

Health Services Research Town Hall

April 14, 2011

12:30-5:00 p.m.

Oak Amphitheater

Emory Conference Center and Hotel

Refreshments to the Left in the Oak Break Area

Restrooms to the Right





Health Services Research Inventory

David S. Stephens, MD

Stephen W Schwarzmann Professor of Medicine

Vice President for Research, WHSC

Emory University

Health Services Research

“is a multidisciplinary field of inquiry, both basic and applied, that examines the use, costs, quality, accessibility, delivery, organization, financing, and outcomes of health care services to increase knowledge and understanding of the structure, processes, and effects of health services for individuals and populations.”
(IOM, 1995)

Health Services Research

“is the multidisciplinary field of scientific investigation that studies how social factors, financing systems, organizational structures and processes, health technologies, and personal behaviors affect access to health care, the quality and cost of health care, and ultimately our health and well-being. Its research domains are individuals, families, organizations, institutions, communities, and populations.” (Academy for Health Services Research and Health Policy, 2000)

Health Services Research

“examines how people get access to health care, how much care costs, and what happens to patients as a result of this care. The main goals of health services research are to identify the most effective ways to organize, manage, finance, and deliver high quality care; reduce medical errors; and improve patient safety.” (Agency for Healthcare Research and Quality, 2002)

Comparative or Clinical Effectiveness Research

“ conduct, support, or synthesize research that compares the clinical outcomes, effectiveness, and appropriateness of items, services, and procedures that are used to prevent, diagnose, or treat diseases, disorders, and other health conditions.”

ARRA 2009

JAMA 2010;303:2182-2184

Health Services Research

- **Health Policy and Management**
 - National and International Health Policy
- **Health Outcomes**
 - Quality, Safety, Satisfaction
 - Clinical Effectiveness Research
- **Health Economics**
 - Value, Resources, Technology
- **Health Delivery**
 - Access , Models
- **Heath Education and Practice**

Other Health Services Research Topics

- Behavioral Research in Health
- Community/Health Care networks
- IT Infrastructure and Connectivity
- Primary Care Oriented Research
- Health Ethics
- Health Disparities

80 + Faculty with Health Services Research Interests / Funding

Kathleen Adams	Benjamin Druss	Jessica Holmes	Stephen Pitts
Susan Bauer-Wu	Sandra Dunbar	Marcia Holstad	John Puskas
Loida Bonney	Ingrid Duva	Debra Houry	Arshed Quyyumi
Arlene Chapman	Chris Flowers	Maeve Howett	Barbara Rothbaum
Michael Compton	Jennifer Foster	James Hughes	Richard Saltman
Elena Conis	Paula Frew	Nadine Kaslow	Leslee Shaw
Hannah Cooper	Julie Gazmararian	Jeffrey Koplan	Iris Smith
Carlton Dampier	Ron Goetzel*	Joseph Lipscomb	Nancy Thompson
Lyndsey Darrow	Victoria Green	Reynaldo Martorell	Kenneth Thorpe
Neal Dickert	Patricia Griffiths*	Clair Null	Kevin Ward
Monica Donohue	Jessica Holmes	Solomon Ofori-Acquah	Steven Wolf
Kim Rask	Viola Vaccarino	Venkat Narayan	Larry Phillips
Theresa Gillespie	Peter Wilson	Alex Isakov	Ken Brigham

80 + Faculty with Health Services Research Interests / Funding

Martha Rogers	Richard Rheingans	Claire Sterk	John Sweeney
Bob Lyles	Gina Wingood	Linda McCauley	Sara Markowitz
Victoria Green	Rani Singh	Rebecca Pentz	Yang Liu
Greg Berns	John Puskas	Sam Lim	Monica Donohue
Michael Goodman	Michael Kramer	Martha Rogers	Jim Curran
Mathew Strickland	Ya Wang	David Howard	Karen Andes
Solveig Argeseanu	Sara Markowitz	Gene Brody	Alex Null
Edmund Becker	Jeremy Sarant	Ying Zhou	Neal Dickert
Richard Saltman	Joel Saltz	Steven Culler	Barbara Stoll

Health Services Research by School / Center FY 2010

School/Division	\$ Total Dollars
Health Affairs	135,565
School of Medicine	4,887,565
School of Nursing	2,411,737
School of Public Health	9,215,577
Total	16,650,444

FY10 Health Services Research Funding by Department / Center

Department/Center	\$ Total Dollars
SOM: Surgery	500,000
SOM: Cardiology	860,688
SOM: Gen Medicine	
SOM: Infectious Dis	733,749
SOM: Nephrology	1,203,465
SOM: Peds	426,777
SOM: Geriatrics	565,187
SOM: Genetics	215,173
SOM: Psych	517,955
SOM: Radiation Onc	200,013

Department/Center	\$ Total Dollars
SON: Fam & Comm	860,233
SON: Adult & Elder	1,220,234
SON:Other	331,280
SPH: Behav Science	2,028,957
SPH: Health Pol	3,005,811
SPH: Environ & Occ	818,299
SPH: Epidemiology	642,130
SPH: Global Health	987,415
SPH: GH Institute	1,732,965

Strengths

- Health Policy and Management (Thorpe, Druss, Goetzl)
- Health Economics (Adams)
- International Health Policy (Koplan, Martorell)
- Health Disparities (Kaslow, Quyyumi, CTSA, CFAR)
- Behavioral Research in Healthcare
- Health Ethics
- SPH
- SON: symptom and self management behavioral interventions, quality of life, family caregiver outcomes, prevention
- Partnerships: Children's, MSM, CDC, GA Tech, Kaiser, Grady, ACS

Disease Specific Health Services Research Strengths

- Cardiovascular (Vaccarino, Dunbar, Wilson, Shaw)
- Psychiatry (Kaslow, Rothbaum, Thompson, Druss)
- ID/Vaccines (Frew, Hughes, Omer, Swartz, Mulligan, Del Rio)
- Cancer (Lipscomb, Gillespie)
- Emergency Medicine (Houry, Isakov)
- Diabetes (Narayan, Phillips)
- Peds Hem/Onc (Woods, Dampier)

Weaknesses or Underdeveloped

- Clinical Effectiveness Research
- VA Program in HSR&D
- Links with Community/Health Care Networks
- Quality
- IT Infrastructure and Connectivity
- Primary Care Oriented Research
- New Healthcare Delivery Models

Threats

- Competition
 - AHCs
 - Non-AHCs
- Funding Uncertainties in Health Services Research
- Anticipated Reductions in R&D Expenditures
- Health Care Reform and Reimbursement Changes
- Fragmentation of Efforts

Opportunities

- Health Ethics
- Pediatric Health Services Research
- Global Health Policy
- Emory Institute for Advanced Policy Solutions
 - Emory Healthcare Innovation Program
- Health Disparities
- General Medicine
- Links to Quality Initiatives
- VA HSR&D <http://www.hsrd.research.va.gov/>
- Business School / College Economics Dept?
- GA Tech Health Systems Institute

HSR&D Funding ~\$2B and Increasing

- Patient Centered Outcomes Research Institute (PCORI)
- NIH
- AHRQ
- CMS (Center for Medicare and Medicaid Innovation)
- HHS
- DOD
- VA
- CDC
- National Center for Health Workforce Analysis-HRSA
- National Health Service Corp-HRSA
- FDA (Drug Effectiveness and Safety)

Benchmarking

- Tufts-New England Medical Center-Institute for Clinical Research and Health Policy Studies-Harry Selker
- Stanford-Department of Health Research and Policy
- Columbia/NY-Presbyterian-Harold Pincus
- Health Research and Education Trust with AHA,
(*Health Services Research*)
- *Health Affairs*
- Kaiser / Geisinger / Intermountain Healthcare, Mayo Clinic
- RAND
- Dartmouth Institute for Health Policy and Clinical Practice

Next Steps

- Completion of Inventory
- Summit/Town Hall Meeting, April 2011
- HSR Committee
- Define Core Assets to Develop HSR&D
- Development of a Website
- Key New Recruitments
- Integration with Health Care Quality Initiatives
- Better Define Opportunities for Federal Funding
- Better Define Benchmark Programs

Health Services Research in HPM

Kimberly Rask MD, PhD

Department of Health Policy and Management

Rollins School of Public Health

April 2011

Department overview

- 16 faculty members
 - Range of methodologic disciplines including economics, statistics, behavioral science, evaluation sciences, health education, health policy, sociology and medicine
 - Existing collaborations across disciplines and organizations

HSR is not new...

