Launching Your Research Program: Non-Traditional Research Pathway

Collaborative Translational Science

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Case Presentation

Phillips et al; Ann Vasc Surg; 2016(3)
Pediatric Renovascular HTN Center

Pediatric Nephrology
  David Kershaw
  *Zubin Modi

Pediatric Urology
  John Park

Anesthesia
  Critical Care

Social Work
  Matt Butler

Vascular Surgery
  James Stanley
  Jonathan Eliason
  *Dawn Coleman

Interventional Radiology
  David Williams
  Minhaj Khaja
  Sahira Kazanjian

Nurse Coordinators
  Char Minard
  Susan Young

*Co-Directors
No Disclosures ($$)

- **R01 Co-investigator (R01 HL139672-04 – Genetic and Genomic Analysis of Arterial Dysplasia) with Dr. Santhi Ganesh**

- **Principal Investigator of Pediatric DAAD Studies (Michigan Medicine Dysplasia-Associated Arterial Disease) Precision Medicine Network**
  - Dr. Ganesh = PI of Adult DAAD Studies and Overall Scientific Director

- **Still learning and navigating actively multi-disciplinary and international collaboration (Ask me next year!)**

- **Eternal optimist**
Objectives

- Why collaborate?

- Considerations for successful collaboration and translational team science
Why collaborate?

- Increased specialization of research expertise and methods

- Collaboration Pays: Surge of interest and investment in multi- and interdisciplinary team science programs

- Science-of-Team-Science (SciTS) - coined in 2006
  - Encompasses an amalgam of conceptual and methodological strategies aimed at understanding and enhancing the outcomes of large-scale collaborative research and training programs
NIH Incentive:

- 2006 - the NIH modified its intramural tenure evaluation guidelines
- 2007 NIH permitted applications with multiple PIs
• In 2017, the National Institutes of Health published a Funding Opportunity Announcement
  – Highly integrated research teams
  – 3-6 PIs to address ambitious and challenging
  – Research questions that are important for the mission of the NIH - General Medical Sciences (NIGMS) and that are beyond the scope of one or two investigators.

• Teams have been encouraged to consider far-reaching objectives that will produce major advances in their fields
NIH funding bolsters rare diseases research collaborations

New grants aimed at better understanding diseases, moving potential treatments closer to the clinic.

Of an estimated 6,500 to 7,000 known rare diseases, only a fraction – maybe 5% – have U.S. Food and Drug Administration-approved treatments. To increase that percentage, the National Institutes of Health has awarded approximately $31 million in grants in fiscal year 2019 to 20 teams – including five new groups – of scientists, clinicians, patients, families and patient advocates to study a wide range of rare diseases. An additional $7 million has been awarded to a separate data coordinating center to support these research efforts.

The grants, which support consortia that together form the Rare Diseases Clinical Research Network (RDCRN), are aimed at fostering collaborative research among scientists to better understand how rare diseases progress and to develop improved approaches for diagnosis and treatment. This is the fourth five-year funding cycle for the RDCRN, which is supported by multiple NIH Institutes and Centers and led by NIH’s National Center for Advancing Translational Sciences (NCATS) and the NCATS Office of Rare Diseases Research.
For the Tenure-Track Scientist

• Tenure-track investigators must demonstrate their independence.

• Institutional systems, policies, and criteria needed to assure early career investigators that they can participate on collaborative research teams (and will be appropriately reviewed and rewarded during the tenure process).

• Various tools exist:
  – Offer letter
  – Pre-tenure agreement
  – P&T criteria
  – Joint appointment agreements
What Is a Scientific Research Team?
...think of it as a continuum...

<table>
<thead>
<tr>
<th>INVESTIGATOR-INITIATED RESEARCH</th>
<th>COLLABORATION</th>
<th>INTEGRATED RESEARCH TEAM</th>
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<tbody>
<tr>
<td>Investigator works largely independently on a research problem with his or her laboratory.</td>
<td>Each group member brings expertise to address the research problem.</td>
<td>Each team member brings specific expertise to address the research problem.</td>
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<tr>
<td>Group members work on separate parts of the research problem, which are later integrated.</td>
<td>Data sharing or brainstorming among lead investigators varies from limited to frequent.</td>
<td>Teams meet regularly to discuss team goals, individuals’ objectives, and next steps.</td>
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<td>Team shares leadership responsibilities, decision-making authority, data, and credit.</td>
<td>Frequently, new leaders emerge to take on projects from new ideas sparked by the joint work.</td>
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- Small Teams
- Research Centers
- Institutes
- Consortia
- Networks
Foster TRUST

Regular Data Meetings

Feedback / Debate

Conflict Resolution

Sharing

Safety

Accountability
Develop a shared vision:
The Value of Self Reflection

- Recognize (others may have a different perception)
  - Ask questions to understand
  - Appreciate
  - Remind yourself (differences)
**Coordinate Multiple PIs**

- Individual roles/responsibilities
- Fiscal and management cooperation
- Process for making decisions on scientific direction and allocation of resources
- Data sharing and communication among investigators
- Publications and IP
- Procedures for resolving conflicts
Recognition and Sharing Success
**My Thoughts:**

- Recognize the collective power of diverse experts
  - Build strong research relationships
  - Senior investigators get funded (established record) + team players (will deliver results)
- Commit to the science/vision – be a little selfless
- Establish ground rules up front
  - Focus on the SCIENCE!
- Grant writing: highlight diverse expertise of your team, convey commitment to the common goal, allow EXTRA TIME, consider independent reviewer
- Avoid ‘bad apples’
Taubman Institute presents:

First International Symposium on Pediatric Renovascular Hypertension

Save the Date

November 11 & 12, 2019
Ann Arbor, MI

Keynote Speaker

Harry C. Dietz III, MD
Professor of Genetics in the Departments of Medicine, Pediatrics, and Molecular Biology and Genetics at the Johns Hopkins University School of Medicine

Please join colleagues and experts in Ann Arbor for this collaborative and informative conference which will bring multi-disciplinary experts together to identify best practices in the clinical management of these unique pediatric patients.

Attendance at the conference—including breaks and lunch—is free of charge. Visit UMichPediRVHSymposium.org for complete program, travel and registration information.

Follow on Twitter @PediRVH2019 for updates and news.
ORGANIZERS

Co-Chairs:

- Dawn Coleman, MD (University of Michigan)
- Rulan Parekh, MD, MS, FRCPC (The Hospital for Sick Children)

Planning Committee:

- Joao Amaral, MD (The Hospital for Sick Children)
- Michael Ferguson, MD (Boston Children’s Hospital)
- Santhi Ganesh, MD (University of Michigan)
- Kevin Meyers, MD, MBBCh (Children’s Hospital of Philadelphia)
- Kjell Tullus, MD, PhD, FRCPCH (Great Ormond Street Hospital for Children)
8 UM Speakers; 24 External Speakers; 7 Invited Guests (moderate/working groups)
Always keep the Science and the Patient in clear focus!

No man is more important than The Team. No coach is more important than The Team. The Team, The Team, The Team, and if we think that way, all of us, everything that you do, you take into consideration what effect does it have on my Team?

— Bo Schembechler —