

The State of the Department of Quantitative Health Sciences (QHS)

Catarina Kiefe, PhD, MD

September 24, 2013



QHS History

- Founded in June, 2009
- Strategic Plan developed by June, 2010
 - Revised June, 2012
- People:
 - 31 + 5 primary faculty, 35 secondary faculty
 - 31 doctoral students, 2 post-docs
 - 50 staff
- Moved into ~24,000 sq ft across 5 floors in new Sherman building, May 2013

The people in QHS

- 31 Primary faculty + 5 Adjuncts
 - 9 Professors (+ 3 adjuncts)
 - 7 Associate Professors (+1 adjunct)
 - 13 Assistant Professors (+ 1 adjunct)
 - 2 Instructors
- 50 staff
 - 11 administrative
 - 39 technical/research

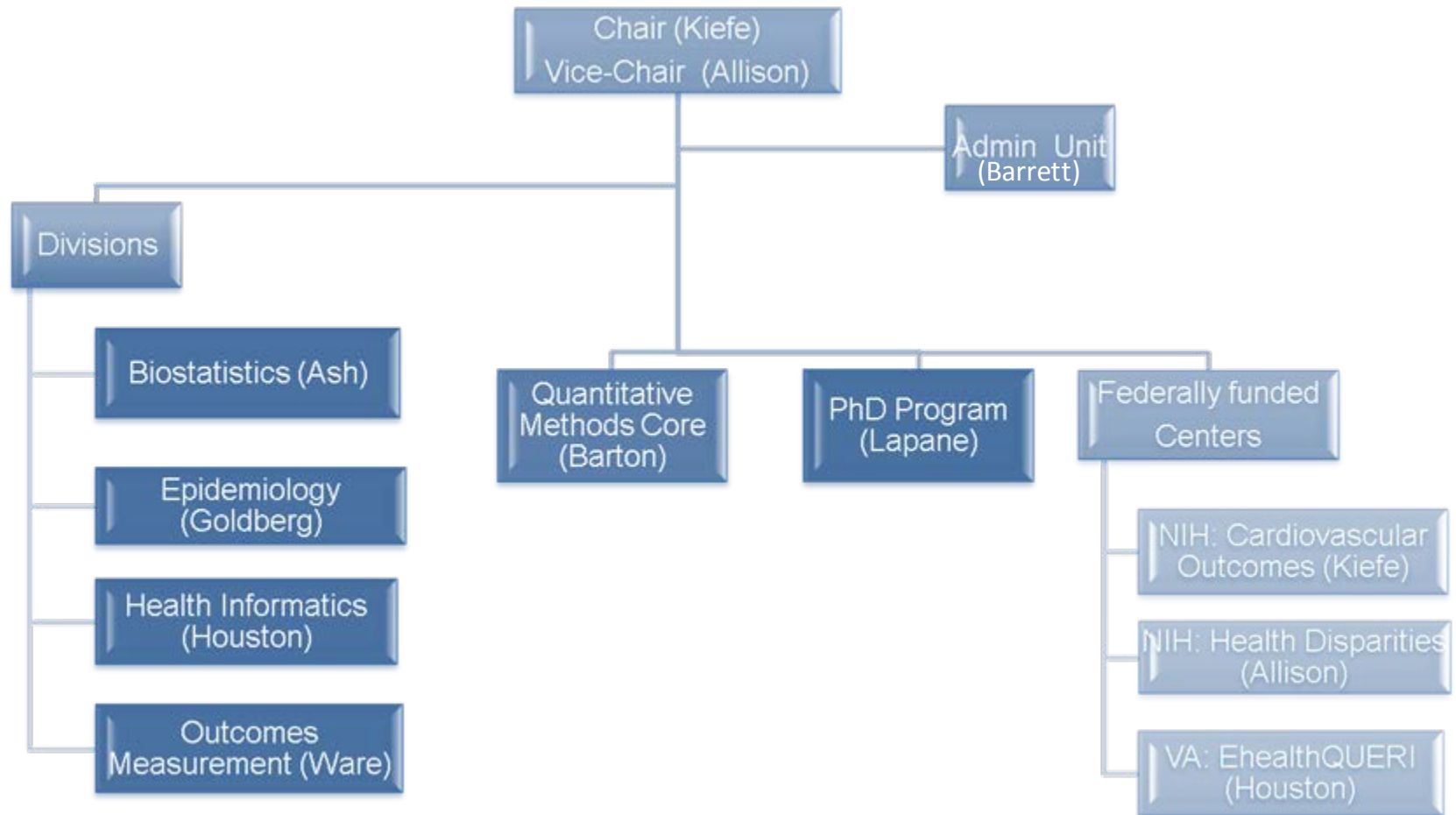
QHS Vision

- We will be leaders in the science of moving from discovery to improving individual and population health
 - by transforming healthcare delivery through methodological innovation
 - by becoming a nationally and internationally recognized resource for translational research

QHS Values

- Social justice through improved health
- Collective creativity
- Integrity and excellence
- Diversity and mutual respect
- Science that makes a difference