Health Services Research is the study of the
“benefits of medical interventions in relation to
their hazards and costs.”

Kerr L. White, M.D.

NEJM, 1961

One newer aspect is emphasis on translating information into practice

“..to assure Americans that the *information* needed for decision making will be available; that it will be translated into *knowledge* about health care outcomes, effectiveness, efficiency, and quality; and that it will be used wisely to *enhance the health of the public*”

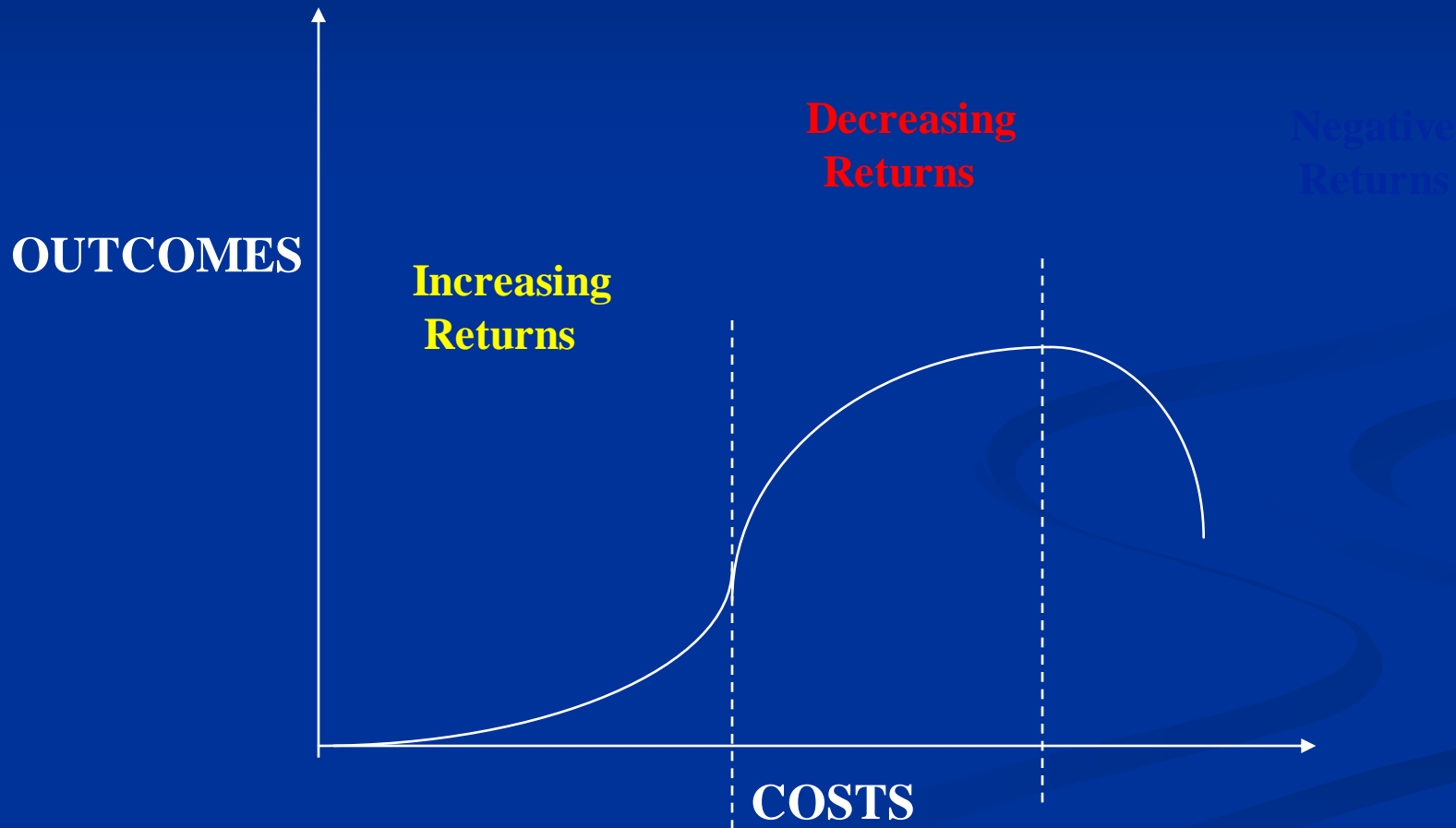
John Eisenberg, MD,MBA
AHRQ, 1998

Where federal funds are focused...

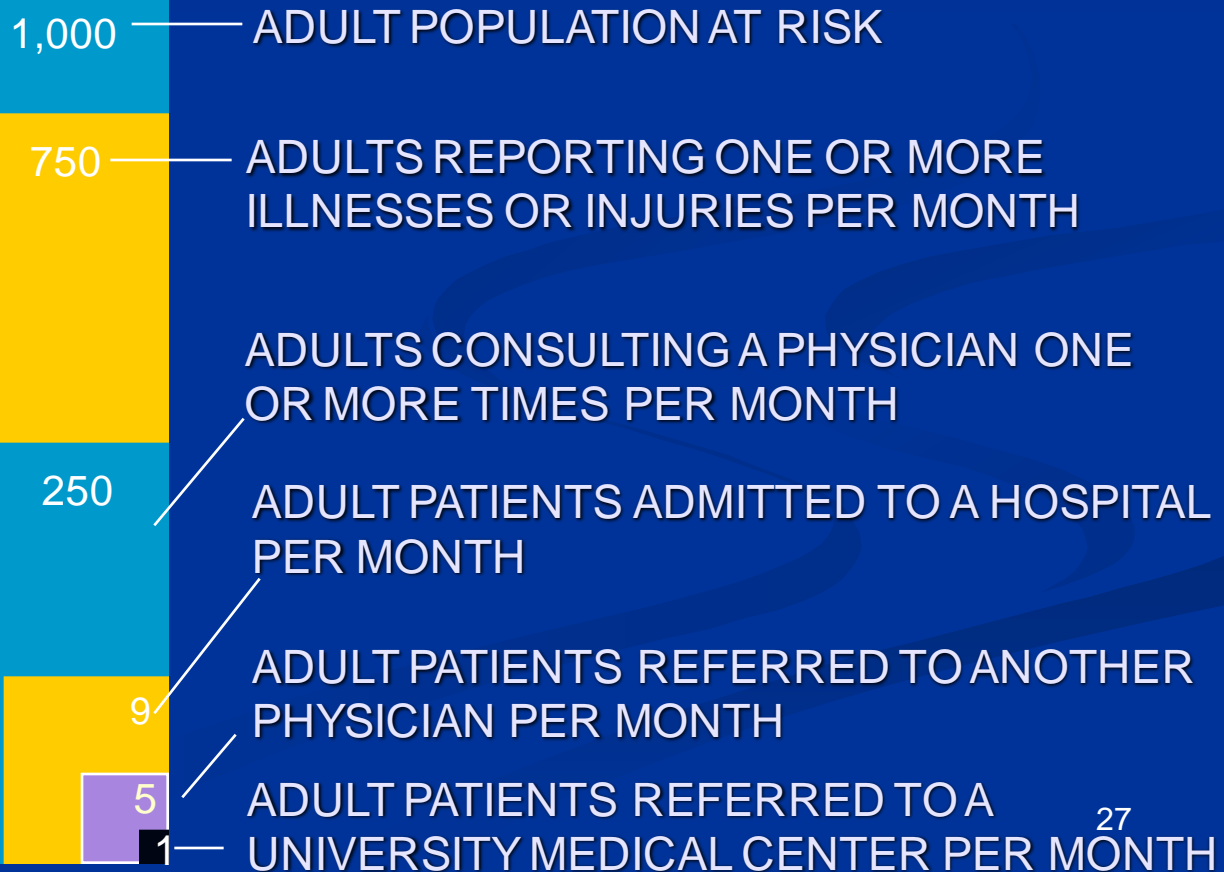
Health Services Research examines *how people get access to care, how much care costs, and what happens to patients as a result of this care*. The main goals are to identify the most effective ways to organize, manage, finance and deliver high quality care, reduce medical errors, and improve patient safety.

