Healthcare Innovation Program
Health Services Research
Fred Sanfilippo MD, PhD
Health Services Research
Definition: *AcademyHealth*

A multidisciplinary scientific field of healthcare:
- Quality (safety, outcomes, satisfaction)
- Costs (value)
- Access (utilization)

And the impact on each by:
- Social determinants, personal behaviors
- Economics and technology
- Organizational structures and processes

HSR is the science/field of study that asks:
- What works?
- For whom?
- At what cost?
- Under what circumstances?
Health Services Research
Definitions: T0 - T4 Research

T0: Basic Science; Bench
In vitro, animal model, simulation studies of pathophysiology, mechanisms of health and disease.

T1: Application; Bedside (Phase 1, 2 Trials)
Initial application to potential human use; animal, simulation, clinical studies of safety, potential efficacy.

T2: Efficacy; Clinical trials (Phase 2, 3 Trials)
Human clinical trials across selected large patient cohorts to confirm effectiveness vs control cohorts.

T3: Implementation; Clinical practice (Phase 4 Trials)
Studies on new interventions to standard practice, examining effectiveness, safety, outcomes.

T4: Dissemination; Population health
Studies of interventions and determinants (medical, social, policy, delivery models, etc) on population health and illness.
Background

Rationale

• Emory priority to expand health services research
• Existing programs scattered across units, institutions
• Limited resources to establish traditional “center”

Strategy

• Leverage complimentary assets at Emory, Georgia Tech
• Engage local academic and healthcare organizations
• Leverage HC research, educational and service programs
Goals

Increase Quality/Scope/Scale of HSR&E
- Enhance current research, education, service programs
- Identify/stimulate new programs
- Expand faculty, student, staff interactions
- Facilitate access to information/collaborators for grant submissions, educational offerings, new programs

Increase Recognition/Impact of HSR&E
- Locally - speakers, symposia, projects, seed grants
- Nationally, globally
  - external advisory board
  - website, social media, communication
Overview: Plan

An interactive network that provides

- Information: people, programs, news, events
- Resources: seed grants, infrastructure, media
- Connections: among/between faculty, staff, students
- Leverage: existing assets; avoid costs

Facilitate/accelerate healthcare innovation

- Research: health services/systems; clinical effectiveness
- Education: symposia, workshops, courses
- Programs: health care quality, access, value
Development Phases

**Phase I:** Sept 2010-Jan 2011
- Appoint SPC, hire Coordinator (0.5FTE)
- Refine strategy & plan
- Inventory Emory activities by people, topics
- Develop internal website

**Phase II:** Jan- April 2011
- Inventory Georgia Tech activities
- Engage ACTSI, CHOA
- Initiate interdisciplinary interest groups

**Phase III:** April-Sept 2011
- Launch website, enhance functionality; track use
- Expand partners, content
Phase IV: Sept 2011-Sept 2012
- Appoint EAB, faculty/student liaisons, RAs
- Initiate seed grants, symposia, student programs
- Assess educational offerings, student interests

Phase V: Sept 2012-Sept 2013
- Facilitate inter-institutional projects
- Form student groups (AH, HIL), appoint liaisons
- Develop HSR funding/activity analytics

Phase VI: Sept 2013-Sept 2014
- Initiate student symposia, essays, blogs
- Design, offer courses on Healthcare & HSR
- Develop Implementation Science program
Website Content

Healthcare Topics – 9 major topics are covered by the healthcare services research, educational and program activities of Emory and other support organizations

- Access to Healthcare
- Delivery and Payment Models
- Economic Values and Models
- Education and Communication
- Disease Prevention and Patient Management
- Population Safety and Risk
- Technology and Informatics
- Outcomes and Evaluations
- Social Determinants and Disparities
Website Content (cont.)