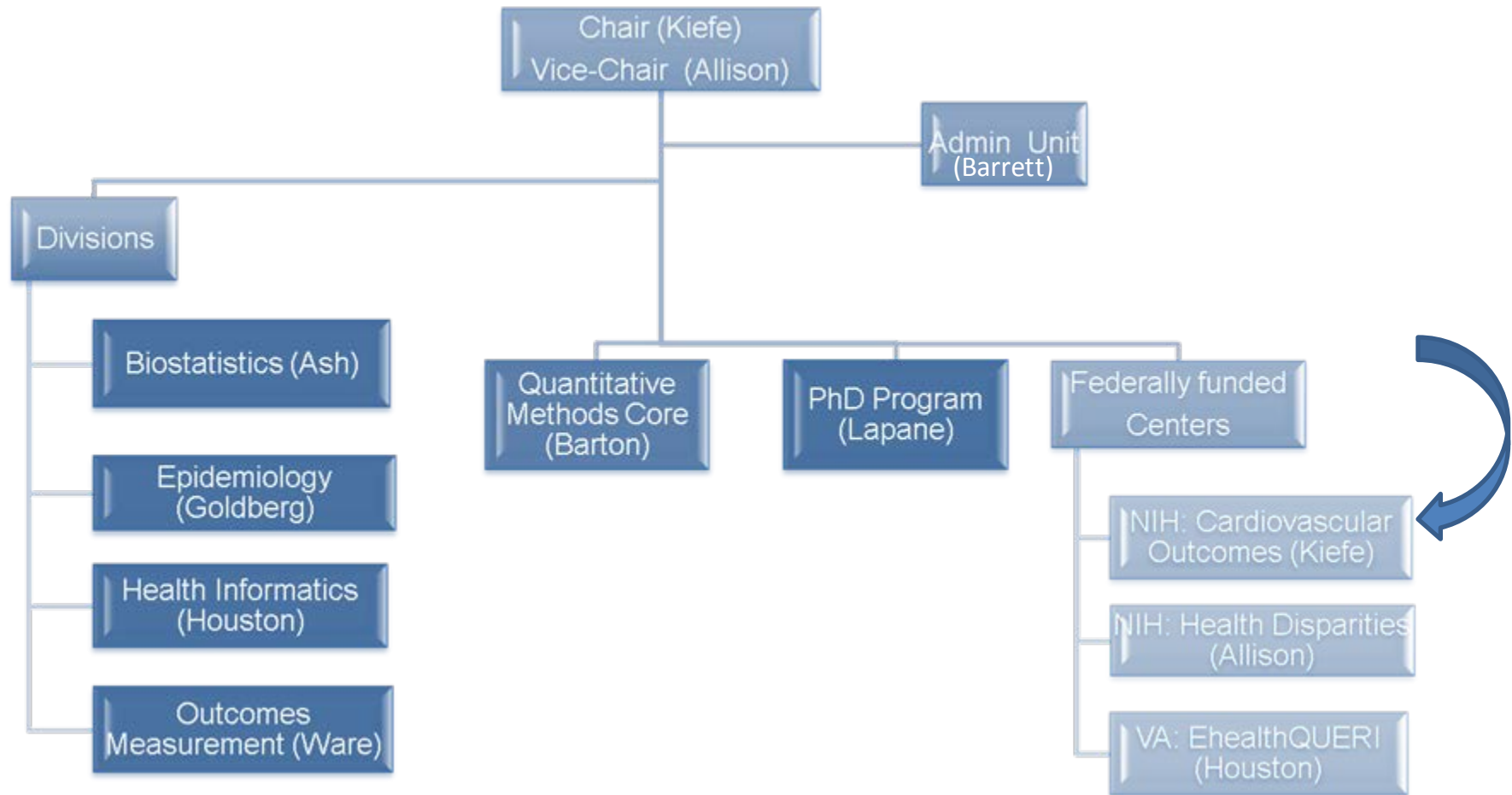
QHS Organizational Chart



Research Portfolio

- Currently QHS faculty are PIs on 41 extramurally funded projects at ~ \$46 million over lives of grants
- In FY 12, QHS extramural funding amounted to \$6.9 million in direct costs, mostly from NIH
- QHS faculty are key investigators on large grants for which they are not PIs (not included in above numbers): e.g., CTSA, Joint Replacement Registry

QHS Organizational Chart





- One of 3 Centers for Cardiovascular Outcomes Research funded nationwide by NIH
- Research AND Career Development

Funded by the National Heart, Lung,
and Blood Institute, Grant # U01HL105268



TRACE Cohort

Recruit and follow 2,300 patients hospitalized for Acute Coronary Syndromes in 6 hospitals in MA and GA

Transitions Project



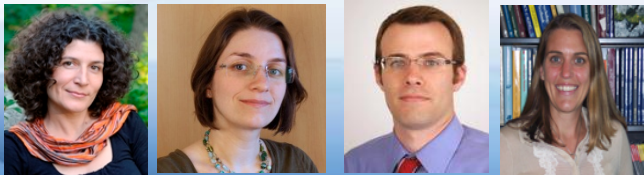
Examine transitions from hospital to community testing hypotheses relating transition quality, HRQOL, cognition, and racial disparities

Action Scores Project



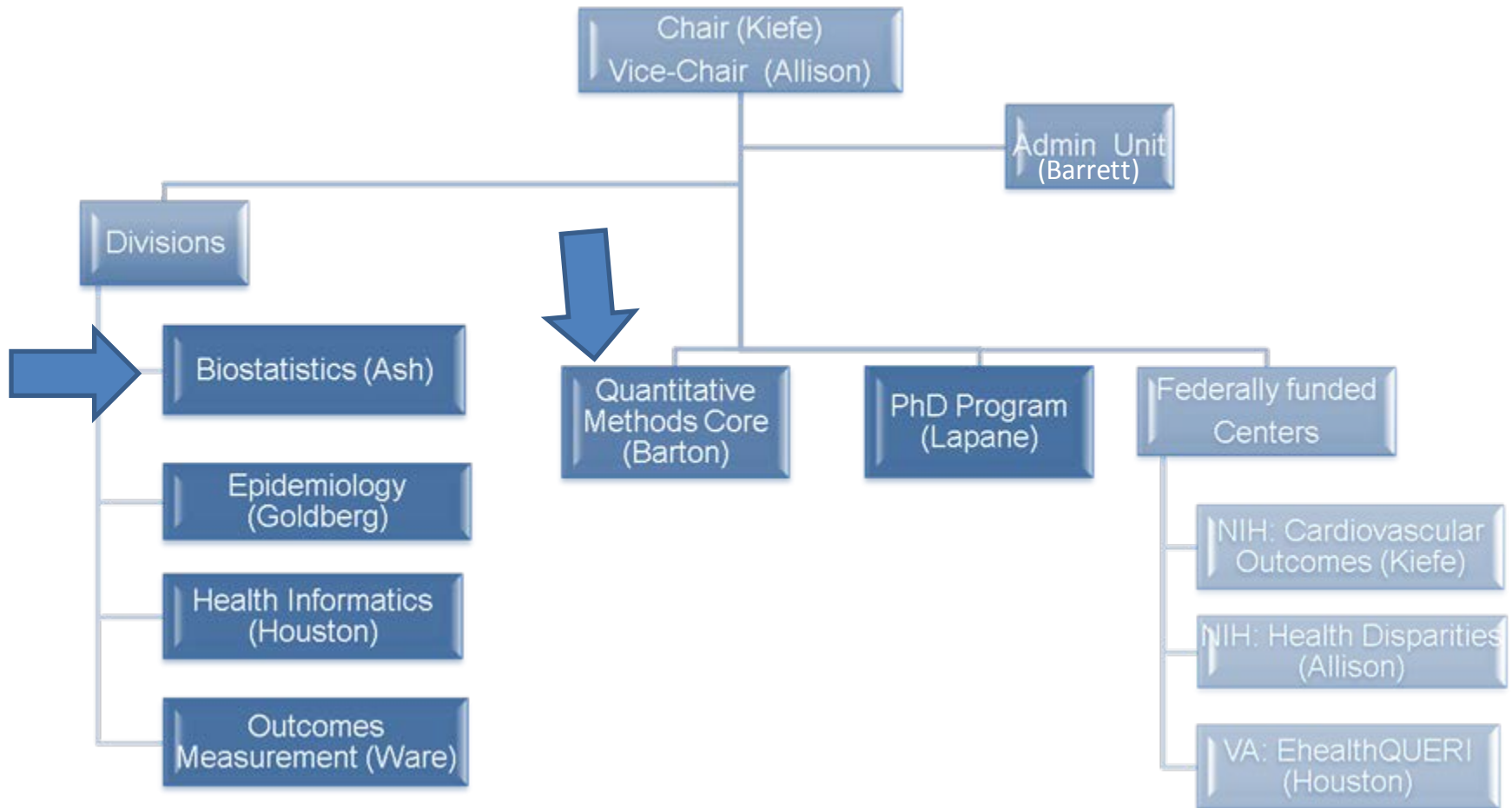
Develop and validate scores that predict cardiac events and HRQOL and emphasize actionable risk factors

Early Stage Investigators



Develop careers in CVD outcomes research for 4 ESIs

QHS Organizational Chart



Division of Biostatistics and Health Services Research

- Arlene Ash, PhD, Chief
- 11 primary faculty, expert in
 - Biostatistics
 - Health Services Research
 - Health Policy
 - Clinical Trials design and analysis

Selected Biostat/HSR Research Activities

- Biostatistics, Epidemiology and Research Design (UMCCTS BERD)
- Measure performance, quality and value in health care delivery (Arlene, Amy, Allison)
- Global health (Sowmya, Phil)

Selected Biostat/HSR Research Activities

- Classification tools that use messy data (Julia)
- Risk adjustment, predictive models for payment reform (Arlene)
- Using national survey and claims data (Sowmya, Allison, Arlene)
- Global partnerships (Sowmya, Phil)
- QMC (Bruce, Sharina, Louise, ...)