AHRQ, 2002

First common theme to much of health services research...



A second theme stresses importance of population-based analyses and selection bias *(White et al., NEJM 1961)*



Research areas bridge science, policy, education and practice

Partners

Georgia Hospital Association

Kaiser

AHRQ

NIH

CDC

Grady

CHOA

Institute for Predictive Medicine

VA

Chronic Disease
(including obesity)

Mental Health

Cancer

Tools

Economic evaluations

Health policy analysis

Outcomes measurement

Qualitative analysis

Large database analysis

Prevention, Identification, Management

Obesity and Cardiovascular Research

- Workplace wellness initiatives
 - Impact on productivity and health care costs (Goetzel)
- Prevalence
 - Obesity among African-American women in an inner city primary care practice (Jacobson)
- Childhood obesity
 - Impact of health insurance coverage on screening and treatment for childhood obesity (Rask)

Obesity and Cardiovascular Research

- CABG outcomes
 - Impact of gender and hospital quality on outcomes for women undergoing CABG (Culler)
- Health care costs of chronic conditions
 - Impact of growing burden of chronic diseases on health care costs (Thorpe)

Mental Health

- Promoting use of personal health records by persons with SMI (Druss)
- Improving the provision of primary care to persons with SMI (Druss)
- Racial and ethnic differences in use of mental health services by adolescents (Cummings)

Cancer

- Impact of Medicaid coverage on time to treatment for cancer (Adams)
- Impact of detection and treatment on lifetime medical costs for patients with polyps and colorectal cancer (Howard)
- Local practice and quality variations in breast and prostate cancer care (Lipscomb)

Economic evaluations

- Cost-effectiveness analyses
 - costs of implementing and EHR in primary care practices (Culler, Becker)
 - Advancing the science of health care costing (Lipscomb)
- Health care finance
 - Impact of HMOs in Medicaid populations (Adams)
 - International health care reform options (Saltman)
- Economic modeling and forecasting
 - Costs of public services for teenage mothers post-welfare reform (Adams)

Variations in quality of care

- Health care quality
 - Improving prescribing patterns of Medicaid providers (Becker)
 - Evaluating a quality improvement curriculum for health system leaders (Rask)
- Health disparities
 - Maternal and child health in diverse communities (Gaydos)
- Health literacy
 - Health literacy intervention to improve medication adherence (Blake)

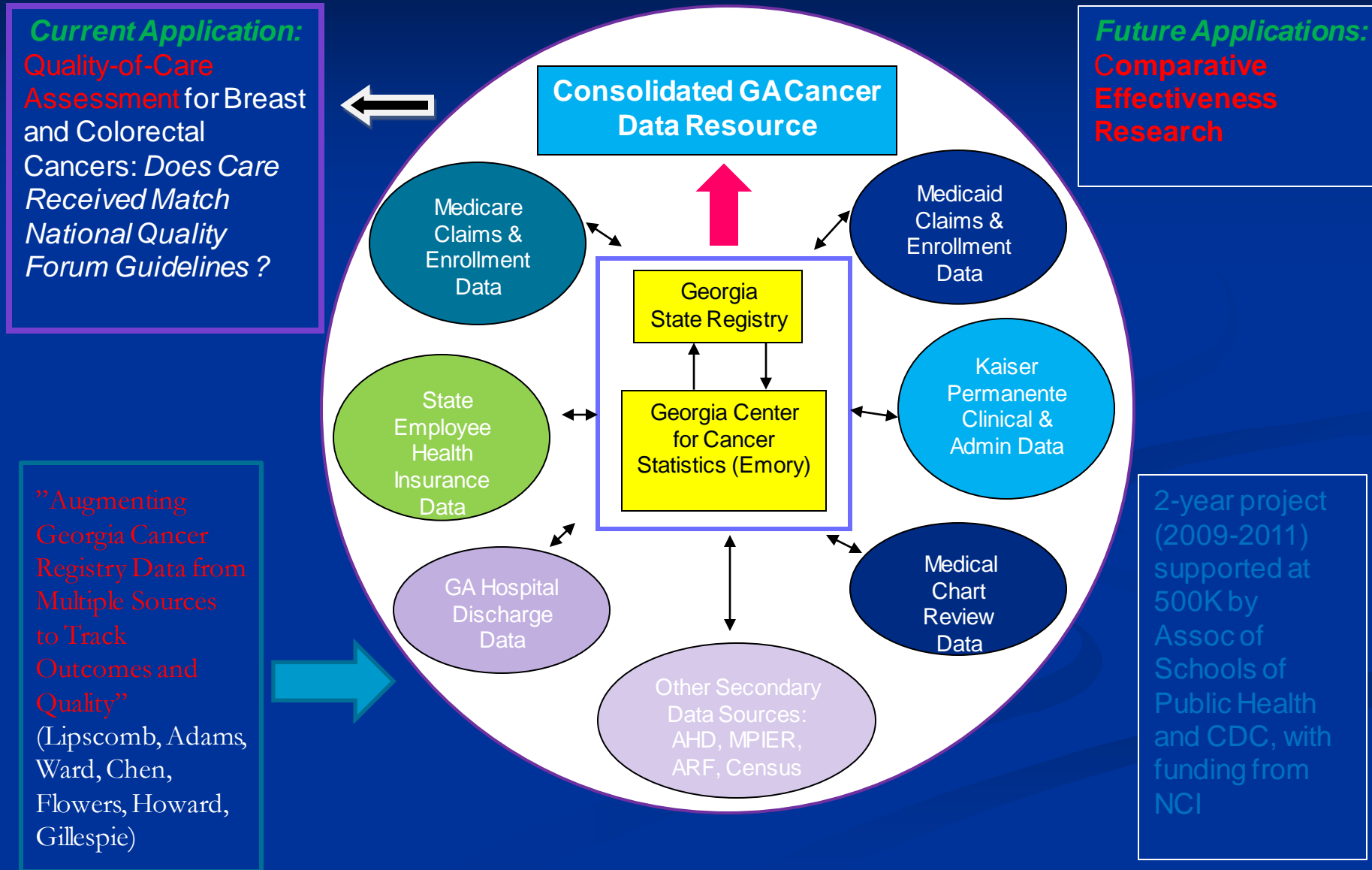
Health Outcomes

- Health outcomes measurement
 - Effects of cigarette taxes and indoor air regulations on pre-pregnancy smoking, quit behaviors and birth outcomes (Adams)
 - Impact of IT adoption on patient outcomes (Culler)
- Patient Safety
 - Improving disaster planning in nursing homes, home health agencies and dialysis centers (Howard)
 - Impact of pharmacist detailing on adverse drug events post hospital discharge (Rask)

Administrative claims analyses

- Public use data sets
 - HCUP, ambulatory surveys, longitudinal surveys
- Medicare data
 - Medpar, Chronic care data warehouse
- Medicaid data
 - State-specific data sets
- Commercial claims databases
 - FFS and HMO

Linking Georgia Cancer Registry Data to Public and Private Sources



In sum...