Research
- Projects at Emory, Georgia Tech, Morehouse School of Medicine, Georgia CTSA members and their partner institutions span all HIP topics
- Projects can be sorted by topic, school, organization, faculty, etc.
- >1300 projects; >700 faculty

Educational Offerings
- By program topic, schools, organization (>50 courses)
- Seminars, lectures, meetings, courses, program/center

Information, Resources, Faculty
- Faculty by topic/category, sponsor, institution
- Funding sources, support programs/organizations
- News, opinions, events, Innovation Highlights, etc.
Website: http://hip.emory.edu/
Participating Institutions

**Universities**
- Emory University
- Georgia Tech University
- Morehouse School of Medicine
- Georgia State University
- University of Georgia

**Health Systems**
- Emory Healthcare
- Children’s Healthcare of Atlanta
- Grady Health System
- Atlanta VAMC

**Organizations**
- Georgia Clinical & Translational Science Alliance
- CDC
Institutional Liaisons

Emory University
College of Arts and Sciences
Goizueta Business School
Emory Law School
Rollins School of Public Health
School of Medicine
School of Nursing
Emory Healthcare

Georgia Tech University
Schiller Business School
Institute for People & Technology
Institute for Bioengineering & Bioscience
Georgia Tech Research Institute
Institutional Liaisons

Morehouse School of Medicine

Georgia State University

Children’s Healthcare of Atlanta

Grady Health System

Atlanta VAMC

American Cancer Society

Kaiser-Permanente SE Center for Healthcare Research

Centers for Disease Control and Prevention
Student Advisory Group
School Representatives

College of Arts and Sciences
  Alpha Epsilon Delta Pre Health Honor Society

Goizueta Business School
  Goizueta Healthcare Club

Law School
  Health Law Society

School of Medicine
  Medical School Senate (SGA)

School of Nursing
  Graduate Nursing Council (SGA)

School of Public Health
  Rollins SGA

Georgia Tech University
  Bioengineering/Bioscience Grad Students
Student Advisory Group
Organization Representatives

IHI-Open School

AcademyHealth Emory Student Chapter

Healthcare Innovation Lab

AMA/Medical Student Section

Emory Healthcare House Staff Organization

Healthcare Innovation Program
Research Assistants
Programs – Activities

Seed Grants
Semi-annual awards ($25k/yr) for multi-institution, multi-disciplinary pilot or complete projects: 14 rounds, 31 awards, >500 participants

Symposia
Quarterly on “US Healthcare: What’s Broken & How to Fix It” with guest speaker + local experts: 30 symposia; >185 speakers, >2500 attendees

Interest Group Meetings
Group discussions among faculty & student groups on specific topics of interest with experts/guest speakers: >210 meetings, >40 different groups

Research Project Workgroups
Multi-institutional workgroups assembled/facilitated to identify/develop HSR projects: 22 groups, 11 institutions, >120 participants

Student-Professional Networking
Semi-annual events for students to discuss health careers/opportunities with local professionals: 8 events, >700 students, >120 professionals
Seed Grants: Affiliations

University Faculty Affiliations

- 220 Emory: 152 Medicine (16 depts), 37 RSPH (4 depts), 29 Nursing, 2 Arts & Sciences
- 51 GaTech: 39 Engineering, 15 GTRI, 7 Computing, 6 Architecture, 1 Science
- 23 Georgia State: 15 Nursing & Health Profs, 3 A&S, 5 Other
- 12 Morehouse; 2 Duke; 1 UGA; 1 Northwestern, 2 Other

Hospital Staff Affiliations

- 59 Emory Healthcare
- 34 Children’s HOA, Emory - Children’s Center
- 17 Grady Health System
- 14 Atlanta VA Medical Center
# Symposia

"US Healthcare: What’s Broken & How to Fix It"

