Group Health Research Institute 2010 Annual Report

Advancing science. Accelerating progress. Together.

GroupHealth®

Eric B. Larson, MD, MPH

2010 may long be remembered for passage of a landmark federal health reform law and the continued debate over its future. As policymakers struggle to chart a new course for our country's health care system, many wonder where we're headed next. One thing is certain: Our nation needs health research that is more timely and more relevant.

Group Health Research Institute (GHRI) is meeting this challenge. After a year of dramatic growth, our diverse faculty is more than 60 members strong, with 2010 grant revenue at a record high. Our staff has never been more capable of responding nimbly to important research opportunities that address the needs of health care's key stakeholders: **patients, providers, purchasers, and the public.**

Moving health care forward

At GHRI, our science is driven by successes and challenges at the front lines of care. As the non-proprietary, public-interest research arm of Group Health Cooperative—a Seattle-based nonprofit health system serving more than 670,000 members in Washington and North Idaho—we have conducted and disseminated leading-edge research for nearly 30 years.

Our partnership with Group Health's care-delivery system lets us study health care in the real world. It fuels the organization's journey as a learning health care system where scientific collaboration moves innovation forward—ensuring that investments in research lead to true advances in quality, access, and affordability.

Our recent pilot evaluation of Group Health's patient-centered medical home model of primary care is a prime example. Early results showed stunning improvements in a wide range of outcomes—jumpstarting Group Health's expansion of the model in all 26 of its primary care clinics, where evaluation continues. That's translation at its best.

Science on time and on target

Our most influential findings of 2010 explored promising strategies for primary care redesign and shed light on the needs and experiences of patients and providers. We also kicked off exciting new projects evaluating value-based insurance design and community-based health improvement, which will help us better understand and meet the needs of cost-conscious health care purchasers and cash-strapped local communities.

Delivering timely, relevant science means listening to and learning from the stakeholders we serve. More important, it means working together to identify synergies that emerge so we can accelerate our progress toward a higher-performing health care system—not just for Group Health, but for the nation. Much of our best work in 2010 does just that.

Eric B. Larson, MD, MPH
Vice President for Research, Group Health
Executive Director, GHRI

Group Health Research Institute
1730 Minor Avenue, Suite 1600
Seattle, Washington 98101
206-287-2900
grouphealthresearch.org

Associate Investigator James Ralston, MD, MPH, studies innovations in health information technology (IT)—including mobile-phone applications—as a way to improve care across diverse patient populations. His research on patients' experiences with online services at Group Health has been highlighted in national health IT policy discussions.

Patient-centered health IT helps advance high-quality care

A key provision in 2009's economic stimulus legislation propelled health information technology (IT) into national health care policy debates. Aimed at encouraging widespread implementation of electronic health records (EHRs), the provision requires Medicare and Medicaid to start paying cash incentives in 2011 to hospitals and practices that use EHRs meaningfully.

Federal officials proposed criteria for "meaningful use" late in 2009. Associate Investigator James Ralston, MD, MPH—GHRI's leading health IT researcher—immediately noticed something missing: the patient.

"The criteria include several traditional measures of clinical quality and a few measures of patient and family *engagement*," he says. "But those measures are modest and come only from automated data. How can we determine if EHRs are used meaningfully unless we measure patient *experience*?"

Primed with six years of survey data on patient use of and satisfaction with the EHR and other online services at Group Health, Dr. Ralston and co-authors, including Matt Handley, MD, Group Health's associate director of quality and informatics, published an article in the April 2010 *Health Affairs* urging policymakers to include measures of patient experience in meaningful use criteria.

Group Health began engaging patients through an EHR and other online services in 2003. By the end of 2009, 58 percent of adult patients had registered for online services—a proportion still rising—and most were highly satisfied, especially with services they used most: exchanging secure e-mail with providers, requesting medication refills, and viewing test results and after-visit summaries.

These data helped advance Group Health's organization-wide rollout of the patient-centered medical home by highlighting opportunities to effectively engage patients in more comprehensive care outside typical office visits. They also caught the attention of the U.S. Department of Health and Human Services, which called on Dr. Ralston to testify at a meeting of their Health IT Policy Committee Meaningful Use Workgroup.

> Group Health researchers urged policymakers to include patient experience in IT funding criteria.

His testimony highlighted the importance of measuring patient experience—and emphasized that patients should never be *required* to go online to reach health care services.

"Because of concerns about disparities in access to care, especially the 'technology

gap,'" he explains, "patients must be able to communicate with providers in the way they need or prefer, whether in person, by phone, or through secure e-mail."