Successful health services research programs are built upon...

- teams of multi-disciplinary researchers
- with collaboration between content experts and methodologic experts
- who have an accessible data “laboratory”
- and are supported by a mix of internal, industry, foundation and federal funding

Healthcare Innovation Program

Fred Sanfilippo MD, PhD

Health Services Research
Town Hall Meeting
April 14, 2011



EMORY

ROBERT W.
WOODRUFF
HEALTH
SCIENCES
CENTER

Healthcare Innovation Program

Outline

- **What, Who, Why**
- **Current status**
- **Website demo**
- **Next Steps**



EMORY

ROBERT W.
WOODRUFF
HEALTH
SCIENCES
CENTER

Healthcare Innovation Program

The What

Using combined approaches

- Virtual : www.hip.emory.edu “Wiki + Linked In”
- Real: meetings, workshops, projects

An interactive network that provides

- Information: content, links
- Resources: facilitate activities
- Connections: among faculty, staff, students

Focused on healthcare delivery/services/systems

- Research: sponsored projects
- Education: courses, public
- Programs: quality, access, cost



EMORY

ROBERT W.
WOODRUFF
HEALTH
SCIENCES
CENTER

Healthcare Innovation Program

The Who: Engaged Institutions

Emory:

- HIP Strategic Planning Committee

Georgia Tech:

- EVP Research Office
- Health Systems Institute

ACTSI: institutional partners, including

- Morehouse School of Medicine
- Children's Healthcare of Atlanta
- Grady Health System
- Atlanta VAMC



Healthcare Innovation Program

The Who: Emory HIP SPC

David Bederman, Law

Bill Bornstein, EHC

Shari Capers, WHSC

Maryam Carn, HIP

Steve Culler, RSPH

Lanny Liebeskind, CAS

Jeff Molter, WHSC

Joel Saltz, SOM, CCI

Fred Sanfilippo, HIP

Susan Shapiro, SON

David Stephens, WHSC, SOM

Anand Swaminathan, GBS

Gary Teal, WHSC

Ken Thorpe, RSPH

Viola Vaccarino, SOM, RSPH

Paul Wolpe, Ethics Ctr

Paul Spearman, SOM, CHOA



Healthcare Innovation Program

The Why

Increase Effectiveness

- Enhance faculty, student, staff interactions
- Identify and facilitate high priority research, education, and program opportunities

Increase Efficiency

- Leverage existing assets; cost avoidance
- Facilitate access to information, collaborators for grant submissions, educational offerings

Increase Recognition

- Invited speakers
- External advisory board members



EMORY

ROBERT W.
WOODRUFF
HEALTH
SCIENCES
CENTER

Healthcare Innovation Program

Development Phases

Phase I: Sept 2010-Jan 2011

- HIP strategy, plan developed by SPC
- Emory inventory, internal website developed

Phase II: Jan- April 2011

- ACTSI, Georgia Tech, CHOA engagement
- Expand internal website, content
- Initiate internal workgroups, identify opportunities

Phase III: April-Sept 2011

- Launch website, enhance functionality; track use
- Expand partners, content
- Expand workgroups, prioritize opportunities

Phase IV: Sept 2011-Sept 2012

- Initiate external speakers, pilot projects programs



Healthcare Innovation Program

Information: Research and Education

Program Topics

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

Sponsored Research

- Program topics, faculty PI, sponsor, project link
- > 125 projects; > 100 faculty; > 75 sponsors

Educational Offerings

- Program topics, courses, schools/colleges
- > 30 courses, 8 schools/colleges
- Seminars, Lectures, Meetings



EMORY

ROBERT W.
WOODRUFF
HEALTH
SCIENCES
CENTER

Healthcare Innovation Program

Information: Resources

Faculty

- By University, College/School; Topics

Funding Sources

- Local/internal, regional
- Government, non-government

Support Programs

- Local/internal, regional
- Government, non-government

Databases

- Local/internal, regional
- Government, non-government



EMORY

ROBERT W.
WOODRUFF
HEALTH
SCIENCES
CENTER

Healthcare Innovation Program

Information: Resources

News & Events

- Events: scheduled lectures, programs
- News from National Sources
- News from Local Partners

Innovation Highlights

- Recent Research Projects
- Recent Publications
- Links: sites, journals

Partner Organizations

- Emory, Georgia Tech, ACTSI affiliated
- Other local, regional



EMORY

ROBERT W.
WOODRUFF
HEALTH
SCIENCES
CENTER

Healthcare Innovation Program Website

SCHOOLS LIBRARIES RESOURCES This Site All Emory People

EMORY UNIVERSITY Georgia Tech Healthcare Innovation Program

SEARCH

HOME ABOUT US PROGRAM TOPICS RESOURCES RESEARCH EDUCATIONAL OFFERINGS

About Us

"...creating, disseminating and applying knowledge about healthcare service and delivery to benefit society."

Faculty »

Funding Sources »

Support Programs »



News & Events

Events »

- Future Makers Lecture Series
- Health Services Research Town Hall
- HSI Events

News »

- AHRQ
- Emory Research News
- Health Affairs
- Kaiser Foundation
- Modern Healthcare

Innovation Highlights

Recent Research Projects »

- The Impact of Prognosis on the Treatment of Patients With Localized Tumors
- Federal Employee Worksite Health and Wellness Initiative
- Alliance for a Healthier Generation

Publications »

- The Promise of Comparative Effectiveness Research
- Accountable Care Organizations at Academic Medical Centers
- How to Use an Article About Quality Improvement

Links »

- IHI <http://www.ihl.org/ihl>
- AHRQ Innovation Exchange <http://www.innovations.ahrq.gov/>

Our Partners

-  Atlanta Clinical & Translational Science Institute
-  MOREHOUSE SCHOOL OF MEDICINE
-  Children's Healthcare of Atlanta

Partner Organizations »

EMORY | WOODRUFF HEALTH SCIENCES CENTER

EMORY HOME | CONTACT EMORY | EMERGENCY | EMPLOYMENT | ABOUT EMORY'S WEB

Copyright © 2011 Emory University - All Rights Reserved | 201 Dowman Drive, Atlanta, GA 30322 USA 404.727.6123

EMORY HEALTHCARE



Healthcare Innovation Program

Potential Website Uses

Faculty, Staff

- Identify potential collaborators by interest topic, research program, course offering, academic discipline
- Identify potential funding sources, support programs
- Keep up to date: news & events, publications

Students

- Find potential mentors by interest topic, research program, course offering, academic discipline
- Identify course offerings, support programs
- Keep up to date: news & events, publications

External Community

- Identify activities, individuals; news & events



Healthcare Innovation Program

Next Steps

Website

- Expand content; engage other local partners
- Enhance content; edits, updates
- Improve functionality, database content, utility