Some Biostat/HSR Goals

- Refine QMC support infrastructure
- Improve science in graphics
- Make research fully “reproducible”
- Strengthen links w
 - Others at UMassMed & UMass
 - Other schools
 - Worcester & the Commonwealth

The Quantitative Methods Core (QMC): QHS' Service Arm

- Provides design, analysis, and data management services across campus and across the U Mass system
- Started operations in May, 2010
- Funded by QHS, CTSA, and service charge-backs to grants

QMC Personnel

- Bruce Barton, PhD, Director
- 7 faculty statisticians part-time
- 8 technical staff full-time
 - Statistical computing
 - Data management

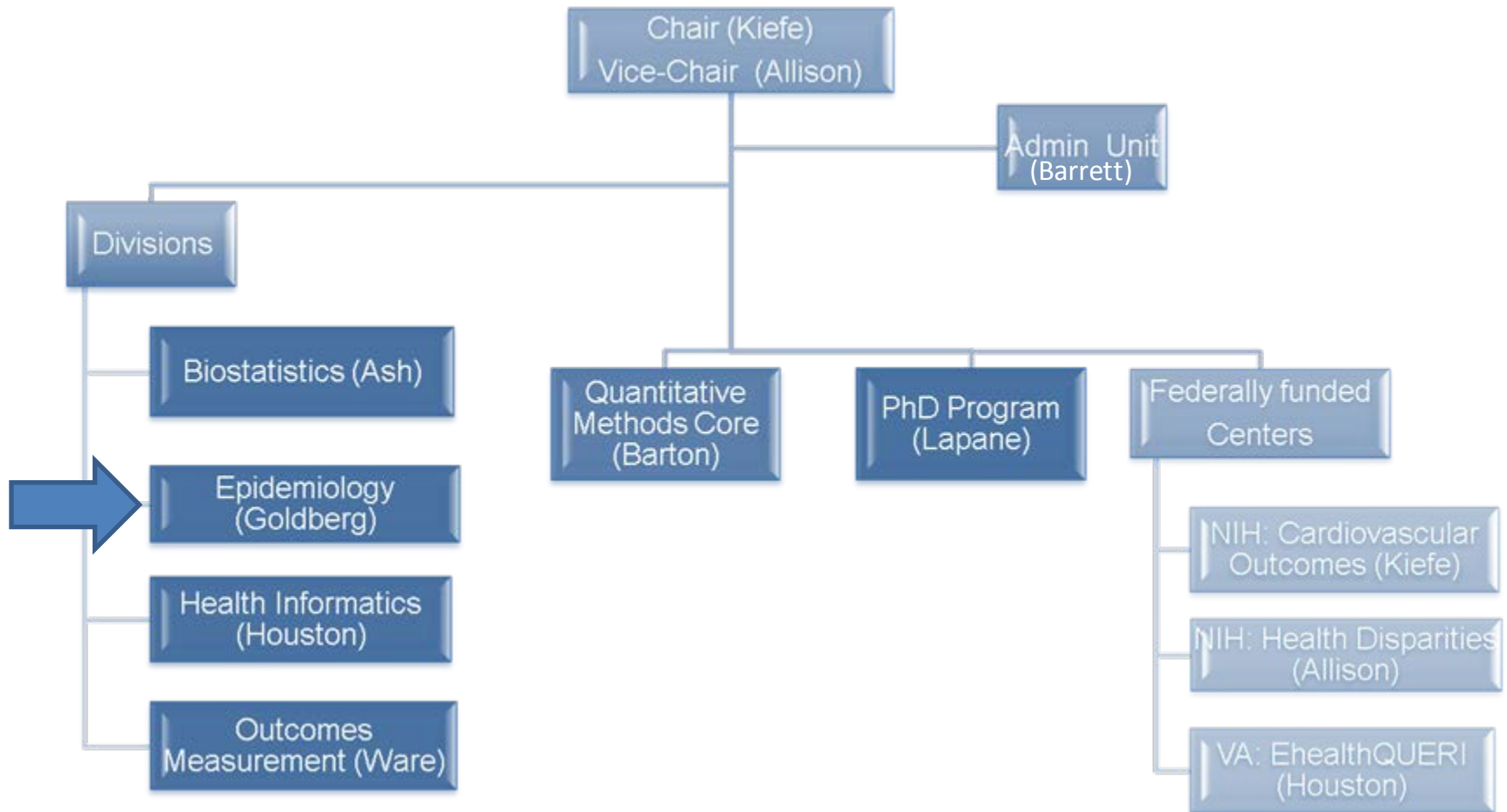
QMC Activities 5/2010 – 9/2013

- Provided consultation and services for 749 projects to 356 investigators from 28 Departments and 20 Divisions and all 5 UMass campuses
- Collaborated in 215 grant applications
- Serves as Data Coordinating Center for 6 studies
- Provided services outside UMass: Tufts Veterinary School, Lahey Clinic, Univ of Pittsburgh, Boston University, Worcester Polytechnical Institute, Veterans Administration

Additional QMC Activities

- Providing statistical support services for MassBiologics Laboratories (part of UMMS)
- Providing administrative infrastructure to CRO, OVRP, and faculty/staff campus-wide surveys

QHS Organizational Chart



Division of Epidemiology of Chronic Diseases and Vulnerable Populations

- Robert Goldberg, PhD, Chief
- 8 primary and 6 secondary faculty with expertise in
 - Cardiovascular epidemiology
 - Psychiatric and neuroepidemiology
 - Genetic epidemiology
 - Pharmacoepidemiology
 - Health disparities research

Selected Epidemiology Research Activities

- Population-based surveillance of coronary heart disease, heart failure, and VTE (Goldberg, Gore, Yarzebski, McManus, Saczynski, Tisminetzky)
- Clinical epidemiology, risk prediction, and management of atrial fibrillation (McManus, Goldberg)