True to this ideal, Dr. Ralston is also exploring mobile-phone applications as a way to improve care across diverse populations. From his vantage, the essential underlying issue is quality.

"It's not about measuring the use of technology," he concludes. "It's about evaluating the patient experience of care more broadly. Patients' experiences are part of quality of care. Period."

In genomics research, asking for consent builds trust

In a first-of-its-kind report called "Glad You Asked," Senior Research Associate Evette Ludman, PhD, and colleagues examined Group Health patients' preferences around informed consent for genetic research: Most patients participating in an ongoing study said they would allow GHRI to share their genetic information in a federal research database—but they wanted to be asked first. These findings highlight the importance of fostering trust and engagement between researchers and community members. "Even if most participants would agree to data sharing, it's still crucial to ask them," Dr. Ludman concluded.

Reinvigorating primary care—for providers and patients alike

Curbing costs while meeting patient needs is one ideal driving Group Health's expansion of the patient-centered medical home. Published in *Health Affairs* in May 2010, two-year findings from GHRI's pilot evaluation of the model's implementation at Factoria Medical Center showed continued improvements in patient experience, quality of care, and overall costs.

But these outcomes are only part of the story.

Group Health Family Physician Michelle Seelig, MD, talks with Associate Investigator Robert Reid, MD, PhD, who leads the evaluation of the patient-centered medical home.

PROVIDERS

"The pilot proved that we could improve not only patient experience and the cost and quality of care, but also the quality of the work environment," explains Associate Investigator Robert Reid, MD, PhD, a Group Health physician and the evaluation's lead researcher.

Among the most compelling findings are reduced burnout among primary care team members and improved recruitment and retention of primary care physicians. Dr. Reid, who assumed a new role in 2011 as Group Health's associate medical director of health services research and knowledge translation, calls it a "decompression of the workforce" that allows clinical staff to do their best work.

"It's not that Factoria clinicians worked less under the new model," he says. "It's that they were feeling the work was doable and they were dealing with all their patients' care needs."

This transformation has roots in the "access initiative" Group Health launched in 2002, which streamlined care teams and offered patients same-day appointments, open access to specialists, and secure e-mail with providers. The changes boosted patient satisfaction but created unrealistic demands on clinicians, causing similar problems experienced nationwide in primary care: As our population ages and chronic illness increases, more physicians are feeling burned out, reducing clinical time, or retiring early.

In 2006, Group Health responded with a "proof of concept" test of the patient-centered medical home at Factoria. The pilot's improved provider outcomes stem from features such as longer appointments, fewer patients per physician, increased non-physician clinical staff, and daily "team huddles."

The key question now is whether other clinics will experience the same positive outcomes. Thanks to a federal grant, Dr. Reid and his research team are eagerly continuing their evaluation.

Findings to date keep making headlines and drawing widespread acclaim for Group Health and for Dr. Reid's research—earning him invitations to speak to legislators, other government officials, and health care leaders across the country.

But he says all the credit goes to the dedicated people at Group Health who deliver care day in and day out.

"It's a partnership," he smiles. "The health care teams across Group Health do the hard work. We just study it."

> The model not only improved patient experience, cost, and quality of care—but also enhanced the environment for providers.

Opioid study leads to customized training

After publishing the first-ever study on overdose risk among patients using prescribed opioids for chronic non-cancer pain, Senior Investigator Michael Von Korff, ScD, began working with Group Health pain specialists to develop an online continuing medical education (CME) course tailored to Group Health clinical guidelines for opioid prescribing. Funded by a Partnership for Innovation grant from the Group Health Foundation, the course aims to boost primary care providers' skill and confidence in caring for patients with chronic pain—ensuring that the risks and benefits of long-term opioid use are clear.

PURCHASERS

Senior Investigator David Grossman, MD, MPH, works closely with Group Health Executive Vice President of Human Resources Cindy Johnson to evaluate the impact of the organization's new value-based medical plan for staff. The plan includes financial incentives to support healthy behaviors, such as increased physical activity.

Total Health evaluation aims to help purchasers' dollars go further

On January 1, 2011, Group Health introduced a new "value-based" medical plan for its mid-large group market. The groundbreaking product addresses a top priority for health care purchasers: finding cost savings that don't compromise employee health or quality of care.

Unlike traditional medical plans that focus only on managing costs, value-based plans use incentives and disincentives to steer patients toward evidence-based, high-value services—and away from unproven, low-value services. The goal is better health for less, achieved by preventing costly future treatment and limiting overtreatment.