Seminars, Programs

- Internal speakers program
- External speakers program
- Promote existing programs among partners



EMORY

ROBERT W.
WOODRUFF
HEALTH
SCIENCES
CENTER

Healthcare Innovation Program

Next Steps

Workgroups

- Initiate, facilitate “bottom-up” interest groups within and across topics, schools and institutions
- Identify research, funding opportunities
- Help identify internal priorities

Pilot Projects

- Internal, local seed funding
- Facilitate research, education proposals
- Regional, national collaboration



EMORY

ROBERT W.
WOODRUFF
HEALTH
SCIENCES
CENTER



EMORY
UNIVERSITY
SCHOOL OF
MEDICINE

Department
of Surgery

Leveraging Investments in Clinical Quality to Enhance Health Services Research

John F. Sweeney, MD

Chief, General and Gastrointestinal Surgery

Director, Clinical Quality and Patient Safety

Department of Surgery



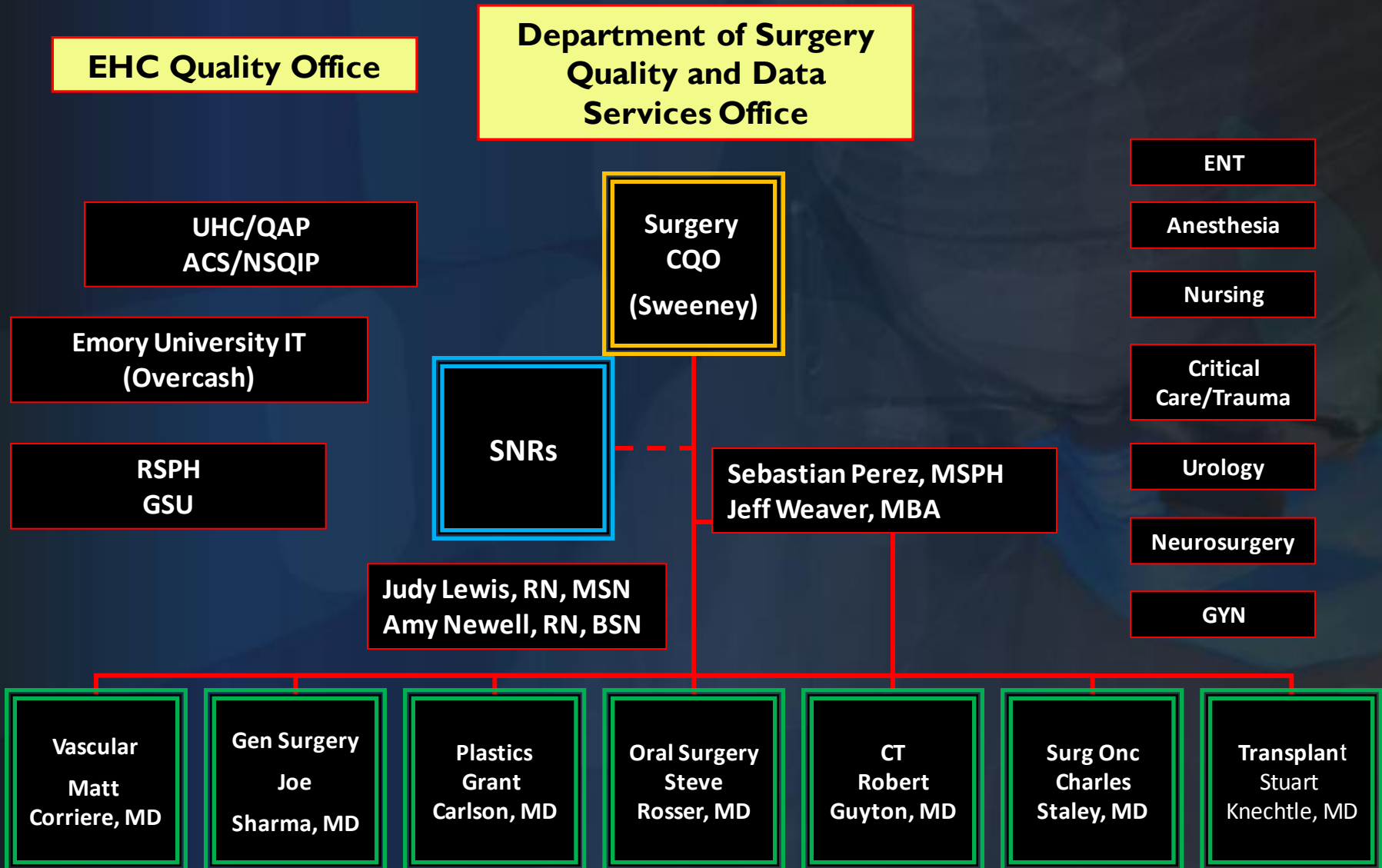
Best Place for Surgical Care

- **Best possible outcomes and service**
Perspective of patient and family, referring physician, managed care
- **Build systems of care**
Paradigm shift from individual excellence model to integrated care delivery (DOS/DOM/EUH/EUHM/SOM/TEC)
- **Data-driven multi-parameter assessment of Quality and Clinical Effectiveness**
Net Health Outcomes and Service
- **Integrated clinical research and Health Services Research**
- **Culture of Quality and Service**



Objectives

- **Outline Department Quality Program**
- **Overview of ACS/NSQIP and UHC/QAP**
- **“Bedside to Laboratory and Back Again”**
Readmission Project





How is quality measured?

- In general outcomes databases can be divided into two types based on how the data is obtained:
 1. Administrative
 2. Clinical
- The value of the product is directly related to the quality of the data.
- Bad data in = Bad data out



University Health System Consortium: Quality and Accountability Program

- Currently Emory Healthcare's outcomes vendor
- Only full UHC members participate
- Source data obtained from:
 - Clinical database (CDB)
 - Operational database (ODB)
 - Core measures submissions



University Health System Consortium: Quality and Accountability Program

- Institutional performance metrics grouped into 6 domains
 - Safety, mortality, effectiveness, equity, efficiency and patient centeredness
- The first 4 used to calculate overall score.
- Efficiency and patient centeredness reported but not included in calculations
- Implementation of standardized patient satisfaction survey in future



American College of Surgeons: National Surgical Quality Improvement Program

- **Prospective data collection by nurse reviewer**

Demographics: Six variables

Surgical Profile: 11 variables

Pre-Operative Data: 44 clinical variables and 13 laboratory variables

Intra-Operative Data: 16 clinical variables and 3 occurrence variables

Post-Operative Data: 20 occurrence variables, 12 laboratory variables, and 10 discharge variables



American College of Surgeons: National Surgical Quality Improvement Program

- Data then analyzed using validated risk adjustment models and Results reported as Observed/Expected occurrences (O/E ratio)
- Reports available for review on a semiannual basis (June and January)
- Online reports available to monitor outcomes between formal report cycles
- Use data to re-engineer workflows, foster and improve internal education, and to develop clinical performance improvement initiatives



Bedside to Laboratory and Back Again: Readmission Project

- Patient Protection and Affordable Care Act
- Specific focus on reducing readmissions
- Heart Failure, Acute Myocardial Infarction and Pneumonia
- Understand how this might impact surgical specialties



Bedside to Laboratory and Back Again: Readmission Project

- EUH readmission rate above UHC median
- General Surgery contributor
- Reviewed 6 month time frame of General Surgery readmissions from UHC databases
 - Heterogeneous population
 - Difficult to draw conclusions/identify areas for improvement
- Needed new strategy



Emory University Hospital

Jul - Sep 2010 (Q3)

