

6-2008

Board Summary Report June 2008

Regenstrief Center for Healthcare Engineering

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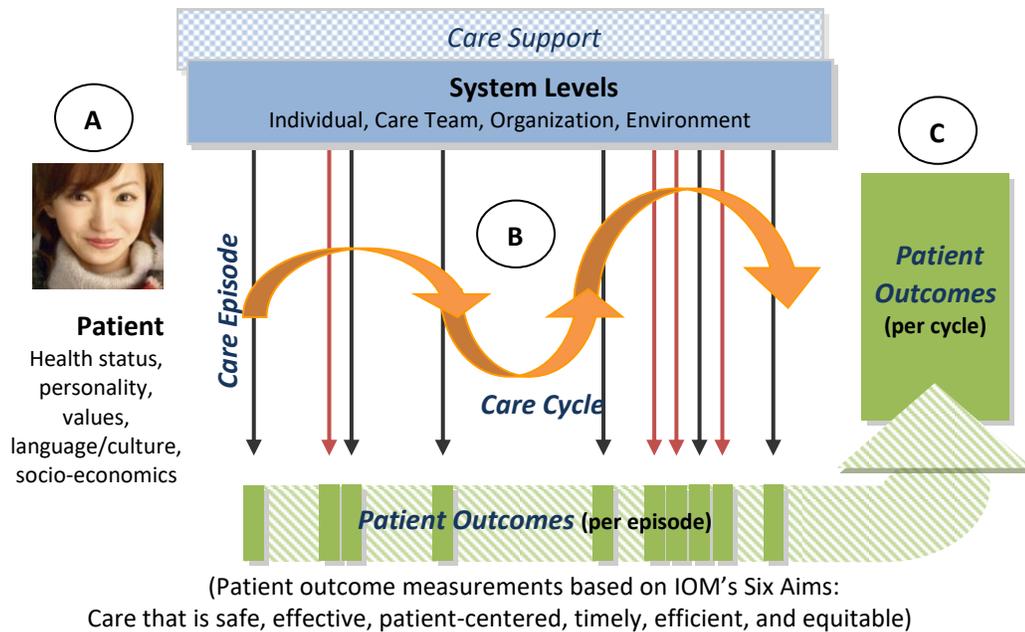
I. RESEARCH EFFECTIVENESS

A. Research Focus

The Regenstrief Center uses a model of the healthcare system to illustrate its three main research categories on system performance:

- A. The interaction between the patient and the system
- B. The services delivered by the system (i.e., care episodes, care cycles)
- C. Evaluation of patient outcomes

The model is individual-centric and considers individual patient characteristics which introduce variability in the delivery process and outcomes.



Definitions

- “Care episode” – Complete, self-contained medical interaction between a patient and healthcare provider with a defined clinical objective
- “Care cycle” – Care with multiple episodes for continuous needs
- “Care support” – The supply and service processes necessary to provide care
- “Patient outcomes” – The effect of healthcare processes on patients and populations
- “Individual” - The patient and/or the patient’s advocate
- “Care team” - Includes the patient, his or her professional care providers and family members
- “Organization” – Supports care through infrastructure and resources
- “Environment” – Systems comprising political, economic, and resource inputs to healthcare delivery



A majority of the Regenstrief Center’s current projects focus on the system’s capacity to provide primary care and chronic care and to support leading practices across healthcare settings. Research themes within this focus include provider/patient interaction, patient access, patient health literacy and self-care, patient safety, resource management, IT adoption and long-term care outcomes.

Sampling of Current Projects

Please refer to healthcare system model on page 2 for illustration of research category.

Project Title	Research Category	Funding Agency	Principal Investigators
A Randomized Pilot of Breast Cancer Survivor Patient Activation Intervention	Patient/System Interaction (A)	Regenstrief Center	Shields, Child Development and Family Studies
Health Literacy in Underserved, Pre-Diabetic Populations	Patient/System Interaction (A)	Regenstrief Foundation	Jensen, Communication
Self-care and Health Literacy in Telehealth and Traditional Home Health Patients with Heart Failure	Patient/System Interaction (A)	Regenstrief Center	Yehle, Nursing
Health Literacy, Medication Burden and Self-Care Behaviors in Patients with Heart Failure Across Multiple Settings	Patient/System Interaction (A)	Regenstrief Center (2008 Seed Grant)	Kimberly Plake, Pharmacy Practice
Integrating Formal and Self-Care Systems in the Management of Diabetes	Patient/System Interaction (A) System Services (B)	Community Health Network	Collins, Communication
Measuring and Reporting Quality Performance and Medication Safety in Community Pharmacy	System Services (B)	Regenstrief Center (2008 Seed Grant)	Carol Birk, PharmaTAP Kent Summers, Pharmacy
Point of Care Audit and Feedback Tools to Improve Patient Safety	System Services (B)	Regenstrief Center (2008 Seed Grant)	Lisa Hopp, Nursing Calumet
Patient Scheduling	System Services (B)	National Science Foundation Regenstrief Foundation (Supplemental Grant)	Mark Lawley, Biomedical Engineering
RCHE Health Care E-Learning Hub	System Services (B)	Regenstrief Foundation	Schaffer, Education Collins, Communication
Establishing a Center for Assistive Technologies	System Services (B)	Indiana Family & Social Services Administration	Witz, RCHE Collins, RCHE
Rural Telehealth Needs Assessment	System Services (B)	ISDH	Collins, RCHE
Promoting Patient Self-Care and Monitoring in Congestive Heart Failure Management	System Services (B)	Regenstrief Foundation (Supplemental Grant)	Collins, Communication