Group Health began piloting this novel approach in January 2010 with the rollout of Total Health—a value-based medical plan for its more than 8,000 non-physician employees. Leaders in the Human Resources Department developed the plan with help from clinicians, labor unions, health plan actuaries, consultants, and researchers, including GHRI Senior Investigator David Grossman, MD, MPH, who also serves as Group Health's medical director of preventive care.

> GHRI's evaluation is unique among published research on value-based insurance design.

Described by Executive Vice President of Human Resources Cindy Johnson as "state of the art," Total Health is among the nation's first medical plans to link wellness and insurance design:

- Co-pays are waived for many chronic illness medications—and increased for low-value procedures such as high-tech radiology
- Subsidies are provided for weight management and smoking cessation programs
- Financial incentives are offered for participating in the employee health promotion program

Recognizing the opportunity for a valuable natural experiment, Dr. Grossman teamed up with GHRI Associate Investigator Paul Fishman, PhD, a health economist, to seek federal research funding. Their team was awarded $2 million from the Agency for Health Research and Quality last summer to evaluate Total Health's impact on employee health, quality of life, productivity, health care use, and costs.

The four-year evaluation may soon fill a gap in published research on value-based insurance design because it includes a control group: employees from Kaiser Permanente Colorado, GHRI's longtime HMO Research Network partner. Kaiser researchers also bring expertise in evaluating employee productivity, a key issue from the purchaser's perspective.

"This research will help us understand how to improve value-based products and stay competitive," explains Dr. Fishman. "Like the patient-centered medical home, it's keeping Group Health on the forefront of implementing and evaluating cutting-edge delivery and payment models."

"Cindy Johnson and her staff have been extremely receptive to the program's potential for research," adds Dr. Grossman. "It would have been easier for them not to take on this scientific evaluation. But they recognize and are proud of their role as innovators."

Shared decision-making study answers the State's call

Washington State passed the nation's first law endorsing shared decision making between patients and providers in 2007, mandating a demonstration project on use of patient decision aids in multispecialty group practices. As Washington's largest health care purchaser, the State was motivated to ensure its employees receive affordable, high-quality care. GHRI Associate Investigator David Arterburn, MD, MPH, is contributing to the effort by evaluating Group Health's patient decision aids for preference-sensitive conditions such as knee osteoarthritis and uterine fibroids—tracking use, patient satisfaction, outcomes, and overall costs.

CCHE evaluates public health investments, forging a path toward success

In March 2010, Public Health – Seattle & King County was awarded $25.5 million to spend on obesity and tobacco prevention. One of many unprecedented federal investments in public health initiatives nationwide, the two-year stimulus grant from the Centers for Disease Control and Prevention (CDC) posed a novel challenge: How do you turn a massive short-term investment into sustainable positive outcomes—especially when the nation's financial forecast remains bleak?

The health department called on GHRI's Center for Community Health and Evaluation (CCHE) to help navigate the award's ambitious objectives. Known for expert program planning and evaluation, CCHE partners with foundations, nonprofits, and government agencies to support the success of community health initiatives across the country.

> "It seems like a good idea to have farmers' markets and walkable communities, but there's a lot to learn about what really works."

A unique feature of the CDC award is its focus on policy, system, and environmental changes that make healthier choices easier and more accessible for entire communities. Instead of supporting direct services, funds go to school districts, community organizations, and local governments across King County that propose collaborations to discourage tobacco use or encourage healthy eating and active living.

"The CDC's goal is to empower different sectors to work together to affect health at these broad levels—so that

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emphasis on individual changes shifts to emphasis on community-level changes," explains Sarah Paige, PhD, MPH, one of four CCHE evaluators on the project.

By August 2010, the health department had awarded funds to more than 50 grantees, focusing on the communities in greatest need across the county. Examples of funded initiatives include developing healthy corner stores, changing city plans to promote walking and biking, and instituting smoke-free housing, parks, schools, and health care environments. A corresponding media campaign supports the initiative.

The CCHE team will assess which of these "upstream" changes are most likely to stimulate "downstream" improvements in community health. CCHE's insights about the interventions' effectiveness will help the health department determine where to focus scarce resources in the future.

CCHE team member DeAnn Cromp, MPH, is excited that their discoveries will help fill a large evidence gap linking community-based intervention strategies and improved health outcomes.

"It seems like a good idea to have farmers' markets and walkable communities, but there's a lot to learn about what really works," she says. "Our evaluation can't answer every important question in two years. But it can help point the way forward."

CCHE evaluators Sarah Paige, PhD, MPH, and DeAnn Cromp, MPH, review plans for coordinating with more than 50 grantees working on obesity- and tobacco-prevention interventions in King County communities. The interventions are funded by a two-year stimulus grant to the county health department from the Centers for Disease Control and Prevention.