30 symposia, 185 speakers, 70 institutions, 32 schools/depts

<table>
<thead>
<tr>
<th>Date</th>
<th>Keynote Speaker</th>
<th>Symposium Topic</th>
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</thead>
<tbody>
<tr>
<td>02/11/20</td>
<td>Tait Shanafelt</td>
<td>Burnout, Satisfaction and Work-life Integration</td>
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<tr>
<td>12/02/19</td>
<td>Mark Tykocinski</td>
<td>The Evolving Future of Medical Education</td>
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<tr>
<td>11/04/19</td>
<td>David Newman-Toker</td>
<td>Diagnostic Errors &amp; Patient Safety: What Can We Do?</td>
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<tr>
<td>04/09/19</td>
<td>Robert Califf</td>
<td>How Can We Use Data to Improve Health?</td>
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<tr>
<td>03/19/19</td>
<td>Student Symposium</td>
<td>Religion in Healthcare</td>
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<tr>
<td>02/20/19</td>
<td>Mary Naylor</td>
<td>Fumbling the Handoff in Transition Care</td>
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<tr>
<td>12/04/18</td>
<td>Antony Rosen</td>
<td>How Precision Medicine Can Help Everyone</td>
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<tr>
<td>03/28/18</td>
<td>Mark McClellan</td>
<td>Burning Issues in Health Policy</td>
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<tr>
<td>03/06/18</td>
<td>Student Symposium</td>
<td>Leveraging Technology in Healthcare Innovation</td>
</tr>
<tr>
<td>11/28/17</td>
<td>David Nash</td>
<td>Leadership in Population Health</td>
</tr>
<tr>
<td>10/26/17</td>
<td>Lisa Simpson</td>
<td>Health Services Research</td>
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<tr>
<td>04/13/17</td>
<td>Joe Selby</td>
<td>Patient-Centered Outcomes Research Institute</td>
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<tr>
<td>11/03/16</td>
<td>Jeffrey Balser</td>
<td>Bringing Precision Medicine to Populations</td>
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<tr>
<td>10/20/16</td>
<td>Student Symposium</td>
<td>Redesigning Inter-Professional Education for Health Professions</td>
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<tr>
<td>03/11/16</td>
<td>Eugene Washington</td>
<td>Academic Health Centers &amp; The Health of Their Communities</td>
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</tbody>
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## Symposia

**“US Healthcare: What’s Broken & How to Fix It”**

30 symposia, 185 speakers, 70 institutions, 32 schools/depts

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<th>Keynote Speaker</th>
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<tr>
<td>04/02/15</td>
<td>Glen Steele</td>
<td>Information Application: Creating Value in Healthcare</td>
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<tr>
<td>02/24/15</td>
<td>Leonard Schlesinger</td>
<td>Service Delivery: Implications for U.S. Healthcare</td>
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<tr>
<td>11/19/14</td>
<td>Student Symposium</td>
<td>Adapting to Recent Changes in the Healthcare Landscape</td>
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<tr>
<td>10/20/14</td>
<td>Stephen Klasko</td>
<td>Transformation vs. Reform: Reinventing Healthcare is Possible</td>
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<tr>
<td>03/25/14</td>
<td>James Madera</td>
<td>The Evolving Patient-Physician Interface</td>
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<tr>
<td>02/06/14</td>
<td>Steven Lipstein</td>
<td>Teaching Hospitals &amp; Health Services Research</td>
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<tr>
<td>10/29/13</td>
<td>Mark Keroack</td>
<td>Quality &amp; Integrated Systems of Care</td>
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<tr>
<td>10/09/13</td>
<td>Student Symposium</td>
<td>Student Perspectives: Problems &amp; Solutions in U.S. Healthcare</td>
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<tr>
<td>09/17/13</td>
<td>Catherine Gillis</td>
<td>Best Practices Supporting Interdisciplinary Innovation at Academic Health Centers</td>
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<tr>
<td>02/19/13</td>
<td>Robert Dittus</td>
<td>New Paradigms of Health Services Research</td>
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<tr>
<td>12/04/12</td>
<td>Michael Klag</td>
<td>Social Determinants of Health &amp; Disease</td>
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<tr>
<td>09/05/12</td>
<td>Glen Steele</td>
<td>New Models of Delivery &amp; Payment</td>
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<tr>
<td>04/11/12</td>
<td>James Madera</td>
<td>Health Policy &amp; The Future Physician</td>
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<tr>
<td>02/01/12</td>
<td>Steven Lipstein</td>
<td>U.S. Healthcare: What’s Broken &amp; How to Fix It</td>
</tr>
<tr>
<td>04/02/15</td>
<td>Glen Steele</td>
<td>Information Application: Creating Value in Healthcare</td>
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</tbody>
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AAMC Learning Health Systems