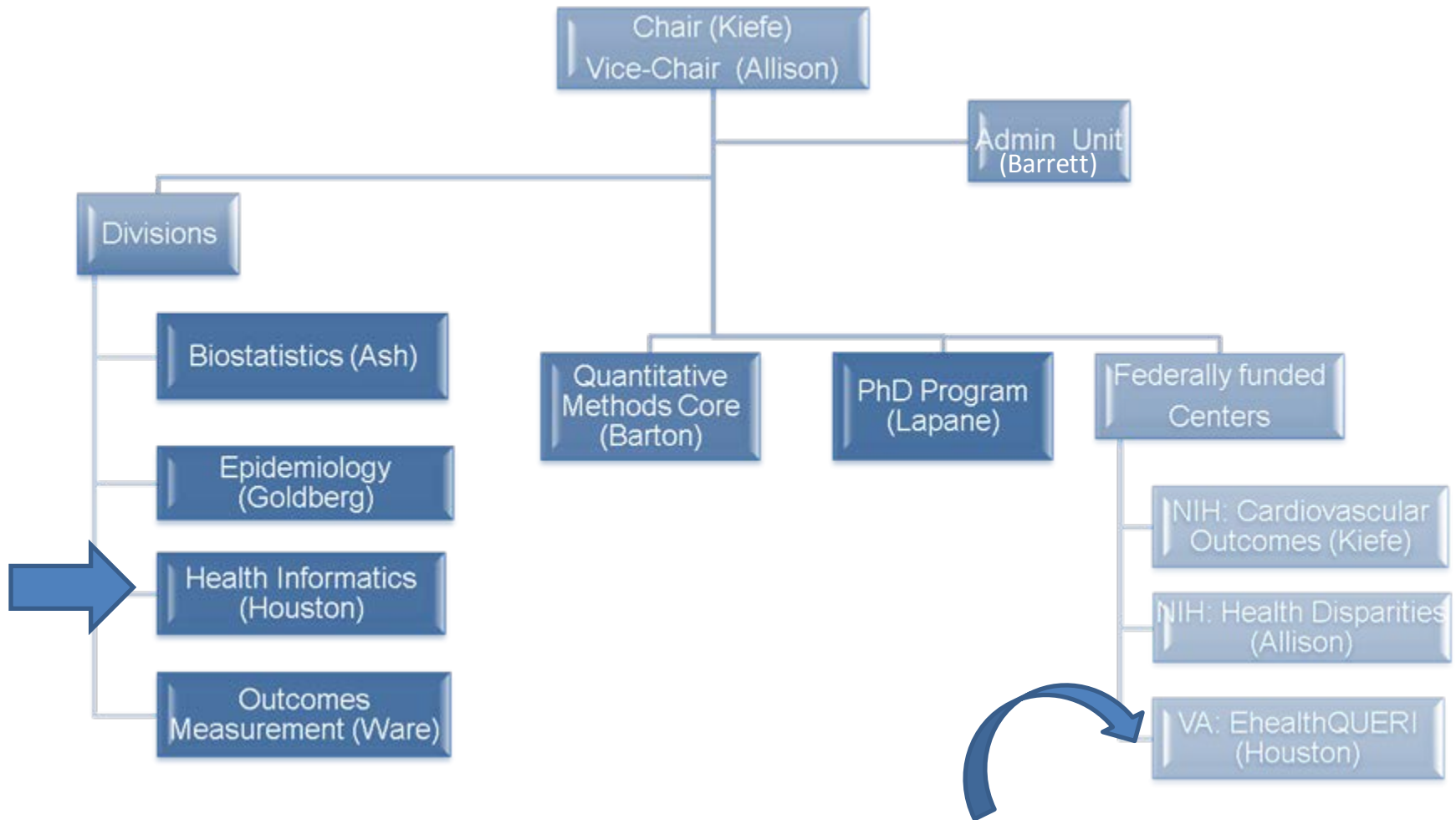
Selected Epidemiology Research Activities

- Nursing home antipsychotic use and risk of falls (Lapane, Dubé, Briesacher)
- Obesity, pregnancy, and post-partum weight change (Waring)
- Molecular epidemiology of cancer (Moorman, Epstein) and mental health disorders (Mick)
- Cognition and adverse health outcomes (Saczynksi)

Selected Recent Publications

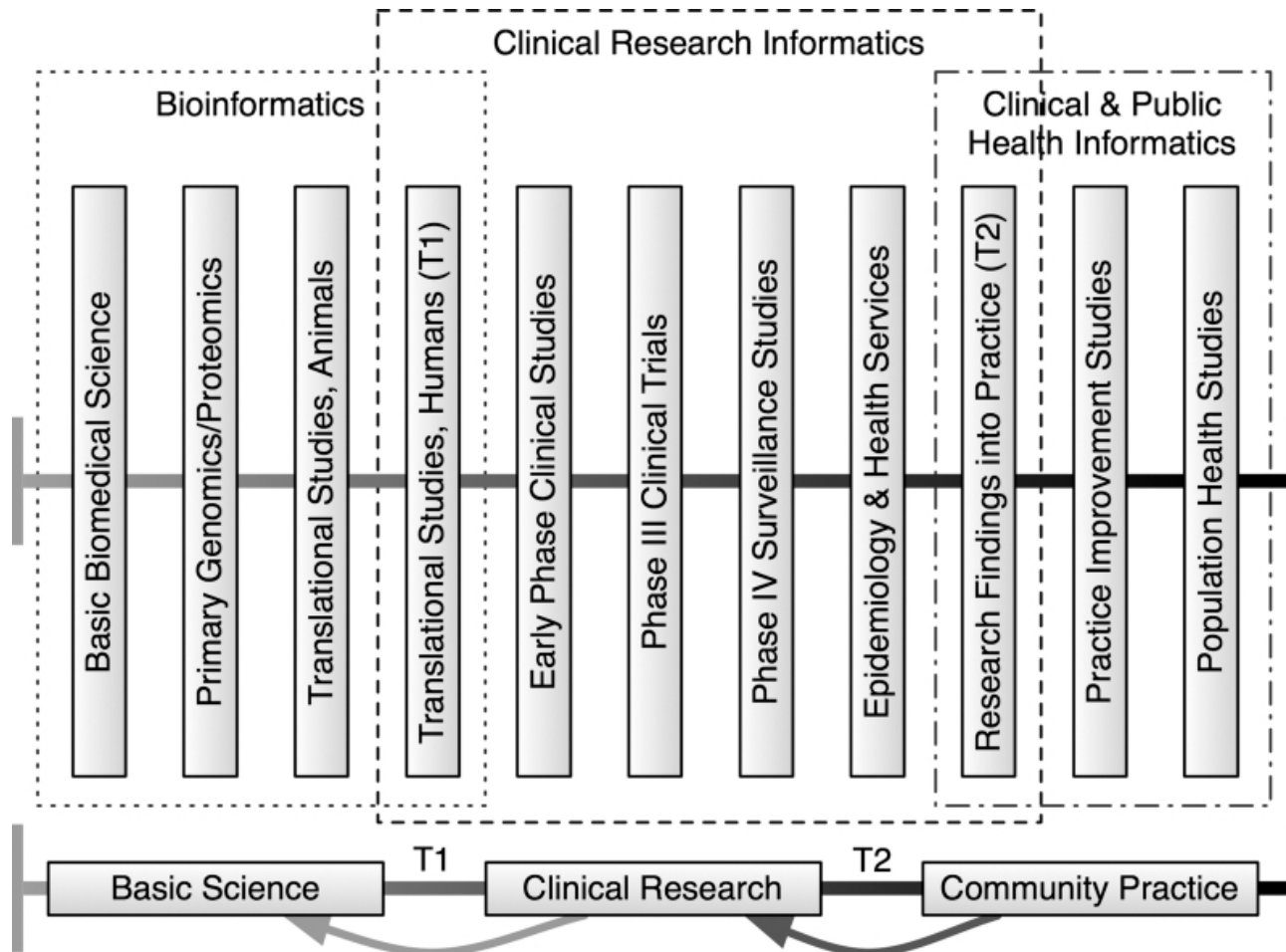
- Patterns of comorbidity in older patients with heart failure: The Cardiovascular Research Network PRESERVE Study. Goldberg et al. J Am Geriatrics Soc, 2013
- Contraceptive insurance mandates and consistent contraceptive use among privately insured women. Lapane et al. Med Care, 2012
- Genome-wide analysis of copy number variants in attention deficit hyperactivity disorder: the role of rare variants and duplications at 15q13.3. Mick et al. Am J Psych, 2012
- Antipsychotic Use and Nursing Home Residents. Briesacher et al., JAMA, 2013
- Cognitive trajectories after post-operative delirium. Saczynski et al, N Engl J Med, 2012

