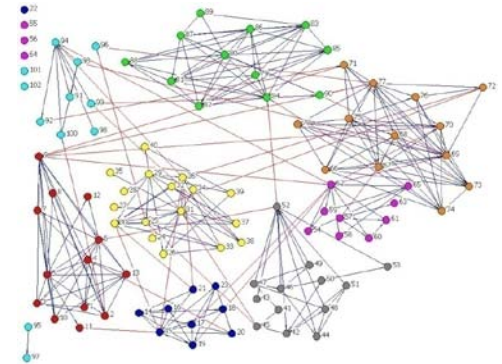
- Understanding processes and outcomes of Team Science through multi-method approaches
- Advancing methods, measures, definitions and models

2) Developing/Supporting the Field of the Science of Team Science

- 2006 Science of Team Science Conference
- 2008 AJPM Supplement – The Science of Team Science: Assessing the Value of Transdisciplinary Research
- 2010 NUCATS STS Conference

3) Facilitating Team Science Programs and Projects

- Scientific Meetings for Creating Interdisciplinary Teams (R13)
- Team Science Toolkit



The Problem

- Growing investment in and numbers of people **engaging in, studying, managing, educating and training others around skills, attitudes and knowledge about** team science
 - within a broad research infrastructure and culture not designed/prepared to support it
 - Incentive structures
 - Dissemination pathways
- Increasing number of resources and knowledge to inform team science - but *dispersed* across the vast disciplinary landscape

The Need

- Platform to **summarize and consolidate** cutting-edge **knowledge from disparate disciplines** about STS and the practice of TS
- Interactive tools to **facilitate communication** among stakeholders in TS, and draw upon their existing knowledge to
 - advance the STS
 - facilitate the practice of TS
- Place for **experts studying team science** from a variety of fields (e.g., management, organizational psychology, social psychology) to **find/share work**
- Place for a broad range of stakeholders invested in the practice of TS to **find/share tools to facilitate the practice of TS**

The Team Science Toolkit provides resources to support the practice and science of Team Science.

On this site, you will find tools to facilitate team science, measures and instruments to study team science, a user-generated bibliography, expert blogs, user groups, and more.

Find Resources

[Advanced Search](#)

ENGAGING *in Team Science*

- [Download tools to facilitate team science](#)
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WHAT IS TEAM SCIENCE? »

BIBLIOGRAPHY »

EXPERT BLOG »

Each month a different team science expert will write a column about current issues in the field of team science.

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What is Team Science?

About Team Science

Over the past two decades, there has been a surge of interest and investment in team science. Increasingly, scientists are engaging in large and small team-based research initiatives, in contrast to individually-directed research endeavors. In addition, national governments and large funding agencies are investing in large-scale interdisciplinary team science programs.

About the Science of Team Science

It is useful to distinguish between team science initiatives, themselves, and the field of Science of Team Science (STS). This rapidly emerging field encompasses both conceptual and methodological approaches that aim to understand and enhance the processes and outcomes of team science initiatives.

RELATED RESOURCES:

The selected resources below offer an introduction to team science and the STS field. Additional resources can be identified through the Advanced Search.

- [Bibliography: Team Science History, Theory and Concepts](#)
- [Historical and current activities of the Science of Team Science Team, National Cancer Institute, Division of Cancer Control and Population Sciences,](#)

USEFUL WEBSITES:

The following websites provide additional information about the state of the STS field today, and an array of additional resources to support team science initiatives and Studies of Team Science.

- National Cancer Institute's Science of Team Science Resources:
<http://cancercontrol.cancer.gov/brp/scienceteam/index.html>

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Search Team Science Resources

Advanced Search

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Search for the following keywords or terms:

Collaboration

Only show resources related to:

Select All

- What Is Team Science?
- Engaging in Team Science
- Studying Team Science

Only show resources that aim to:

Select All

- Learn about the field of team science: history, theory, and concepts
- Establish or maintain effective team science endeavors
- Enhance team performance, interactions, and attitudes in an existing team science endeavor
- Provide institutional support for team science
- Provide training for team science to team members or students
- Conduct research on/evaluate team science

Language

English



GO

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Search Results

Your search returned the following 8 results:

Tools to Facilitate Team Science

The Teamwork Framework Assessment Tool

This is an analytic tool that can be used to assess a team's attributes, processes, and effectiveness. It offers a conceptually-driven framework, and specific...

Best Practices for Improving Communication

This is a succinct list of "best practices" for improving communication and working relationships among collaborating scientists...