Visits to Emory, EHC, GA Tech et al

- Duke: Center for Learning Health Care (DCRI)
- MCW: Office of Joint Clinical Quality; Institute for Health and Society; CTSA
- UAB: Center for Outcomes and Effectiveness Research and Education; Office of Quality Management
- U Wisconsin: Health Innovation Program; Office of Quality, Safety, and Innovation; CTSA
- MedStar Health Research Institute

Visits by Emory

- Vanderbilt: Community Review Board, Meharry-Vanderbilt Alliance (Esper et al)
- U Chicago: Hospitalist Scholars Program (Gartland et al)
- Loyola: Clinical Research Database (Tejedor et al)
<table>
<thead>
<tr>
<th>Category</th>
<th>Session Topic</th>
<th>Lecture Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>Introduction, Funding</td>
<td>Definitions, T1-T4</td>
</tr>
<tr>
<td>General</td>
<td>Study Design</td>
<td>Cohorts, Controls, Data bases, Statistics</td>
</tr>
<tr>
<td>Scope</td>
<td>Improving Outcomes</td>
<td>Quality, safety, satisfaction</td>
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<tr>
<td>Scope</td>
<td>Improving Outcomes</td>
<td>Quality improvement,</td>
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<tr>
<td>Scope</td>
<td>Improving Outcomes</td>
<td>Cost, Value</td>
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<tr>
<td>Scope</td>
<td>Improving Outcomes</td>
<td>Access, Utilization</td>
</tr>
<tr>
<td>Type</td>
<td>Comparative Effectiveness</td>
<td>Diagnostics, Therapeutics</td>
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<tr>
<td>Type</td>
<td>Technology</td>
<td>Assessing Devices, Using Informatics</td>
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<tr>
<td>Type</td>
<td>Delivery Models</td>
<td>Services, Payments</td>
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<tr>
<td>Type</td>
<td>Decision Support</td>
<td>Providers, Patients, Payers</td>
</tr>
<tr>
<td>Type</td>
<td>Population Studies</td>
<td>Demographic, Geographic</td>
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<tr>
<td>Factors</td>
<td>Policy</td>
<td>Regulatory, Economic, Compliance</td>
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<tr>
<td>Factors</td>
<td>Social Determinants</td>
<td>Education, poverty, Support systems</td>
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<tr>
<td>Future</td>
<td>Technology</td>
<td>Future Impact of New Technology</td>
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<tr>
<td>Future</td>
<td>Accelerating Best Practices</td>
<td>Implementation, Delivery Sciences</td>
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</table>
Program Participants
(>1,750 individuals from >50 Institutions)

<table>
<thead>
<tr>
<th>Participants</th>
<th>Institutions</th>
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<tbody>
<tr>
<td>Students</td>
<td>Emory</td>
</tr>
<tr>
<td>Faculty</td>
<td>GA Tech</td>
</tr>
<tr>
<td>Staff</td>
<td>GSU</td>
</tr>
<tr>
<td>Professional</td>
<td>CHOA</td>
</tr>
<tr>
<td>Admins</td>
<td>MSM-Grady</td>
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<tr>
<td>Other</td>
<td>CDC</td>
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<tr>
<td></td>
<td>Vanderbilt</td>
</tr>
<tr>
<td></td>
<td>UGA</td>
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<td></td>
<td>Other</td>
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</tbody>
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Health Services Research
Federal Funding Opportunities

National Institutes of Health
Agency for Healthcare Research & Quality
Patient-Centered Outcomes Research Institute
CMS: Center for Medicare Medicaid Innovation
Centers for Disease Control
Health Resources & Services Administration
Veterans Administration HSR&D
US Department Of Defense
Environmental Protection Agency
http://www.grants.gov/
• An independent research institute established by Congress to produce evidence-based information to improve patient and provider health care decisions.