QHS Organizational Chart

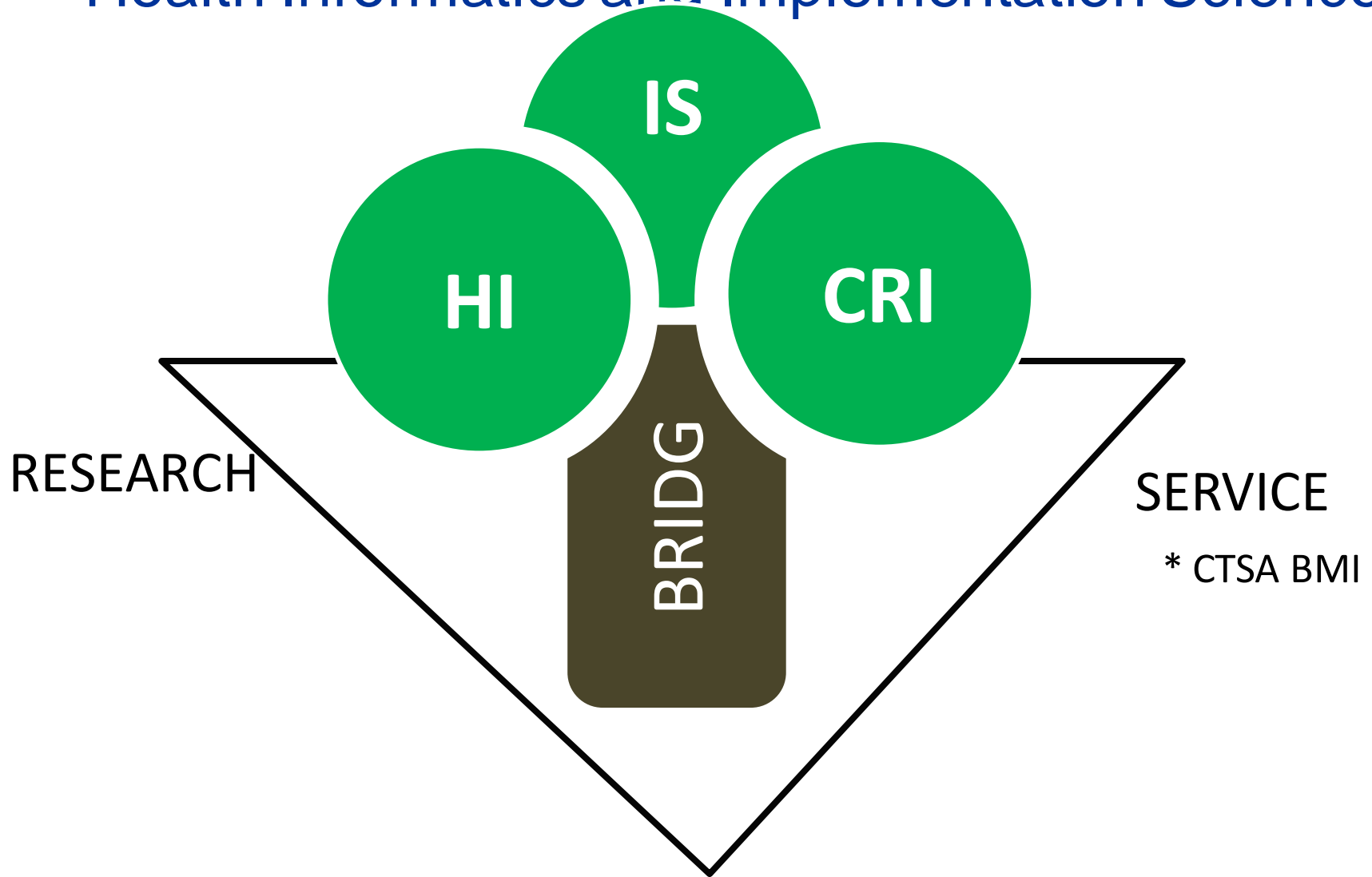


Division of Health Informatics and Implementation Science

- Thomas Houston, MD, MPH, Chief
- 12 primary faculty with expertise in
 - Clinical research informatics
 - Computer Engineering/Computer Science
 - Quality measurement and systems improvement
 - Implementation Science
 - Cluster-randomized and Pragmatic Trials



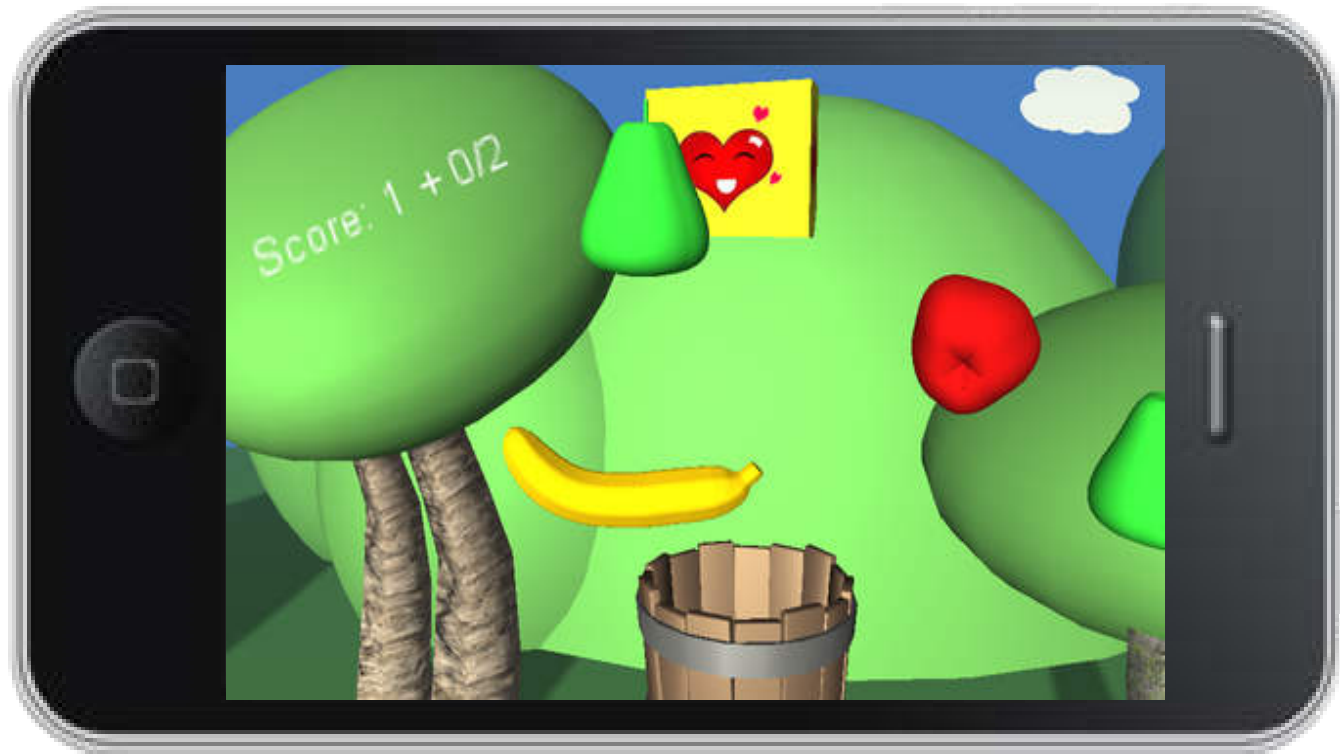
Health Informatics and Implementation Science



Funding Highlights

- R01s (2), R21
- VA “R01s” (2)
- VA “Pilot”
- PCORI
- NIH R25t
- NIH K07
- VA CDA “K”
- VA Post-Doc

CRAVE OUT!