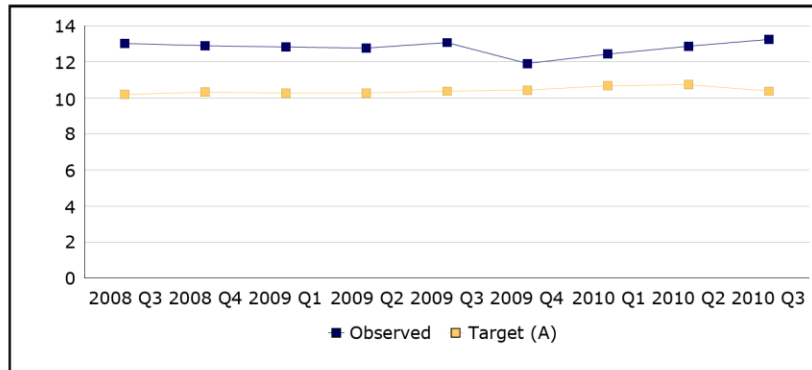
30-Day Readmission Rate (all cause)

Definition - 30-Day Readmission Rate (all cause)

The proportion of patients who return to the hospital within 30 days of discharge from the prior (index) admission. Index admissions will be drawn from the reporting period except for the most-recent quarter or year. Encounters in the last 30 days of the most-recent quarter or year are excluded as index admissions for the current reporting period. At the next report release (when another quarter of patient data is available to UHC), these rates will be updated to include index admissions for the entire reporting period. Chemotherapy, radiation therapy, dialysis, rehabilitation, and delivery/birth cases are excluded. Bad data and deaths at first admission are excluded from the numerator and denominator. The calculation formula is: Readmission Rate = number of readmissions/number of index admissions.

	Relative Performance	Observed	Numerator	Denominator	Target	UHC	
						Median	Rank
Current Quarter	⊖	13.3	845	6,377	10.4	11.7	87/113
Recent Year	⊖	12.6	3,119	24,702	10.8	12.1	70/113

	Current Quarter	Last Quarter	Recent Year
Cases (denom.)	6,377	6,161	24,702
Numerator (cases)	845	793	3,119
Observed	13.3	12.9	12.6
Target (A)	10.4	10.7	10.8



Data Source: UHC CDB
Related Report: N/A
Contact: Jodi Neikirk, cdpinfo@uhc.edu or Steve Meurer, meurer@uhc.edu

Benchmarks:	Quantiles:				
Current Quarter (n)	10th	25th	50th	75th	90th
A) UHC Primary Population (113)	9.0	10.4	11.7	13.2	14.0
B) UHC CMI < 1.25 (62)	6.0	7.5	10.0	11.3	14.1

Related Metrics	Readmission			
	Current Quarter	Numerator	Denominator	Rate
Related 30-Day Readmission Rate	395	6,377	6.2	89/113
Unrelated 30-Day Readmission Rate	450	6,377	7.1	77/113

Current Quarter UHC Top 10 in This Metric	Post-Surg Mortality	AHRQ Medical Mortality	FTEs/AOB	LOS O/E Ratio	Tot Exp/Dischg (Net BD)
PARKLAND	6.1	⊖	⊖		
HARBOR-UCLA	6.2	⊖			
HERMANN	6.4	⊖			
NEVADA	7.4				
UTMB-HEALTH	7.5		⊖		⊖
NMEXICO	8.0	⊖	⊖	⊖	⊖
LOUISVILLE	8.5		⊖	⊖	⊖
UTAH	8.7	⊖		⊖	⊖
AHS-OVERLOOK	8.8	⊖	⊖	⊖	
NYU	8.9	⊖	⊖		

30-Day Readmission Rate (all cause) Legend:

- ⊖ Substantially Worse than Target Range Performance > UHC 90th percentile
- ⊖ Worse than Target Range Performance > UHC 50th percentile
- ⊖ Within Target Range Performance <= UHC 50th percentile
- ⊖ Substantially Better than Target Range Performance < UHC 10th percentile
- ⊖ No Data From Your Institution

Performance in Other Metrics Legend:

- ⊖ Within Target Range
- ⊖ Substantially Better than Target Range
- ⊖ No Data Available
- A missing performance symbol means performance was worse than target range



Prioritizing Quality Improvement in General Surgery

Peter L Schilling, MD, Justin B Dimick, MD, MPH, John D Birkmeyer, MD, FACS

BACKGROUND: Despite growing interest in quality improvement, uncertainty remains about which procedures offer the most room for improvement in general surgery. In this context, we sought to describe the relative contribution of different procedures to overall morbidity, mortality, and excess length of stay in general surgery.

STUDY DESIGN: Using data from the American College of Surgeons' National Surgery Quality Improvement Program (ACS-NSQIP), we identified all patients undergoing a general surgery procedure in 2005 and 2006 (n = 129,233). Patients were placed in 36 distinct procedure groups based on Current Procedural Terminology codes. We first examined procedure groups according to their relative contribution to overall morbidity and mortality. We then assessed procedure groups according to their contribution to overall excess length of stay.

RESULTS: Ten procedure groups alone accounted for 62% of complications and 54% of excess hospital days. Colectomy accounted for the greatest share of adverse events, followed by small intestine resection, inpatient cholecystectomy, and ventral hernia repair. In contrast, several common procedures contributed little to overall morbidity and mortality. For example, outpatient cholecystectomy, breast procedures, thyroidectomy, parathyroidectomy, and outpatient inguinal hernia repair together accounted for 34% of procedures, but only 6% of complications (and only 4% of major complications). These same procedures accounted for < 1% of excess hospital days.

CONCLUSIONS: A relatively small number of procedures account for a disproportionate share of the morbidity, mortality, and excess hospital days in general surgery. Focusing quality improvement efforts on these procedures may be an effective strategy for improving patient care and reducing cost. (J Am Coll Surg 2008;207:698-704. © 2008 by the American College of Surgeons)



Bedside to Laboratory and Back Again: Readmission Project

PROCEDURE	CPT CODE
COLECTOMY+/- COLOSTOMY	44140-44160,44188,44204-44208, 44210-44213, 44227, 44238
SMALL INTESTINE RESECTION	44187, 44202-44203, 44227, 44238, 44120-44121, 44125-44128, 44130
CHOLECYSTECTOMY/INPATIENT	47562-47564, 47579, 47600, 47605, 47610, 47612, 47620
CHOLECYSTECTOMY/OUTPATIENT	47562-47564, 47579, 47600, 47605, 47610, 47612, 47620
PANCREATECTOMY	48140, 48145-48146, 48148, 48150, 48152-48155, 48160
APPENDECTOMY	44955,44970, 44979, 44950-44960
BARIATRIC SURGERY	43644-43645, 43770-43774, 43842-43848, 43886-43888, 43800, 43651-43652, 43659
PROCTECTOMY +/- COLECTOMY +/- ANASTOMOSIS	44155, 44157-44158, 44212, 45110-45114, 45116, 45119-45121, 45123, 45395, 45397
LYSIS OF ADHESIONS	44005, 44180
LIVER RESECTION	47120, 47122, 47125, 47130