Optimal Long-Term Care Resource Allocation for Older Adults Enrolled in Medicaid	System Services (B)	Regenstrief Center (2008 Seed Grant)	Nan Kong, Biomedical Engineering
Modeling the Supply Chains for Healthcare Products	System Services (B)	Regenstrief Center (2008 Seed Grant)	Leroy Schwarz, Krannert School of Management
Framework for Improving Adoption Rate and Value Realization of Computer Physician Order entry Systems	System Services (B)	WellPoint	Duffy, Industrial Engineering
Creation of a VR Healthcare Facility Design Hub	System Services (B)	Regenstrief Foundation	Arns, Envision Center
Impact of Insufficient Community-based Long Term Care on Medicare Expenditures	Patient Outcomes (C)	Regenstrief Center (2008 Seed Grant)	Laura Sands, Nursing Joseph Thomas, Pharmacy Practice
Medication Use and Functioning in Patients with Dementia	Patient Outcomes (C)	Alzheimer's Association	Joseph Thomas, Pharmacy Practice

B. Foundation Supplemental Funding



Patient Scheduling

Purdue PI: Mark Lawley

Partner: IU Medical Group (North Arlington Clinic) and Clarian Health (Cottage Corner Clinic)

Primary Objective:

1. Development of new scheduling theory and implementation to improve functionality and efficiency of patient scheduling process for healthcare workers and patients.
2. Development of predictive patient no-show models based on demographics, patient communication needs, appointment parameters, procedure codes and diagnoses
3. Linkage between clinical and scheduling information; matching physician and patient characteristics (i.e., communication needs and abilities) to reduce disparities.

Status:

To date, the research team has finished clinical operations process mapping, including patient and information flow. Important performance measures have been identified (i.e., no-show rates, percentage of calls answered in one minute, visits per FTE, waiting times). These will be used to show the impact of clinical scheduling and process improvement methods. A time study was conducted during the spring of 2008 to collect clinic process and patient waiting times. Such information will be used in a discrete event simulation model, which is almost complete. An initial sample of patient no-show data from the IU Medical Group clinics has been received and is currently being evaluated.



Two major thrusts for summer 2008 will be (1) to characterize the effect of physician practice styles on patient flow, and (2) to complete the clinic simulation model and begin using it to evaluate the impacts of clinic factors such as staffing levels, exam-room management styles, and scheduling methods on clinic performance.

More specifically, the team's plan for summer 2008 includes frequent clinic visits (weekly for each clinic) to address issues identified previously in the patient and information flow. In addition, the team will shadow physicians to understand the impact of physician-patient interaction, and physician practice style on the efficiency of patient flow in the clinics. The team will also begin tentative discussions with the software vendor, McKesson, to develop a software outlet for the scheduling theory that is being developed.

Seven journal manuscripts have been accepted, submitted, or are in progress. Nine presentations on clinical scheduling were given between March and April 2008.



Promoting Patient Self-Care and Monitoring in Congestive Heart Failure Management

Purdue PI: Bart Collins

Partner: St. Vincent Health

Primary Objective:

Four project summaries have been proposed to St. Vincent Health. They are based on exploring different aspects of self-care and information and communication technologies.

Project 1: This project involves conducting an analysis of individual differences in self-care ability and motivation among congestive heart failure (CHF) patients, their health outcomes, and costs associated with their care among patients currently being treated for congestive heart failure by St. Vincent Health. It is hypothesized that patients that evidence higher levels of self-care ability and motivation will suffer from fewer health complications and costs over the same period of time than patients with lower levels of self-care ability and motivation.

Project 2: The goal of this project is to explore the viability of an automated voice-prompted telephony-based service and web-based service to provide for daily monitoring of CHF patients. The research team could evaluate the role these technologies can play on providing daily monitoring and tracking services for CHF patients under the care of St. Vincent Health.

Project 3: The goal of this project is to develop a prototype web-based education environment for enhancing CHF patient knowledge of self-care techniques. CHF patients will be given access to an online system that provide structured learning resources related to a wide range of issues associated with their disease, including: signs and symptoms, lifestyle and exercise, diet and nutrition, and other material consistent with the American Heart Association's guidelines for patient information CHF management.