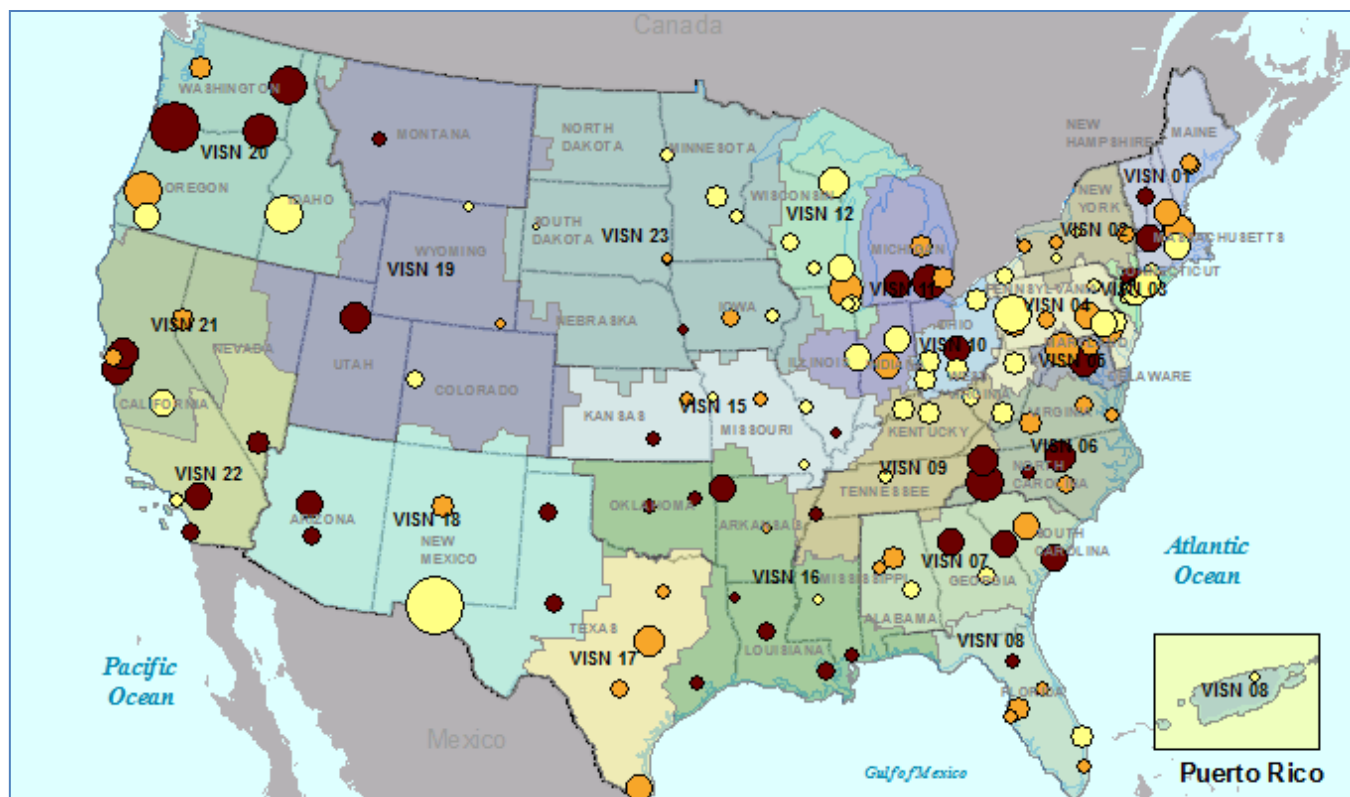


eHealth Quality Enhancement Research Initiative

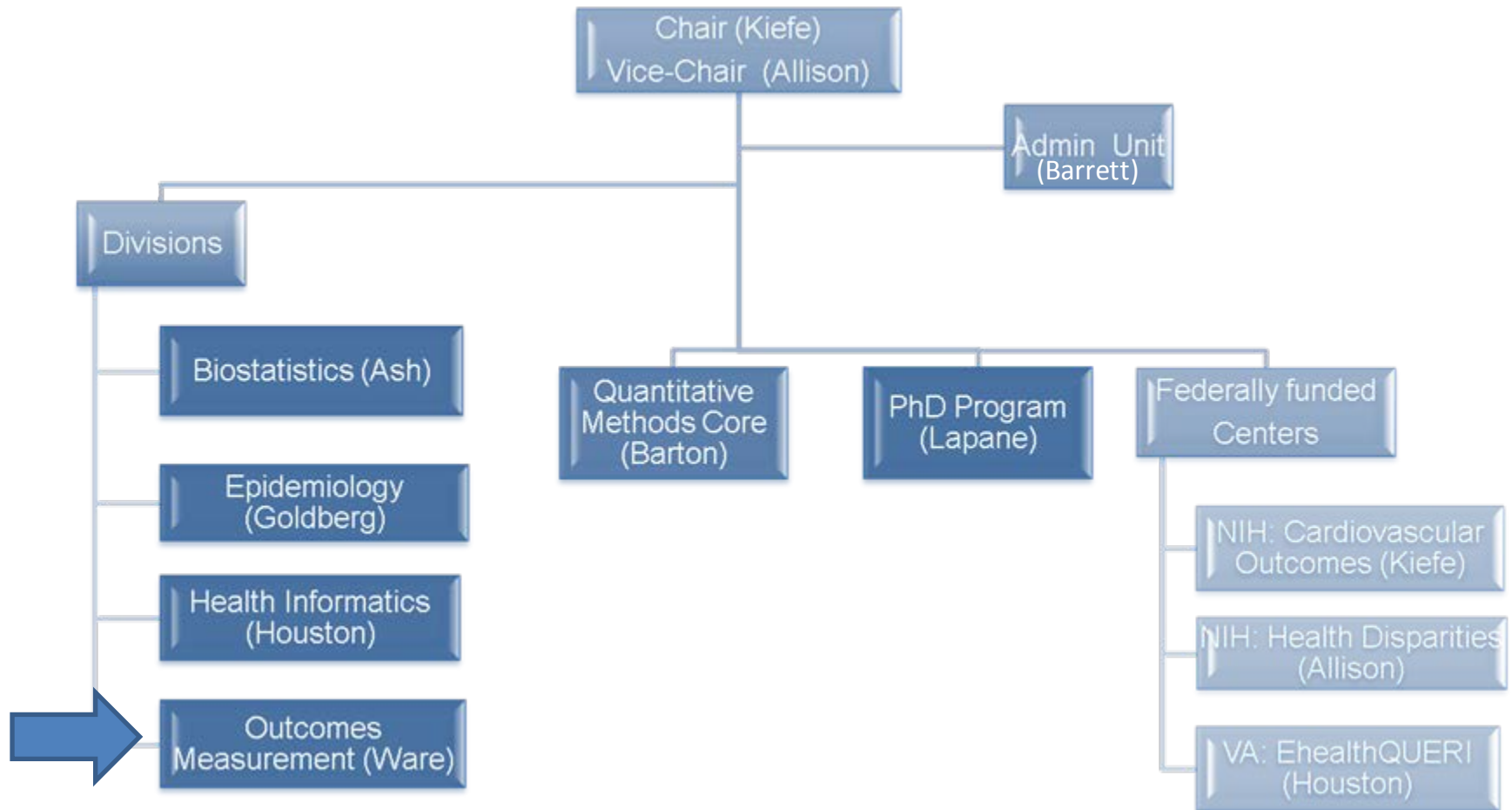


www.queri.research.va.gov/ehealth/default.cfm

eHealth Quality Enhancement Research Initiative



QHS Organizational Chart



Division of Outcomes Measurement

- John Ware, PhD, Chief
- 5 faculty, expertise in
 - Psychometrics
 - Patient-reported outcomes
 - Health informatics