Procedure	Over 72 hours	within 72 hours	Total Encounters	72hour to 30 day re-admission rate	72 hour re-admission rate	Total re-admission rate
CHOLECYSTECTOMY/IN&OUT	12	5	500	2.40%	1.00%	3.40%
COLECTOMY COLOSTOMY	21	11	263	7.98%	4.18%	12.17%
BARIATRIC SURGERY	6	2	255	2.35%	0.78%	3.14%
APPENDECTOMY	2	5	214	0.93%	2.34%	3.27%
DRAIN PERITONEAL ABSCESS/NOT APPENDICEAL	34	3	212	16.04%	1.42%	17.45%
SMALL INTESTINE RESECTION	18	7	171	10.53%	4.09%	14.62%
VENTRAL HERNIA REPAIR	14	1	167	8.38%	0.60%	8.98%
PARATHYROIDECTOMY	2	1	151	1.32%	0.66%	1.99%
PANCREATECTOMY	16	3	134	11.94%	2.24%	14.18%
LIVER RESECTION	4	2	98	4.08%	2.04%	6.12%



Bedside to Laboratory and Back Again: Readmission Project

- Preliminary analysis of factors associated with early readmission undertaken
- Collaboration with GSU Experimental/Behavioral Economics Group
Jim Cox, PhD Vjollca Sadiraj, PhD
Kurt Schnier, PhD
- NIH grant submitted 3/2010 and awarded 10/2010
- In depth econometric analysis almost complete
Complex GI Surgery for Cancer
8500 cases from CDW
Over 250,000 data points
- Short term goal: “Triage” activities of the Transition Manager
- Long term goal: Redefine how decision to D/C made



Bedside to Laboratory and Back Again: Readmission Project

- Create discharge decision support software tool (risk calculator)
- Test the impact of tool in an experimental setting
 - Medical Students
 - Surgery Residents
 - Attending Surgeons
- Test the impact of switching D/C default from an “opt in” decision to an “opt out” decision
 - Maintain physician autonomy
 - Changes the transaction costs
- “Decision Software Tool” required for these experiments can be used in future to educate Medical Students about D/C decision during preclinical curriculum



Department of Surgery Quality Program

- **LAPAROSCOPIC VERSUS OPEN APPENDECTOMY: An Analysis of Outcomes in 17,199 Patients Using ACS/NSQIP**
Accepted for publication in *Journal of Gastrointestinal Surgery*
- **Left Subclavian Artery Coverage During Endovascular Thoracic Aortic Aneurysm Repair: Risk of Perioperative Stroke or Death**
Presented at Society of Vascular Surgery and manuscript in preparation
- **Uptake of Comparative Effectiveness Research: Implications for Discharge Decision**
NIH Grant Awarded
- **A Behavioral Model of Organ Utilization in Patients with Chronic Renal Failure**
NIH Submission 3/2010
- **Georgia Surgical Quality Collaborative**
WellPoint Signature Grant 10/2010
- **Resident Participation During CEA: Impact on Perioperative Outcomes**
- **Prevalence of DNR Status in Vascular Surgery Patients: Impact on Perioperative Mortality**
- **Impact of End Stage Renal Disease on Outcomes for Bariatric Surgery**
- **Single versus Multiple Operative Teams during Endovascular Abdominal Aortic Aneurysm Repair: 30-Day Mortality Analysis from the ACS-NSQIP Dataset**



EMORY
UNIVERSITY
SCHOOL OF
MEDICINE

Department
of Surgery

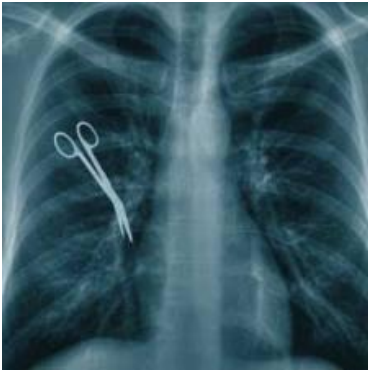
Thank You
Questions?

Georgia Tech Institute for People and Technology

WHAT IF?

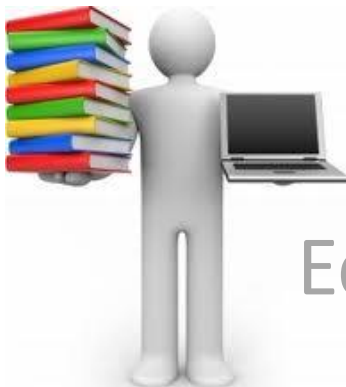
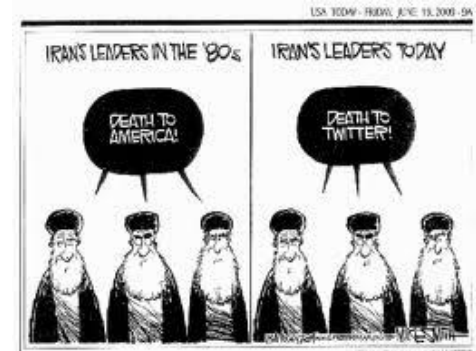
Transforming Complex Human Enterprises
Through Disruptive Research

Lead Domains



Healthcare

Media



Education

Our Approach

Transformative

What is the vision?

Transdisciplinary

Who needs to be at the table?

Translational

How to pave the road for real world impact?

Networked Model

Academic/applied research, prototyping at GTRI

An “onramp” to GT for external partners

Joint investment in competitive infrastructure

Healthcare Subdomains



Transforming Delivery Systems

Enabling Everyday Healthcare



Enabling Everyday Healthcare

What if robots could intelligently and adaptively assist disabled or elderly people in achieving and maintaining independence at home?



Healthcare Robotics

What if robots could intelligently and adaptively assist disabled or elderly people in achieving and maintaining independence in the home?

Robots designed to care for people in home settings can provide continuous personally tailored care. At Georgia Tech, we are combining novel robotic design with innovations in human-robot interaction.

Mobile manipulation for older adults at home

Personal robots can retrieve fallen items, lift heavy objects and gently pass household items to older adults. A robotic assistant can enable older adults to live independently at home in contrast to moving to an institutional care setting.

Health monitoring with cloud robotics

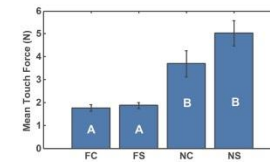
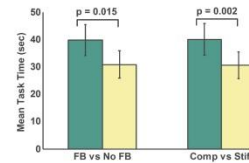
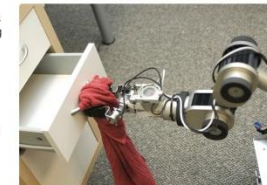
Home health robots can communicate with home health services that extend beyond the physical reach of the home. Robotic assistants can act on cloud-based health monitoring and deliver immediate care.

Enabling people with severe physical impairments

Home and mobile robotics provide a new set of tools for people with severe physical impairments including wounded soldiers and people with visual and hearing impairments.



Home robotics combine information from multiple sensors on the robot and in the environment.



Enabling Everyday Healthcare

What if everyone could make decisions about healthcare and lifestyle based on a unique personalized view of their own health?

Empowered Personal Health

What if everyone could make decisions about healthcare and lifestyle based on a unique personalized view of their own behavior, health risks and clinical status?

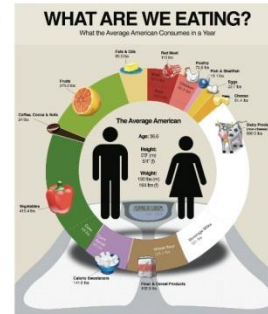
The dominant health challenges in the modern world stem are dominated by chronic disease and the behaviors that lead to poor health. Georgia Tech is inventing new human-centered technologies and models of care that empower individuals, families and care providers to achieve healthier lifestyles.

Ongoing calibration of treatment, monitoring and management based on personal data

The vast majority of healthcare takes place outside of the hospital and doctor's office. New technologies enable people to monitor their health condition and adjust treatment and behavior as part of their daily routine. Greater engagement and confidence leads to better health.