Project 4: The goal of this project is to compare different mechanisms for providing home health services to patients with CHF. There are a growing number of methodologies available for providing home health services, but many are quite expensive. Purdue has been collaborating with Healthcall, located in Purdue's Technology Park in Crown Point, IN. Healthcall's automated response telephony and web-based systems provide an opportunity to test two new mechanisms for daily monitoring of CHF patients receiving home health services beyond the two methods used by St. Vincent currently.

Status:

Details of final project are being refined.



Research Database Management

Primary Objective:

Development of a data management system for complex data with a small, dedicated staff who will assure data accuracy, accessibility and security in support of ongoing interdisciplinary healthcare engineering research.

Project funds used to:

- Acquire server hardware and database software.
- Establish an RCHE database manager staff position to organize and integrate data and work with RCHE faculty to access data.

Status:

A contract has been signed with Information Technology at Purdue (IT@P) to create a data management system. RCHE committed to purchase servers, maintain the system and buy necessary software. Data from Purdue's employee wellness initiative (i.e., HealthyPurdue) and medical claims data now populate the database and are being used for analysis.

RCHE is still in the process of filling the Data Analyst position. The position was revised and reposted at the end of May.



C. Cancer Care Engineering Supplemental Funding

CCE – 1

Multi-Agent Approach to Modeling of the Indiana CRC Care System

PI: Seza Orcun, Ph.D., Purdue University

Primary Objective:

Development of a robust and scalable multi-agent framework where characteristics of Indiana CRC care constituents (patients, hospitals, doctors, nurses, insurers/payers) and their interactions are configured to study system behavior.

Three major agent classes:

- Personal Agents - individual patients, physicians, nurses, social workers, patient-families
- Organizational Agents - hospitals, clinics, insurers/payers, medical analysis laboratories, employers, pharmacies
- Regulatory Agents - local, state and federal government agencies

Status:

A prioritized list of questions is compiled. In accordance with the key questions, the conceptual models of three agent classes (i.e., population, physician, and medical center) are completed. Indiana State Department of Health and Roudebush VA Medical Center cancer registries are identified as the data sources for the initial model implementation. The IRB approval and data requests for each are submitted. Natural history of CRC development and screening procedures are implemented for the population agent using publicly available data, such as Indiana State CRC incidence rates and literature. Modeling of treatment procedures is underway.

CCE - 2

Indianapolis CRC Quality Improvement Initiative

PI: Brad Doebbeling, MD, MSc (Regenstrief Institute)

Primary Objective:

Improvement of the quality of CRC care in Indianapolis by focusing on the final arm of translational research, implementing discoveries among patients who need them. The project, slated to initiate June 2008, will involve facilitation of multi-disciplinary teams of IU-Medical Group and VA Medical Center primary care clinic staff and area supervisors to evaluate existing clinical workflow and apply systems engineering and Lean principles to redesign processes related to CRC screening. The outcome will be to understand EMR implementation impact of clinical processes, optimize patient flow and remove clinical process barriers limiting CRC screening rates.

Status:

Project is on track to: 1) assess primary care processes related to CRC screening, 2) provide assistance in development of data infrastructure to support sustainability of initiative, 3) develop and administer cultural assessment to determine organizational readiness for IT implementation and implementation of systems redesign initiative, and 4) facilitate IUMG and VAMC project teams in application of systems engineering and Lean tools to ultimately improve CRC screening performance.



CCE - 3 **Holistic Best Practice Process Flow and Navigation for CRC Patients with Psychosocial Problems**

PI: Joe Pekny, Ph.D., Purdue University

Primary Objective:

The rationale for this study continues to be the mapping of care processes for cancer patients with common psychosocial problems, in order to implement and evaluate systems interventions to improve patient navigation, consistent treatment delivery and follow-up independent of traditional referral-based care.

Status:

The following reflects revised scope of project as of 5/9/08.

Phase 1: (on track for completion July '08). Complete review of social work literature to extend beyond CRC, including mental health needs across the continuum of cancer care and behavioral variables impacting use of, and access to, preventive services

Phase 2: Develop a process flow map for psychosocial needs of cancer patients and families along the continuum of care. Incorporate content for evidence-based patient/family screening and care delivery

Phase 3: Identify and establish working partners (e.g., IU Simon Cancer Center, Roudebush VA Medical Center, Hoosier Oncology Group)

Phase 4: Design site-specific process flow maps

Phase 5: Plan and implement a systems-redesign pilot project at a working partner location.

As of 5/30/08, project team is interested in identifying gold standard psychosocial treatment practices in national settings and assessing moderating factors impacting the adoption and consistent utilization of these practices. PI is interviewing two researchers (incoming VA HSR&D Associated Health Fellows) to assist with this project.