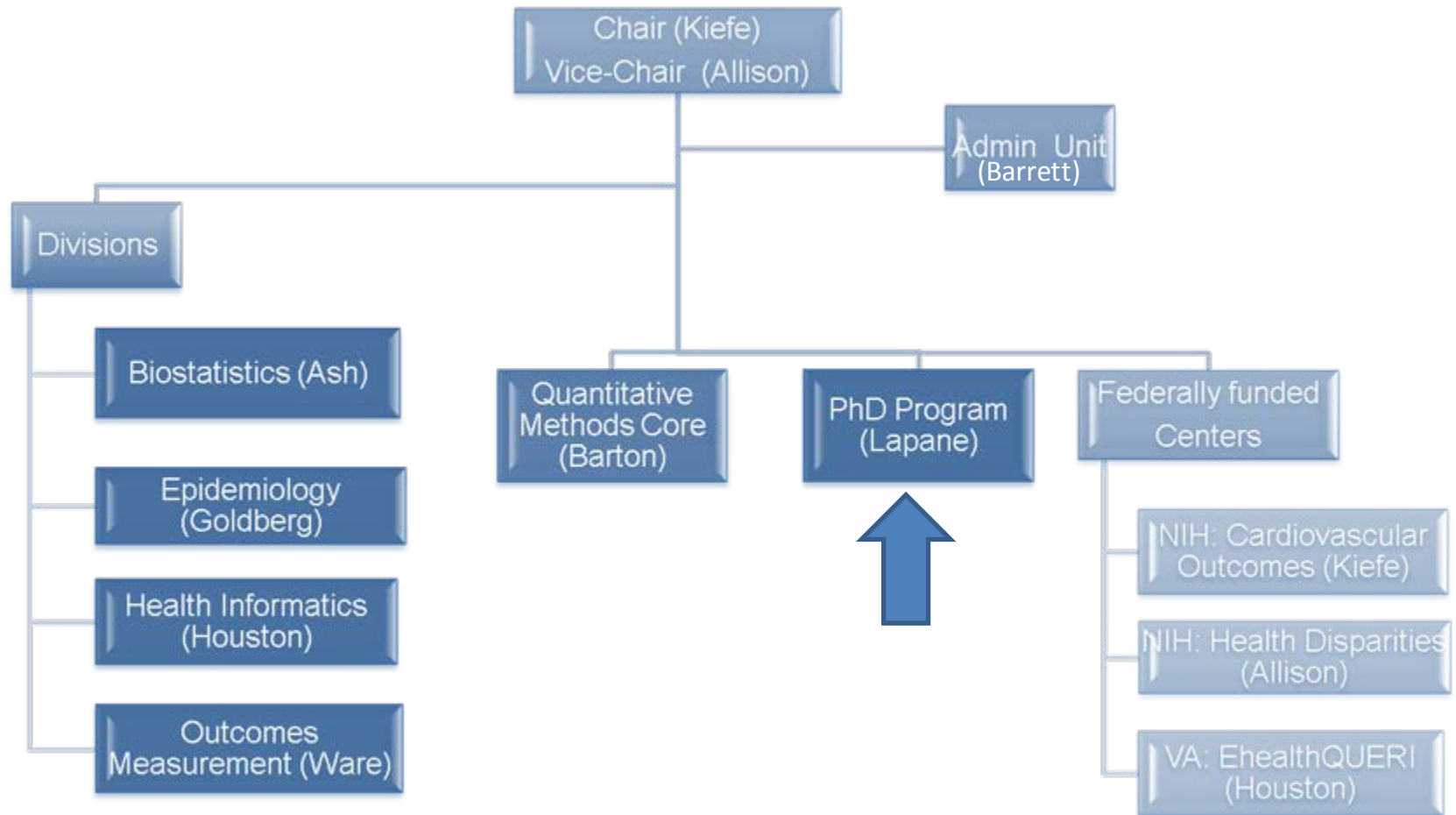
Faculty and Technical Staff

- John Ware, PhD – psychometrics
- Norman Weissman, PhD – health informatics
- Matthias Rose, MD, PhD – health outcomes
- Milena Anatchkova, PhD – psychology
- Nina Deng, EdD – psychometrics
- Mikel Strom, MSLS – library science
- Barbara Gandek, MS – PhD student
- Dan Frenzl, MS – MD/PhD student

Division Priorities

- Standardizing general and disease-specific patient-reported outcome (PRO) measures
- Enhancing usefulness of PRO measures
- Improving methods for measurement comparisons
- Using technology to increase PRO measurement efficiency