• Research Agenda and Methodology developed with public input: approved May, November 2012

• Contract Research to support PCORI mission

• Funded through PCOR Trust Fund: general fund ($150M/yr) + Insurance Fee ($500M/yr)

• PFAs announced 3x/year on 5 National Priorities
CMS Innovation Center (CMMI)
Center for Medicare & Medicaid Innovation

• Created under ACA for CMS to "test innovative... delivery models.."

• Budget: $10 Billion over FY 2012-19

• Over 15 programs to develop, implement new ideas to deliver better health, improved care, and lower costs

• Up to $1B/Yr for Health Care Innovation Awards
<table>
<thead>
<tr>
<th>Project Category</th>
<th>Funding Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disease Prevention &amp; Patient Management</td>
<td>$57,312,980 (32%)</td>
</tr>
<tr>
<td>Safety &amp; Risks</td>
<td>$46,623,753 (26%)</td>
</tr>
<tr>
<td>Education &amp; Communication</td>
<td>$27,722,292 (15%)</td>
</tr>
<tr>
<td>Social Determinants &amp; Disparities</td>
<td>$20,467,414 (11%)</td>
</tr>
<tr>
<td>Outcomes &amp; Evaluations</td>
<td>$13,928,461 (8%)</td>
</tr>
<tr>
<td>Technology &amp; Informatics</td>
<td>$10,806,985 (6%)</td>
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<tr>
<td>Access to Healthcare</td>
<td>$2,380,637 (1%)</td>
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<tr>
<td>Delivery &amp; Payment Models</td>
<td>$863,735 (0.5%)</td>
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<tr>
<td>Economic Values &amp; Models</td>
<td>$795,618 (0.5%)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$180,901,875</strong></td>
</tr>
<tr>
<td>Sponsoring Agency</td>
<td>Total Funding</td>
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<tr>
<td>------------------------------------------------</td>
<td>---------------------</td>
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<tr>
<td>NIH</td>
<td>$68,056,924 (38%)</td>
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<tr>
<td>Bill &amp; Melinda Gates Foundation</td>
<td>$30,312,076 (17%)</td>
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<tr>
<td>Centers for Disease Control &amp; Prevention</td>
<td>$9,973,729 (6%)</td>
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<tr>
<td>Health Resources &amp; Services Admin</td>
<td>$5,895,322 (3%)</td>
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<tr>
<td>Georgia Department of Human Services</td>
<td>$4,020,000 (2%)</td>
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<tr>
<td>Georgia Department of Public Health</td>
<td>$3,310,646 (2%)</td>
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<tr>
<td>Agency for Healthcare Research &amp; Quality</td>
<td>$1,443,934 (1%)</td>
</tr>
<tr>
<td>Other</td>
<td>$52,462,342 (29%)</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$180,901,875</strong></td>
</tr>
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Emory HSR Funding: FY11-19

FISCAL YEAR

- 2011: 8.2%
- 2012: 12.2%
- 2013: 13.0%
- 2014: 12.1%
- 2015: 16.3%
- 2016: 15.9%
- 2017: 18.8%
- 2018: 20.2%
- 2019: 22.3%
Goals

Increase Quality/Scope/Scale

• Enhance current research, education, service programs
• Identify/stimulate new programs
• Expand faculty, student, staff interactions
• Facilitate access to information/collaborators for grant submissions, educational offerings, new programs

Increase Recognition/Impact

• Locally - speakers, symposia, projects, seed grants
• Nationally, globally
  - external advisory board
  - website, social media, communications