CCE - 4 **Bridging Clinical Expertise with Fundamental Cancer Biology Research Using Predictive Computational Cancer Models**

PI: Seza Orcun, Ph.D. , Purdue University

Primary Objective:

Cellular-level population balance model that captures major characteristics and stages of cell growth processes for predicting efficacy of colorectal cancer treatment options given patient features such as genomics, proteomics, metabolomic and traditional clinical data.

Status:

Preliminary study to demonstrate the need to study the dynamics of CRC development has been completed using a reported model in literature and CRC incidence data. This initial model, which considers only genetic mutations, is being expanded to incorporate tissue growth models. An undergraduate student has been hired as research intern for the summer.



CCE - 5

Fusion Center for Cancer Care System Information - The Cancer Care Situation Room

PI: David Ebert, Ph.D. , Purdue University

Primary Objective:

Full-fledged, interactive, integrated visual and statistical analysis capability in a visual analytic environment that brings together massive, disparate, incomplete and time-evolving -omic, EMR treatment and claims data sets.

Status:

In collaboration with CCE-6, visualization tools are being integrated into the HUB environment to visualize modeling results from CCE-4 and -omic data. Purdue's HealthcareTAP has contributed an MPH student to this project to compile data from many disparate sources on colonoscopy rates in Indiana, CRC mortality and incidence, number of GI specialists performing colonoscopies and other data. This student will work with the research team to concomitantly visualize these data to generate new hypotheses and to impact healthcare policy at the state level.

A pilot project has been initiated in collaboration with Roudebush VA Medical Center to create an interactive, integrated dashboard of facility-level colorectal cancer performance measures. The dashboard will inform the process of improving cancer care and optimizing systems management planning in medical centers. A critical set of questions are identified through interviews with clinical and management partners in VAMC. Procedures, strategies and outcomes of this pilot will inform further development of displays of statewide cancer care.

CCE - 6

Information Infrastructure and Raw Data Analysis

PI: Marietta Harrison, Ph.D. , Purdue University

Primary Objective:

Repository and tools for all CCE project data. Includes advice from statisticians

Status:

A requirements-specification analysis has been prepared for the CCE Knowledge Base System. The decision was made to leverage Purdue's HUBzero information infrastructure, which will support a collaborative environment for rapid integration and deployment of research tools. It will also deliver shared web-based access and grid computing resources for the execution of tools developed in other CCE projects and the visualization of generated results. There is an ongoing integration of CCE models into this environment.



CCE - 7 Augmenting Physical Sample Collection, Clinical Data Collection, OMICs Laboratory Analysis and Conversion to Digital Data

PI: Steve Williams, M.D., Gabi Chiorean, M.D.

Primary Objective:

Physical collection, storage, transport and analysis of blood and tissue samples from undiagnosed control individuals and CRC patients treated in the Indiana University Cancer Center Multidisciplinary Oncology Clinic.

Status:

An application was submitted to the Scientific Research Committee at the IU Simon Cancer Center. Comments have been addressed and the final version is being reviewed. Next steps include sending the protocol to the Institutional Review Board at IU Simon Cancer Center.

CCE - 8 Master Project Management

PI: Joe Pekny, Ph.D., Purdue University

Primary Objective:

Management of the portfolio of all projects to maximize impact and to leverage success by further incremental investment.

Status:

The Canine Cancer Care Engineering (C3E) effort has raised \$140,000 in seed funding. The initial set of dogs used for samples during bladder cancer treatment and in different modalities has been identified. Proteomics analysis of those samples is in progress. Complete medical information is being entered in the data management and analysis system. Two undergraduate students have been hired as research interns during the summer. Collaboration with North Carolina State University has been initiated to focus on designing optimal CRC screening networks for specific regions (i.e., location and number of high capacity, medium capacity and mobile colonoscopy facilities) using and extending traditional supply chain network design approaches.

Collaboration with University of South Florida has been established to develop a prototype cyber-enabled decision-support tool for developing CRC intervention strategies (i.e., optimum screening, surveillance intervals for different risk populations). A graduate student from University of South Florida worked at Purdue University for two months to initiate and develop the models. She is continuing to work on the project.



D. Partnerships

The Regenstrief Center seeks out relationships with two kinds of partners – local living laboratories and national dissemination organizations.

Local living laboratories. These healthcare organizations collaborate with center researchers to test and assess research outcomes. Existing partnerships include:

Indiana University Medical Group *Community Health Network*
Indiana University School of Medicine *St. Vincent Health*
Roudebush Veterans Affairs Medical Center

National dissemination organizations. These organizations expand RCHE’s national influence by providing critique of the pertinence and potential impact of research findings on healthcare delivery, disseminating research findings, promoting implementation across the country and influencing policy makers and legislation. In addition to existing partnerships with *Ascension Health* and *WellPoint, Inc.*, RCHE has established new relationships with:

- *The American College of Physicians*, the nation's largest medical specialty society with a membership of 124,000 providers in general internal medicine and related subspecialties
- *VHA, Inc.*, a healthcare provider alliance that serves more than 1,400 not-for-profit hospitals and 21,000+ non-acute care organizations nationwide.