Bibliographic References

Silence Is Not Golden: Making Collaboration Work

This is a brief article that identifies key strategies for successful collaborations among scientists, and provides guidance for how to implement these strategies...

Team attributes, processes and values: A pedagogical framework

In this article, Keyton and Beck propose a framework that intersects five fundamental group attributes (group size, group goal, group member interdependence, group structure...

Measures/Instruments to Study/Evaluate Team Science

Research Orientation Scale

The Research Orientation Scale (ROS) assesses the unidisciplinary or cross-disciplinary proclivity of investigators' values and attitudes toward research...

News and Events

Science of Team Science Conference

Attend the Science of Team Science Conference from April 22 - 24, 2010...

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Research Orientation Scale (ROS)

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Goal(s):

- Enhance team performance, interactions, and attitudes in an existing team science endeavor
- Conduct research on/evaluate team science

Brief Description: The Research Orientation Scale (ROS) assesses the unidisciplinary or cross-disciplinary proclivity of investigators' values and attitudes toward research. This scale was designed to assess the cross-disciplinary continuum as defined by Rosenfield, by using items that measure each of four major research orientations: unidisciplinary, multidisciplinary, interdisciplinary and transdisciplinary. This scale was used by the National Cancer Institute, Division of Cancer Control and Population Sciences, Behavioral Research Program (DCCPS BRP), Science of Team Science Team, for evaluation of the Transdisciplinary Research in Cancer and Energetics (TREC) initiative.

Keywords: Collaboration, orientation, interdisciplinarity, transdisciplinarity, assessment

Language(s): English

Lead Developer: Kara Hall, Ph.D., Director, Science of Team Science Team, National Cancer Institute, Division of Cancer Control and Population Sciences, Behavioral Research Program

Lead Developer Contact E-mail: hallka@mail.nih.gov

Version Date: 2008

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About the Research Orientation Scale (ROS)

The Research Orientation Scale (ROS) assesses the unidisciplinary or cross-disciplinary proclivity of investigators' values and attitudes toward research, using a five-point Likert scale ranging from strongly disagree to strongly agree. Previous measures of researchers' orientations asked them to describe their transdisciplinary values and behaviors. In contrast, this scale was designed to assess the cross-disciplinary continuum as defined by Rosenfield, by using items that measure each of four major research orientations: unidisciplinary, multidisciplinary, interdisciplinary and transdisciplinary (Rosenfield PL. The potential of transdisciplinary research for sustaining and extending linkages between the health and social sciences. Soc Sci Med, 1992; 35: 1343-57).

This scale was used by the National Cancer Institute, Division of Cancer Control and Population Sciences, Behavioral Research Program (DCCPS BRP), Science of Team Science Team, for evaluation of the Transdisciplinary Research in Cancer and Energetics (TREC) initiative. For more information about this scale, and other instruments used to evaluate TREC and other large team science initiatives, read this related manuscript:

Hal KL, Stokols D, Moser RP, Taylor BK, Thornquist MD, Nebeling LC, Ehret CC, Barnett MJ, McTiernan A, Berger NA, Goran MI, Jeffery RW. The collaboration readiness of transdisciplinary research teams and centers: Findings from the National Cancer Institute's TREC Year-One Evaluation Study. American Journal of Preventive Medicine, 2008; 35(2S): S161-S172.

Also feel free to contact Kara Hall PhD, director of the Science of Team Science team at DCCPS BRP: hallka@mail.nih.gov

The Research Orientation Scale

Please indicate how strongly you agree or disagree with each of the following statements:

	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree
1. I tend to be more productive working on my own research projects than working as a member of a collaborative research team.	•	•	•	•	•
2. There is so much work to be done within my field that I feel it is important to focus my research efforts with others in my own discipline.	•	•	•	•	•
3. The research questions I am often interested in generally do not warrant collaboration from other disciplines.	•	•	•	•	•
4. While working on a research project within my discipline, I sometimes feel it is important to seek the perspective of other disciplines when trying to answer particular parts of my research question.	•	•	•	•	•
5. Although I rely primarily on knowledge from my primary field of interest, I usually work interactively with colleagues from other disciplines to address a research problem.	•	•	•	•	•

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Thanks

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- Postdoctoral position in the Science of Team Science open!
- Science of Team Science Information:
<http://cancercontrol.cancer.gov/brp/scienceteam/index.html>
- Contact: hallka@mail.nih.gov