Improve patient outcomes and physician involvement by taking an ecological approach to technology development

Monitoring technologies can provide a wealth of information to clinicians by creating a fully detailed and robust description of health challenges outside of the exam room. Care teams can monitor and adjust treatment avoiding costly ER visits and lengthy delays between routine appointments.



Visualizing the data

Personalized nutrition tools empower consumers to make informed food choices when dining out, grocery shopping and cooking at home.

Salud! (below) is a system managing appropriate health goals through tracking and analysis of self-collected data, such as exercise, diet, and sleep patterns.



Enabling Everyday Healthcare

What if even subtle changes in children with autism or elderly patients could be easily monitored to make timely decision?

Behavior Imaging

What if even subtle behavioral changes in children with autism or elderly chronic disease patients could be easily monitored in order to make timely healthcare choices?

Faculty from several schools at Georgia Tech, from Emory University and the Marcus Autism Institute are leading this ground-breaking research program. Specific challenges include:

How to differentiate intentional and meaningful interactions from coincidental encounters

Human behavior is rich, dynamic and complex. Through repeated observation and detailed analysis can we discern meaningful behaviors that belie hidden health concerns.

How to characterize normal and abnormal patterns of behavior

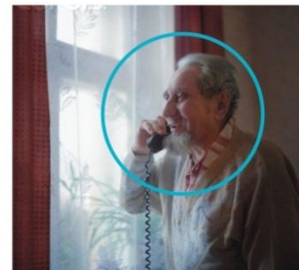
Each patient is the norm. This common wisdom in medicine calls to the need for individualized models that answer the question, "Is this behavior normal for this individual?" and with that answer open the door for calibrated models of human behavior in a range of common situations.



From X-ray to MRI to Behavioral Imaging

Medical science leaps forward with the invention of new imaging technologies. Behavior imaging promises a new world of medical insights as it enables sensing of social, dynamic and everyday activities.

Capturing Behavioral Signals	Measuring Behavioral Variables	Understanding Dyadic Behaviors
Face and Gaze Vocalization Physiological Synchronization Environment Reflection and Usability	Affect Attention Action and Sign Recognition Communicative Behavior Inventory	Interaction modeling and parsing Divergence analysis Visualization and Retrieval



Transforming Delivery Systems

What if innovative healthcare applications could simply “plug in” to health information exchanges?



Trusted Application Platforms

What if innovative health care applications for tomorrow's mobile and home based media technologies could simply “plug in” to health information exchanges and mesh seamlessly with the complex mix of data representations, structures, and standards used in the system?



Georgia Tech is assembling an open source Health IT test bed as the basis for creating an environment and architecture that will enable health application designers and developers to invent and deploy tools for health care delivery.

Patients can control what information they want accessible to whom and under what circumstances

Data security and liquidity are key. Information architectures for Health IT must meet the demands of a modern, dynamic, and heterogeneous care ecosystem.

Health care providers, patients, and others can access authorized data in precise ways

Georgia Tech is advising the design of Georgia's Health Information Exchange (HIE). Through partnership with the Department of Community Health (DCH), this project aims to create a heterogeneous flexible network that meets demands ranging from dense urban centers and rural healthcare.



Georgia Tech is assisting primary care providers implementing health records systems through partnership with Morehouse School of Medicine (NCPC).



Transforming Delivery Systems

What if care spaces, health IT and medical devices were designed to work together seamlessly based on care processes?



Building Health Care

What if care spaces, health IT and medical devices were designed to work together seamlessly based on the clinical and business processes they will be serving?



Health IT





Care Processes

Devices



Health Care Spaces



Faculty from architecture, industrial design, mechanical and industrial engineering and computing have developed this unique research area. Near-term goals include:

- Develop and demonstrate a representational framework for care processes that can inform the design of these three elements of care**
- A design platform that supports data to bedside innovation. Care process ground data driven tools that integrate constraints in physical spaces, medical devices and health information systems.*
- This framework will help guide the design and development of an innovation lab for prototype testing and translation of design concepts to industry**

Georgia Tech's laboratories demonstrate the power of tools that facilitate design of a broad spectrum of healthcare spaces, from in-home care, to small clinics, to major hospitals and even facilities in Indonesia and Borneo.



Georgia Tech | Institute for People and Technology

Transforming Delivery Systems

What if managers and policy makers could “test drive” new ideas with a model that encompasses our health system?



Health Policy Flight Simulator

What if managers and policy makers could “test drive” new ideas with a simulated virtual model that encompasses our health system as well as their care processes, organizations, and personnel?

Engineering simulators guide the design of complex systems, from manufacturing plants to spacecraft. Georgia Tech is now creating equally powerful tools to guide the design of healthcare systems. Health care stakeholders, from payers to providers to employers, need powerful tools to inform transformational healthcare programs.

Employer-based wellness programs

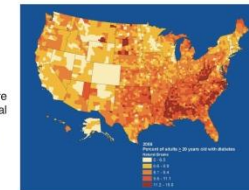
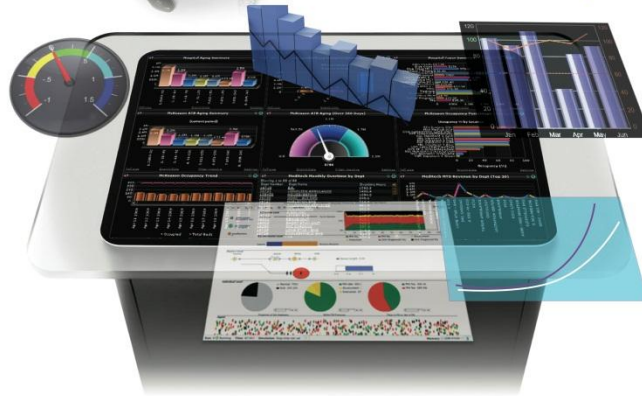
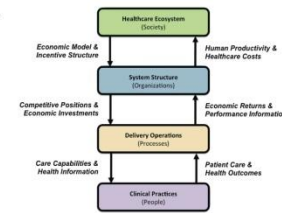
Employers can assess current wellness programs in addition to projecting the healthcare demands in the future.

Economic valuation of prevention initiatives

Wellness programs are cheaper than doing nothing, but only in the short term. Simulation tools can assess the longer term impact of increased health risks and regional economic consequences.

Specific Flight Simulators for Medicare/Medicaid or other insurance plans

Medicare and Medicaid policy drives huge percentages of immediate healthcare costs and incurs a long tail of healthcare repercussions. Policy simulators can provide tools for regional optimizations that meet current and future healthcare demands.



Healthcare demands stemming from the prevalence of chronic disease and obesity are pushing current systems to the breaking point. New tools are needed to chart a path forward.



Georgia Tech Institute for People and Technology

WHAT IF?
WHAT IF?

Professional HIT Certificate Program at GT

Four 2-day Friday/Saturday Courses:

Understanding the changing dynamics of the health care industry

Contemporary health care IT technologies

Managing change to solve your customers' future challenges

Hands on project

Contact Sherry Farrugia

404-385-0534

sherry.farrugia@innovate.gatech.edu

A man with short dark hair and a light beard, wearing a light blue button-down shirt, stands with his arms crossed in front of a server rack. The server rack contains several server units with blue and white components. The background is a solid yellow color.

Georgia Institute of Technology proudly announces the new

Health Information Technology Certificate

Breakout Session Assignments

Session	Room	Color
HSR Funding & Program Development	Dogwood	Green
HSR Key Faculty, Partnerships & Collaborations	Mountain Laurel	Yellow
HSR Programs 1	Maple	Blue
HSR Programs 2	Magnolia	Red