The center is pursuing additional partnerships with the following entities to expand its national reach:

- *Veterans Affairs.* Members of the Healthcare Engineering Alliance are proposing the development of three VA Healthcare Engineering Research Centers to: 1) develop partnerships among engineers, implementation scientists and healthcare professionals in applying engineering tools to healthcare, 2) train a cadre of VA professionals in healthcare engineering, and 3) seed and nurture research that will provide the best next-generation tools. These centers are viewed as the initial step in the spread and institutionalization of healthcare engineering into VA culture and operations.
- *Mayo Clinic.* RCHE has been engaged in ongoing discussions with Mayo about establishing a partnership for research dissemination. Center leadership visited Mayo’s new Center for Innovation and Health Care Transformation in Rochester, Minnesota on June 17-18, 2008 to explore collaboration opportunities.



E. Healthcare Engineering Alliance First Annual Symposium

The Interface of Health Services Research and Healthcare Engineering

- 4/6-8/08, Research Triangle Park, N.C.

The first Healthcare Engineering Alliance symposium was held in Research Triangle Park, North Carolina (April 7-9, 2008). The Symposium was supported by the Healthcare Engineering Alliance (HEA), a U.S. coalition of engineering researchers at five universities (NC State University, NC A&T State University, Purdue University, University of South Florida, and the University of Arkansas) who have joined forces to create a national network of engineering researchers focusing on the problems of healthcare delivery.

The symposium focused on the need for collaboration among healthcare engineering and health services researchers, who have traditionally provided healthcare delivery research to guide public health policy for five decades. Participants included researchers from each of the HEA universities, as well as national leaders from the Agency for Healthcare Research and Quality, Veterans Affairs, the National Science Foundation (a financial sponsor of the Symposium).

Two distinguished keynote speakers, Professor W. Dale Compton (Lillian Gilbreth Distinguished Professor at Purdue University and Secretary of the National Academies of Engineering) and Dr. Eugene Oddone (Vice-Dean of Research at the Duke Medical School and Director of the Primary Care Research Center at Veterans Affairs in Durham, NC, both noted that the broad recognition of the potential for engineering principles to improve to healthcare delivery has not been matched with the resources (i.e., large-scale funding, government support) necessary to develop these collaborations.

Both engineers and healthcare professionals shared about their challenges in transferring state-of-the-art best practices into clinical practice, and agreed on the need for joint research on how to deploy methods that are known to be effective. Dr. Vinod Sahney, Vice President of Blue Cross-Blue Shield of Massachusetts, agreed that the current U.S. healthcare delivery system has not been effective in implementing currently-known best practices that would yield significant benefits.

F. Healthcare Engineering Research Center

In late September 2007, the proposal submitted to the National Science Foundation by the Regenstrief Center and its research partners at North Carolina State University, North Carolina A&T State University, University of Arkansas, and University of South Florida, was one of only 34 pre-proposals selected to proceed to the full proposal state. The full proposal was submitted in December 2007, but was not selected as one of the finalists.

G. VA Healthcare Engineering Research Centers

Members of the Healthcare Engineering Alliance are proposing the development of four VA Healthcare Engineering Research Centers based at four VA medical centers proximal to universities with healthcare engineering programs, the VA healthcare medical centers and HSRD Centers of Excellence. The goal of each center would be to: 1) develop partnerships among engineers, implementation scientists and healthcare professionals in applying engineering tools to healthcare, 2) train a cadre of VA professionals in healthcare engineering, and 3) seed and nurture research that will provide the best next-generation tools. These centers are viewed as the initial step in the spread and institutionalization of healthcare engineering into VA culture and operations.



II. RCHE OPERATIONS

A. New RCHE Research Scientist

Ping Huang joined the Regenstrief Center on April 22 as the center’s first research scientist. She will be responsible for all phases of large-scale research efforts, including developing research topics, assembling and coordinating multi-disciplinary teams, authoring and coordinating technical content, and conducting significant portions of grant research. Huang earned her doctorate in Quantitative Methods and Management Sciences from Purdue University in 2008, and previously worked at TRW Automotive as a Programmer/Business Analyst.

B. Center for Assistive Technologies

The Center for Assistive Technologies (CAT) is dedicated to improving the functionality and independence of those with disabilities through innovation and adoption of assistive technologies. The Regenstrief Center provides oversight for the center’s organization and support for CAT projects.

RCHE is working to finalize the formation of the advisory board and plan for the first meeting. The advisory board will set strategic direction and provide critical networking with organizations serving the disabled community. RCHE is also working with the Family and Social Services Administration to analyze AT data and collect additional data to identify areas of greatest potential benefit.

