Healthcare Innovation Program
Health Services Research

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RAC
April 16, 2014
Health Services Research
Definition: AcademyHealth (2000)

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.
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 Phase (FY11)

**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
Implementation (FY12-14)

**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

- 4 major topics: Delivery, Outcomes, Costs-Value, Education
- 30 total categories; 2-3 subcategories each

Research

- By topic/category, faculty PI, sponsor, project link
- >250 projects; >200 faculty

Educational Offerings

- By program topic/category, schools/colleges (>30 courses)
- Seminars, lectures, meetings

Information, Resources

- Faculty by topic/category, sponsor, institution
- Institutional, student liaisons, EAB
- Funding sources, support programs/organizations
- News, opinions, events, Innovation Highlights, blogs
Website: http://hip.emory.edu/
External Advisory Board

Robert S. Dittus, MD, MPH
Assc. VC, Public Health & HealthCare
Vanderbilt University

Catherine Gilliss, DNSc, RN, FAAN
Dean, School of Nursing
Duke University

Mark Keroack, MD, MPH
Executive VP & COO
Baystate Health

Michael J. Klag, MD, MPH
Dean, Bloomberg School of Public Health
Johns Hopkins University

Steven H. Lipstein, MHA
President & CEO, BJC HealthCare
Vice Chair, PCORI

James L. Madara, MD
Executive VP & CEO,
American Medical Association

Leonard A. Schlesinger, DBA, MBA
Baker Foundation Professor,
Harvard Business School

Glenn Steele, Jr., MD, PhD
President & CEO,
Geisinger Health System
Participating Institutions

Universities
• Emory University
• Georgia Tech University
• Morehouse School of Medicine
• Georgia State University

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

Organizations
• Atlanta Clinical & Translational Science Institute
• American Cancer Society
• Kaiser-Permanente SE Center Health Innovation
• CDC
Institutional Liaisons

**Emory University**

**College of Arts and Sciences:** L Liebeskind, Dept Chemistry  
**Goizueta Business School:** M Alavi, Interim Dean  
**Emory Law School:** A Satz, Associate Professor  
**Rollins School of Public Health:** S Culler, Department HP&M  
**School of Medicine:** D Stephens, VP for Health Affairs Research  
**School of Nursing:** S Shapiro, Asst Dean, Strategic Clinical Initiatives  
**Emory Healthcare:** W Bornstein, Chief Quality and Medical Officer

**Georgia Tech University**

**Schiller Business School:** W Todd, Exec Dir, GT Healthcare Initiatives  
**Institute for People & Technology:** B Mynatt, Director  
**Institute for Bioengineering & Bioscience:** R Guldberg, Director  
**Georgia Tech Research Institute:** R McGrath, Director
Institutional Liaisons

Morehouse School of Medicine
  E Ofili, Associate Dean, Clinical Research

Georgia State University
  W Custer, Director of Center for Health Services Research
  A Butler, Assoc Dean, School of Nursing & Health Professions

Children’s Healthcare of Atlanta
  P Spearman, Chief Research Officer

Grady Health System
  G Umpierrez, Chief, Endocrinology & Diabetes

Atlanta VAMC
  M Hart MD, Associate Chief of Staff for Research

American Cancer Society
  K Virgo, Managing Director, Health Services Research

Kaiser-Permanente SE Center for Healthcare Research
  R Davis, Director

Centers for Disease Control and Prevention
  W Pearson, Office of the Associate Director for Policy
Student Advisory Group
School Representatives

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

Goizueta Business School
Goizueta Healthcare Club: M Alderman

Law School
Health Law Society: C Pardue

School of Medicine
Medical School Senate (SGA): S Buck, J Zebrowski

School of Nursing
Graduate Nursing Council (SGA): Y Li, S Manning

School of Public Health
Rollins SGA: K Clifford, M Leisner

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

IHI-Open School
M Coplin, B Crowe

AcademyHealth Emory Student Chapter
E Johnston, L Allen

Healthcare Innovation Lab
S Walsh, D Mathews

AMA/Medical Student Section
K Patel, J Gillig

Emory Healthcare House Staff Organization
M Kassin

Healthcare Innovation Program
Research Assistants: P Lyu, M Lachey, L Broton
Programs – Activities (FY12-14)

**Seed Grants**
Semi-annual awards ($25k/yr) for multi-institution, multi-disciplinary pilot or complete projects: 5 rounds, 11 awards, >470 participants

**Symposia**
Quarterly on “US Healthcare: What’s Broken & How to Fix It” with guest speaker + local experts: 10 symposia; 65 speakers, >1500 attendees

**Interest Group Meetings**
Group discussions among faculty & student groups on specific topics of interest with experts/guest speakers: >60 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: 5 events, >350 students, >55 professionals
FY12-14 Seed Grants: 5 Cycles

Applications

- Two faculty from different schools + 1 clinical staff member
- 1yr Preliminary Studies (82) and 2yr Complete Projects (29)
- 111 competed applications (131 LOIs)

Funded Investigation Teams (11 awards)

- Emory: SoM; GaTech CoE; Grady
- GaTech: CoE; Morehouse SoM; Grady
- Emory: SoN, SoM; GaTech CoE; EHC
- Emory SoM; GaTech CoE; Atlanta VAMC
- Emory SoM; GaTech CoE; EHC
- Emory SoN, SoM, RSPH; GaTech: CoE, GTRI; Grady
- Emory: SoM, SoN, RSPH; GSU: SoNHP; GaTech: CoE, GTRI ; EHC
- GaTech: CoE; GSU: SoNHP; Grady
- GSU: CoE; GaTEch: CoE; Grady
- Emory: SoM; GaTech: GTRI; CHOA
- GSU: CAS; Emory: SoM; EHC
FY12-14 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 FY12-14
“US Healthcare: What’s Broken & How to Fix It”