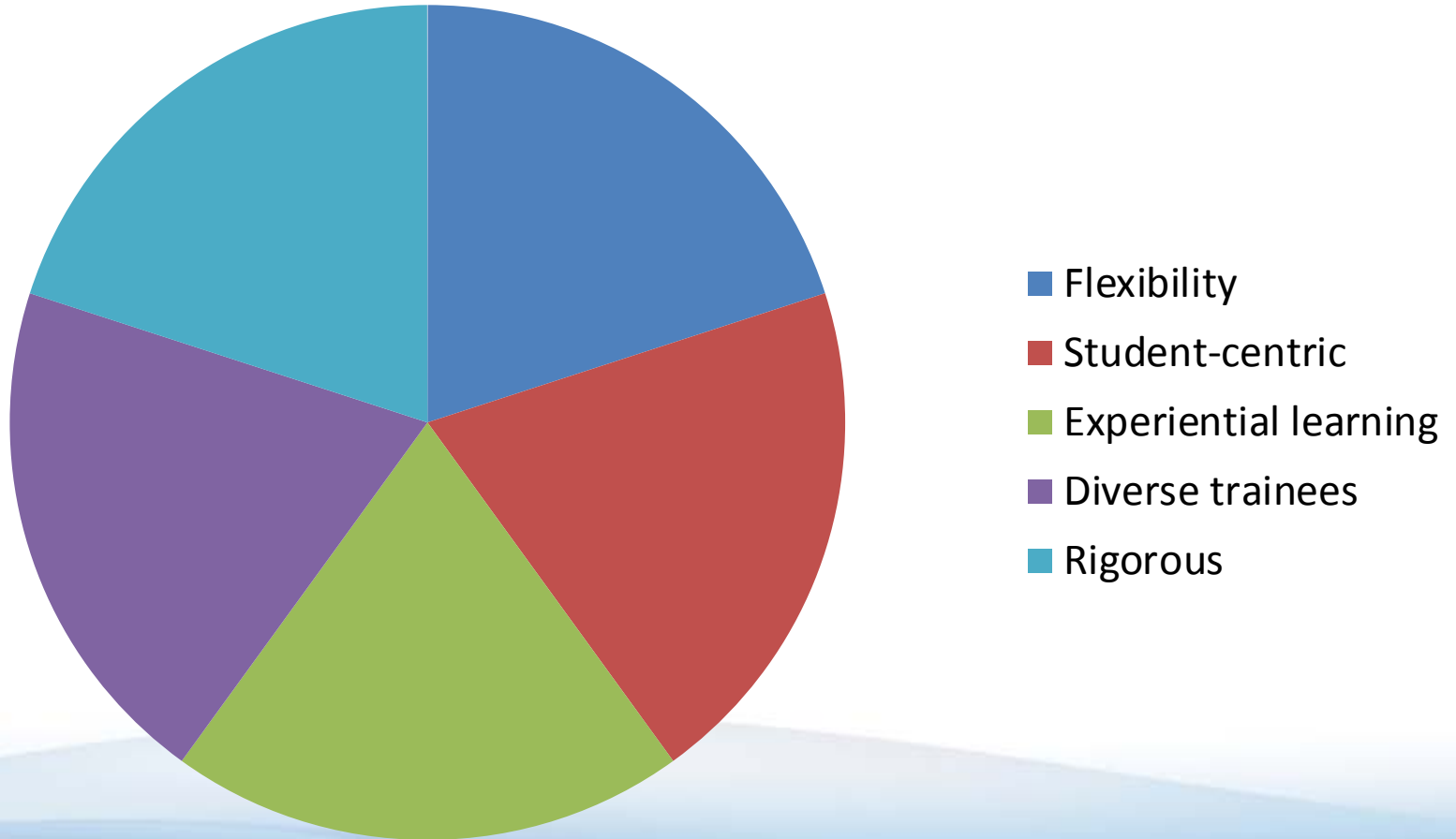
QHS Organizational Chart



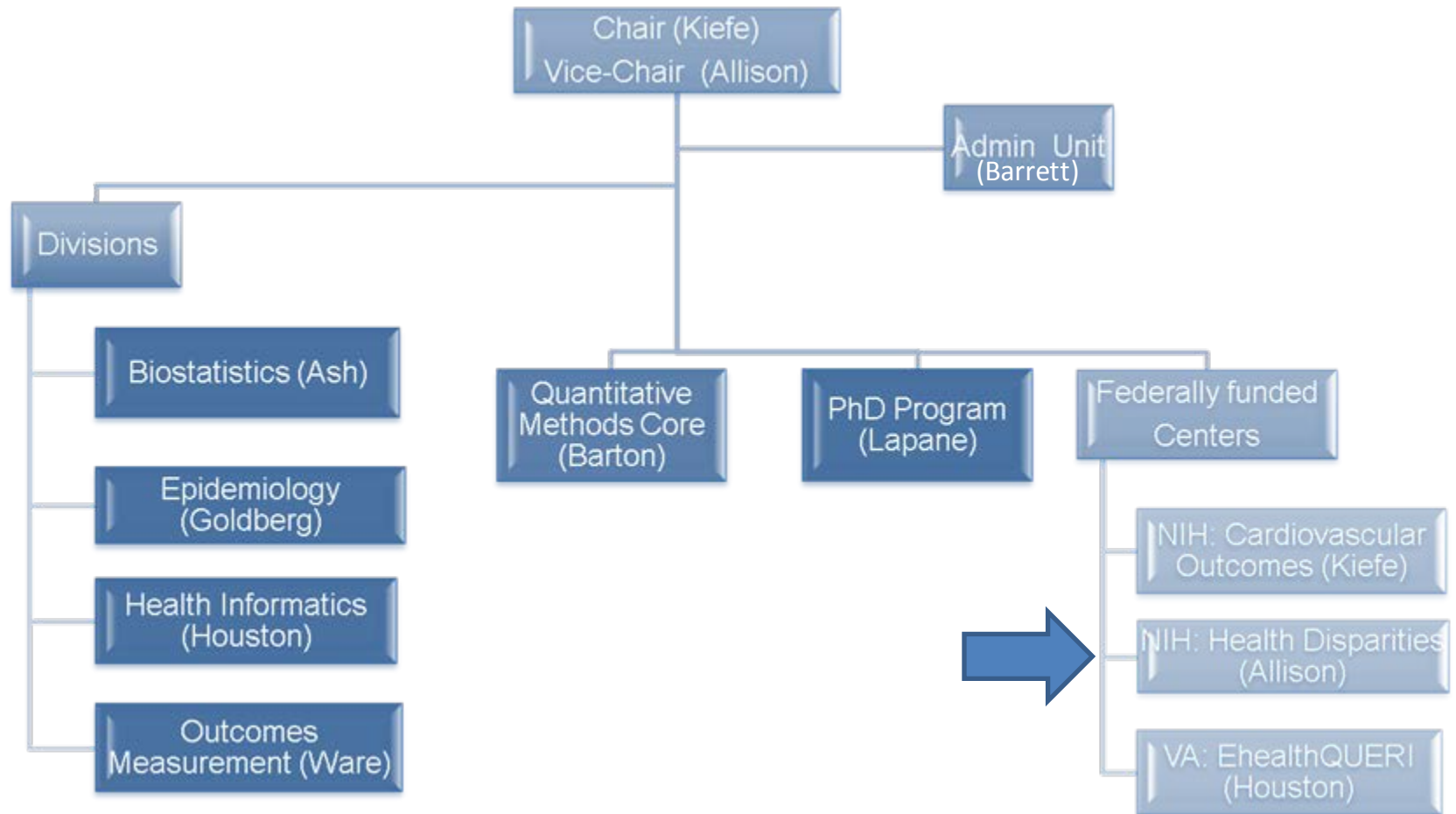
Educational Programs

- Summer internships for undergraduate, medical and graduate students
- BRIDGE- “Just-in-time” nascent research ideas meetings
- Seminars / Special Events
- Masters of Science in Clinical Investigation (Director, Goldberg)
- Doctoral Program (Director, Lapane)

Causal Pie for Training



QHS Organizational Chart



University of Massachusetts Center for Health Equity Intervention Research



CHEIR

The UMass Center for Health Equity Intervention Research

Funded by NIMHD grant 1P60MD006912



The overarching aim of CHEIR is to eliminate health disparities by:

- Developing interventions, such as storytelling, that are tailored to deep cultural structure and literacy
- Focusing on strategies that engage the full spectrum of helpers available to patients
- Engaging vulnerable populations in the settings that serve them
- Infusing education and bi-directional academic-community learning throughout

The overarching aim of CHEIR is to eliminate health disparities by:

- Developing interventions, such as storytelling, that are tailored to deep cultural structure and literacy
- Focusing on strategies that engage the full spectrum of helpers available to patients
- Engaging vulnerable populations in the settings that serve them
- Infusing education and bi-directional academic-community learning throughout

The Center for Health Equity Intervention Research

- NIH-funded initiative to reduce health disparities in Massachusetts
- Patient empowerment through story telling
 - Sexual health in the Hispanic community
 - Hypertension in the community health center
 - Post-partum weight gain in lower-income women
 - Research literacy through community engagement
- Developing the next generation of disparity researchers

“There is enormous potential in the research we are undertaking. The center represents the true spirit of community-engaged research that is central to the goal of its ethnic institutes to reduce health disparities.” I. Torres



“A race, like an individual, lifts itself up by lifting others up.”

----Booker T. Washington

QUESTIONS?



CONGRATULATIONS, CATARINA!

Inaugural Melvin S. and Sandra L. Cutler Chair in Biomedical Research

“My hope is this work will ultimately lead to new cures and treatments for patients, thereby reducing the suffering of future generations.”

-Melvin Cutler