C. External Advisory Council Meeting

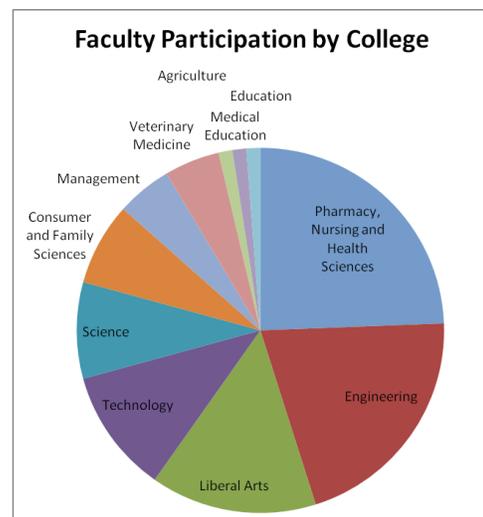
The second meeting of RCHE’s advisory council on April 21 reviewed several of the center’s research initiatives and discussed opportunities for major funding, new collaborations and dissemination. The council is comprised of state and national healthcare and engineering leaders.

D. Affiliate Faculty

As of June 2008, RCHE has 82 affiliate faculty members.

Colleges

Pharmacy, Nursing and Health Sciences	20
Engineering	17
Liberal Arts	12
Technology	9
Science	7
Consumer and Family Sciences	6
Management	4
Veterinary Medicine	4
Agriculture	1
Medical Education	1
Education	1
Total	82





E. Website

Between 1/1/08 and 6/12/08, the RCHE website was viewed by 1,060 individuals in 46 U.S. states and 42 countries.

Country/Territory	Visits
United States	3,857
Canada	43
India	14
United Kingdom	13
China	13
Turkey	10
France	9
Italy	9
Colombia	8
Hong Kong	7

State	Visits
Indiana	2,967
Illinois	128
New Jersey	83
Texas	81
Michigan	77
Virginia	46
California	43
Arizona	40
New York	39
Minnesota	34

III. LEARNING AND INNOVATION

A. Data Support

A contract has been signed with Information Technology at Purdue (IT@P) to create a data management system. RCHE committed to purchase servers, maintain the system and buy necessary software. Data from Purdue's employee wellness initiative (i.e., HealthyPurdue) and medical claims data now populate the database and are being used for analysis.

RCHE is still in the process of filling the Data Analyst position. The position was revised and reposted at the end of May.

B. Spring Conference and Pioneer Speaker Series

Research Solutions in Healthcare: Challenges and Lessons Learned

- 4/22/08, Burton D. Morgan Center

Conference sessions explored the process of implementing research innovation in the healthcare setting. Attendees included healthcare executives and professionals, faculty, staff and students. Michael Hindmarsh, former Associate Director of Clinical Improvement of the MacColl Institute gave the keynote address on his work in designing and disseminating the Institute's Chronic Care Model.



Meeting the Needs of the Community: A System for Redesigning Healthcare

Michael Hindmarsh, M.A., Hindsight Healthcare Strategies

Former Associate Director of Clinical Improvement, MacColl Institute

During his 15 years with Group Health's Center for Health Studies, Hindmarsh has managed federally funded research studies and various internal clinical improvement efforts. He has also directed the design and implementation of two of Group Health's population-based clinical improvement efforts: the Diabetes Roadmap and the Depression Roadmap. As part of that work, Mike and his colleagues created one of the country's first registries of patients with diabetes. His current work involves design and development of a national dissemination strategy for implementing the Chronic Care Model.

C. Additional Engagement Activities

Lucian Leape Institute Inaugural Gala

- 2/8/08, Boston

Leadership from the Regenstrief Center and the Indianapolis Patient Safety Coalition were guests at the inaugural gala celebrating the founding of the Lucian Leape Institute at the National Patient Safety Foundation.

Institute of Medicine/National Academy of Engineering Roundtable on Evidence-Based Medicine

Engineering a Learning Healthcare System: A Look at the Future

- 4/29-4/30/08, Washington D.C.

Regenstrief Center leadership participated in this workshop of key leaders designed to explore potential strategies for achieving a "learning healthcare system," in which evidence is applied and developed as a natural product of patient care. Dale Compton, chair of the RCHE Advisory Council, gave a keynote address highlighting how systems engineering might help foster a healthcare system that delivers effective care and learns from the care delivered.

2008 VHA Leadership Conference

The Power of Innovation

- 5/4 – 5/7/08, Philadelphia

VHA's showcase educational event is exclusively for finance, materials, nursing, operations, pharmacy and physician leaders and other health care professionals at VHA health care organizations. Leroy Schwarz, RCHE academic director, presented the session, *What Can Health Care Supply Management Learn from Consumer Product Supply Chains?* The session covered the findings of an RCHE research study into the global health care supply chain that explores the differences and commonalities of the health care supply chain and the consumer products supply chain.

Institute of Industrial Engineers Annual Conference 2008

How Businesses Take Flight

- 5/17 – 5/21/08, Vancouver, British Columbia

Kenneth Musselman, RCHE Strategic Collaboration Director, presided as president over this annual conference, which offered a research track on health and service systems.