Fixing U.S. Healthcare: Problems and Solutions - Lipstein
Health Policy and the Future Physician - Madara
New Models of Healthcare Delivery and Payment – Steele
Social Determinants of Health & Disease - Klag
New Paradigms of Health Services Research – Dittus
Best Practices of Interdisciplinary Innovation at AHCs – Gilliss
The Student Perspective – 7 Students
Quality and Integrated Systems of Care – Keroack
Teaching Hospitals and Health Services Research – Lipstein
The Evolving Patient-Physician Interface - Madara

65 speakers, 18 institutions, 32 schools/depts
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)
### MSCS 595 Course Fall 2014

#### Health Services Research

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<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>
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<tr>
<td>General</td>
<td>Study Design</td>
<td>Cohorts, Controls, Data bases, Statistics</td>
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<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>
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<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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<td>Type</td>
<td>Decision Support</td>
<td>Providers, Patients, Payers</td>
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<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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</tbody>
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Program Participants
(>1,750 individuals from >50 Institutions)

| Participants  |  | Institutions |
|---------------|-----------------|
| Students      | 828 (46%)       | Emory         1206 (68%) |
| Faculty       | 438 (25%)       | GA Tech       146 (8%)  |
| Staff         | 227 (14%)       | GSU           91 (5%)   |
| Professional  | 82  (5%)        | CHOA          38 (2%)   |
| Admins        | 39  (2%)        | MSM-Grady     25 (1%)   |
| Other         | 172 (10%)       | CDC           13 (1%)   |
|               |                 | Vanderbilt    12 (1%)   |
|               |                 | UGA           10 (1%)   |
|               |                 | Other         245 (14%) |
Health Services Research
Federal Funding Opportunities (Annual)

Agency for Healthcare Research & Quality ($280M)
Patient-Centered Outcomes Research Institute ($600M)
CMS: Center for Medicare Medicaid Innovation ($900M)
Centers for Disease Control ($6.1B)
Health Resources & Services Administration ($6.8B)
National Institutes of Health (>500M)
Veterans Administration HSR&D (19 centers)
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
# FY11-13 Emory HSR Funding

<table>
<thead>
<tr>
<th>School</th>
<th>Total (x $1M)</th>
<th># Grants*</th>
<th>Avg Funding/Grant</th>
</tr>
</thead>
<tbody>
<tr>
<td>School of Public Health</td>
<td>$ 95.2 (54%)</td>
<td>314</td>
<td>$ 303,110</td>
</tr>
<tr>
<td>School of Medicine</td>
<td>$ 49.8 (29%)</td>
<td>194</td>
<td>$ 256,706</td>
</tr>
<tr>
<td>School of Nursing</td>
<td>$ 18.1 (10%)</td>
<td>51</td>
<td>$ 355,580</td>
</tr>
<tr>
<td>Other**</td>
<td>$ 11.7 (7%)</td>
<td>44</td>
<td>$ 265,731</td>
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<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$ 174.8</strong></td>
<td><strong>603</strong></td>
<td><strong>$ 289,891</strong></td>
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</table>

* Each grant scored for % of activity in each topic, discipline and disease.
** Other includes WHSC, ECAS, Center for Women, Center for Comprehensive Information, Ethics Center, GRS, and the Winship Cancer Institute.
## FY11-13 HSR FUNDING (x $1M)

<table>
<thead>
<tr>
<th></th>
<th>FY11</th>
<th>FY12</th>
<th>FY13</th>
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<tbody>
<tr>
<td>School of Public Health</td>
<td>$14.1 (50%)</td>
<td>$25.4 (62%)</td>
<td>$55.7 (53%)</td>
</tr>
<tr>
<td>School of Medicine</td>
<td>$7.3 (26%)</td>
<td>$9.7 (24%)</td>
<td>$32.8 (31%)</td>
</tr>
<tr>
<td>School of Nursing</td>
<td>$4.5 (16%)</td>
<td>$4.3 (11%)</td>
<td>$9.3 (9%)</td>
</tr>
<tr>
<td>Other*</td>
<td>$2.0 (7%)</td>
<td>$1.3 (3%)</td>
<td>$8.4 (8%)</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$28.0</strong></td>
<td><strong>$40.7</strong></td>
<td><strong>$106.1</strong></td>
</tr>
</tbody>
</table>

*Other includes WHSC, ECAS, Center for Women, Center for Comprehensive Information, Ethics Center, GRS, and the Winship Cancer Institute*
HSR Funding by Topic FY11-13 (x $1M)

- Prevention and Pt. Mgmt: $41.1
- Outcomes & Evaluation: $36.6
- Social Determinants & Disparities: $20.2
- Education & Communication: $20.0
- Technology & Informatics: $13.2
- Access to Health Care: $10.7
- Delivery & Payment Models: $6.5
- Economic Value & Models: $2.6
- Other/Undetermined: $23.9
Average HSR Grant by Topic FY11-13 ($1,000)

- Access to Health Care: $507
- Technology & Informatics: $359
- Education & Communication: $358
- Prevention and Pt Mgmt: $339
- Social Determinants & Disparities: $335
- Delivery & Payment Models: $286
- Outcomes & Evaluation: $270
- Economic Value & Models: $240
- Other/Undetermined: $172
Average HSR Grant by Discipline FY11-13 (x $1,000)
HSR Funding by Disease FY11-13 (x $1,000)

- Other: Non-specific: 358
- Infectious Disease: 341
- Psychologic-Behavioral: 329
- Neurologic: 264
- Cardiovascular Disease: 255
- Cancer: 231
- Other: Specific: 189
- Diabetes: 179
- Undetermined: 75
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