US Public Health Service Scientific and Training Symposium

Public Health Strategies for a New Millennium

- 6/9-6/12/08, Tucson, Arizona

Jim McGlothlin, RCHE's technical director, Brian Leonard, HealthcareTAP's Performance Improvement Projects Manager, and Balmatee Bidassie, doctoral student and certified Lean Six Sigma Black Belt, presented a pre-symposium workshop, *Lean Six Sigma for Healthcare Professionals*. This session's 30 participants learned the basics of Lean Six Sigma and guidelines to apply in their own organizations.

2008 Annual St. Vincent Research Symposium

- 6/11/08, St. Vincent Health

George B. Adams III, Ph.D., Associate Director of Programs for the Network for Computational Nanotechnology in Discovery Park, presented the keynote address, "Nanotechnology and Healthcare Research."

Córdova joins Mayo Clinic Board of Trustees

The Mayo Clinic Board of Trustees welcomed Purdue University President France Córdova, Ph.D., as a new member. RCHE has been engaged in ongoing discussions with Mayo about establishing a partnership for research dissemination. Center leadership will be visiting Mayo's new Center for Innovation and Health Care Transformation in Rochester, Minnesota on June 17-18 to explore collaboration opportunities.

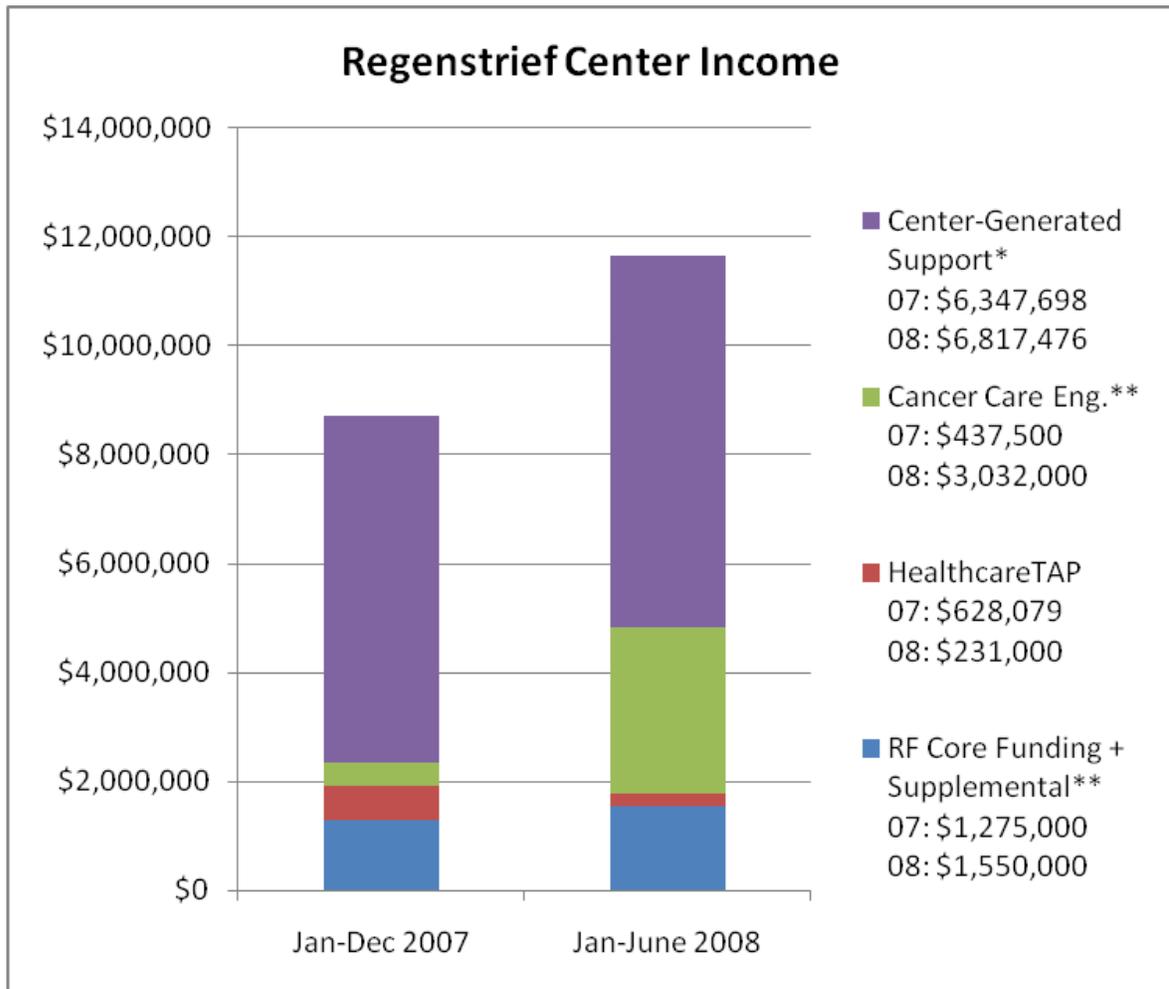


IV. FINANCIAL MANAGEMENT

Full award amounts are reported in the year in which RCHE is notified of the award. Grant funders include:

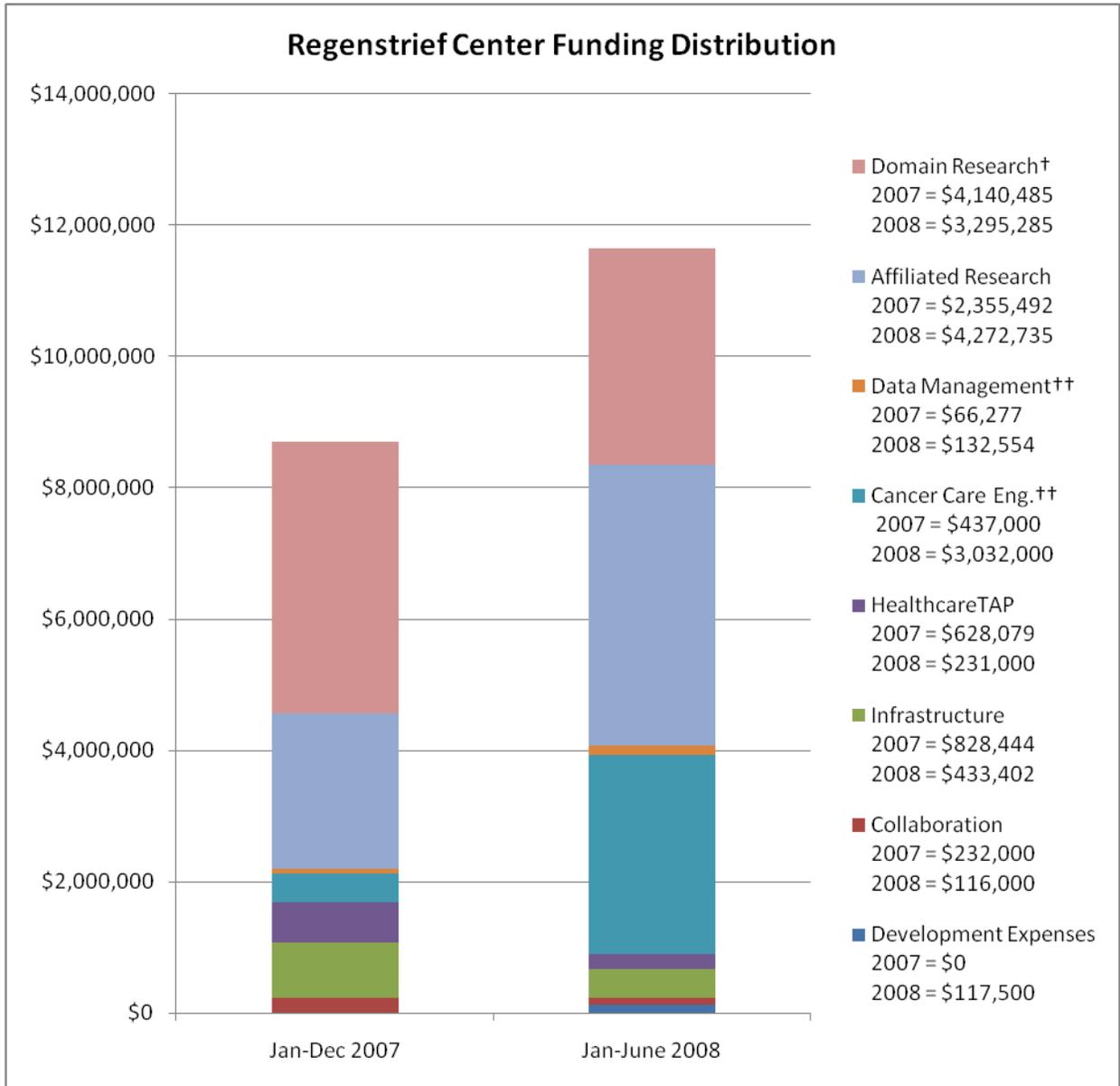
Agency for Healthcare Research and Quality
Centers for Disease Control and Prevention
Indiana State Department of Health
National Cancer Institute
U.S. Department of Health and Human Services
Walther Cancer Institute

Alzheimer's Association
Indiana Family and Social Services Administration
National Institute on Aging
National Science Foundation
U.S. Department of Veteran Affairs



* Includes external grants and strategic partner support.

** Supplemental grants from the Regenstrief Foundation are split over three years (2007-2009).



† Includes external grants and Foundation project funding, excluding data management.

†† Supplemental grants from the Regenstrief Foundation are split over three years (2007-2009).