Spreading medical homes to communities in need

GHRI's MacColl Institute for Healthcare Innovation is sharing what we've learned about improving patient care and provider experience with those who need it most—practices in rural areas and inner cities serving the working poor, the homeless, and people with nowhere else to go for health care. As part of the Safety Net Medical Home Initiative, a five-year project supported by the Commonwealth Fund, MacColl is working with Qualis Health to help 65 practices across the country implement the patient-centered medical home and develop sustainable funding infrastructure.

Milestones in national collaboration

The HMO Research Network (HMORN)—*a 16-member consortium of integrated health care systems with sophisticated research centers*

Ten HMORN sites joined forces in 2010 to create the Mental Health Research Network. Led by Senior Investigator and Group Health Psychiatrist Gregory E. Simon, MD, MPH, the team was awarded $10 million from the National Institute of Mental Health to develop a unique population-based data resource that aims to make mental health research faster, less expensive, and more relevant to the real world.

At the urging of National Institutes of Health (NIH) Director Francis Collins, MD, PhD, in early 2010, Group Health Vice President for Research Eric B. Larson, MD, MPH, and Research Associate Sarah M. Greene, MPH, began leading exploratory efforts to establish an HMO Collaboratory—a national population laboratory comprising the HMORN's 15 U.S. health plans. The idea is to accelerate comparative effectiveness research by expanding the Network's data resources, scientific partnerships, and areas of study.

The Breast Cancer Surveillance Consortium (BCSC)—*a network of five mammography registries linked to tumor and pathology registries*

GHRI Senior Investigators Diana L. Miglioretti, PhD, and Diana S.M. Buist, PhD, MPH, along wth BCSC colleagues nationwide, marked the year with their 396th peer-reviewed publication and the submission of a top-scoring program project grant (P01). The BCSC database also hit new heights—reaching 9 million mammograms collected from 2.3 million women and including more than 100,000 breast cancer cases.

The Food & Drug Administration Mini-Sentinel—*a collaboration among 25 government and private health care organizations to build a national electronic medical product safety monitoring system*

The Mini-Sentinel exceeded the goal Congress set for it in 2007: It could access health data on more than 25 million patients by July 2010—and was on track to meet the 100-million mark by 2012. GHRI is contributing in diverse ways, with Associate Investigator Jennifer Nelson, PhD, providing statistical expertise as co-lead of the methods core; Associate Investigator Denise Boudreau, PhD, serving as the HMORN steering committee representative; and Assistant Investigators Andrea Cook, PhD, and Sascha Dublin, MD, PhD, each leading one of a dozen Mini-Sentinel task orders in 2010.

The Vaccine and Treatment Evaluation Units (VTEUs)—*eight institutions federally funded to conduct coordinated clinical trials of vaccines and therapies for infectious diseases*

In February 2010, the Group Health VTEU received an award from the NIH Division of Microbiology and Infectious Diseases recognizing its extraordinary work in H1N1 influenza research. Responding to the 2009 H1N1 pandemic, Senior Investigator Lisa Jackson, MD, MPH, and her team initiated five trials of H1N1 vaccines, coordinating with the nation's seven other VTEUs.

Team science

GHRI's many multidisciplinary teams work together in these research areas:

Aging & geriatrics

Alternative approaches to healing

Behavior change

Biostatistics

Cancer control

Cardiovascular health

Child & adolescent health

Chronic illness management

Health informatics

Health services & economics

Immunization & infectious diseases

Medication use & patient safety

Mental health

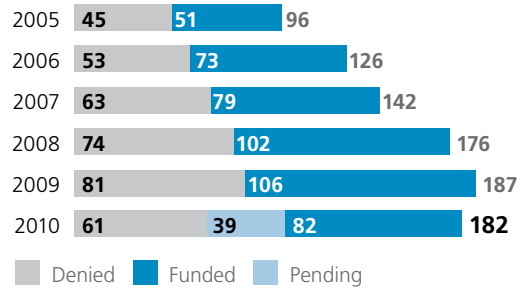
Obesity

Preventive medicine

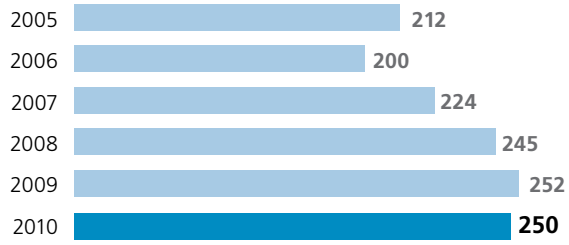
Women's health

Grant dollars awarded
in millions as allocated by year

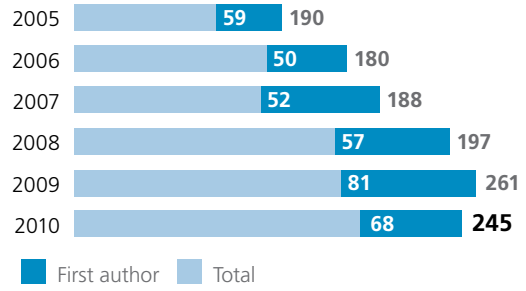
Number of grants submitted



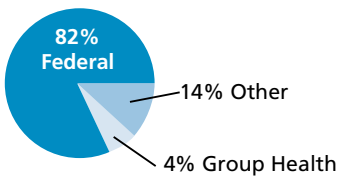
Active grants



Publications in peer-reviewed journals



GHRI revenue by sponsor



2010 A sharper focus on innovation to address the nation's health care cost and quality crises

As Congress delayed the 2011 fiscal-year budget, grant dollars awarded from the National Institutes of Health slowed to a trickle in late 2010. Still, GHRI ended the year with more dollars allocated than in previous years, and its rate of active grants and grants submitted remained steady.

Meanwhile, GHRI research on innovative models of care at Group Health attracted national attention, especially our studies of the patient-centered medical home and the TEAMcare model of care for depression accompanying chronic illness. Both are prime examples of how GHRI continues to be recognized for its relevance to health care reform, efficiency, and quality improvement.

Selected major findings:

A sample of articles Group Health researchers published in 2010

Aging & geriatrics

A study of 3,392 Group Health seniors showed that statin therapy in early old age, but not in late old age, may be linked to lower risk of Alzheimer's disease. *(Journal of the American Geriatrics Society)*

Older patients hospitalized for acute care or a critical illness are more likely to experience cognitive decline compared to older adults not hospitalized. *(Journal of the American Medical Association)*

Alternative approaches to healing

Massage eases anxiety, but no better than simple relaxation does, according to a randomized trial. *(Depression and Anxiety)*

Cancer control

A randomized trial showed similar results among three ways to deliver a behavioral smoking-cessation program using varenicline: by phone, Web, or both. *(American Journal of Preventive Medicine)*

Reduced hormone therapy and declines in ductal carcinoma in situ and invasive breast cancer are directly linked, suggesting that hormones helped promote breast tumor growth of pre-existing, clinically latent hormone-dependent cancers. *(Journal of Clinical Oncology)*

Chronic illness management

TEAMcare, a primary care-based intervention for depression and chronic physical illness, resulted in less depression and better control of blood sugar, blood pressure, and cholesterol, plus improved quality of life. *(New England Journal of Medicine)*

People with diabetes are at higher risk of atrial fibrillation, which can increase risk for stroke and death. *(Journal of General Internal Medicine)*

Health informatics

Mobile phone applications may improve quality of diabetes care by helping patients with diabetes understand trends in their blood glucose and communicate with health care providers. *(Journal of Biomedical Informatics)*

Health services & economics

A two-year evaluation comparing the patient-centered medical home to control clinics showed that this primary care model resulted in higher quality of care, better patient experiences, and less clinician burnout. Patients had 29 percent fewer emergency visits and 6 percent fewer hospitalizations, resulting in a net savings of $10 per patient per month. *(Health Affairs)*

Medication use & patient safety

Among patients prescribed opioids for chronic non-cancer pain, researchers found that those who received higher opioid doses were nine times more likely to overdose than were those receiving low doses. *(Annals of Internal Medicine)*

Lasofoxifene, an experimental drug for osteoporosis, reduced risks of fractures, estrogen-receptor-positive breast cancer, coronary heart disease, and stroke. But it also increased risk of venous thrombo-embolic events (blood clots). *(New England Journal of Medicine)*

Mental health

Despite hope for "personalized medicine" for depression, initial treatment choice is less important than systematic follow-up and treatment adjustment. *(American Journal of Psychiatry)*

Obesity

Bariatric surgery led to significant discontinuation of diabetes and lipid-lowering medications within one year for veterans with diabetes or high cholesterol. *(Surgery for Obesity and Related Disorders)*

Children in King County, Washington, are more likely to be obese if they live in socially disadvantaged neighborhoods. *(Social Science & Medicine)*

Women's health

The estimated risk of a false-positive recall after 10 screening mammograms is 63 percent, which is higher than previously reported. *(Statistical Methods in Medical Research)*

Women over age 55 with previous fractures have significant reductions in quality of life. *(Mayo Clinic Proceedings)*

Financial Statement

Revenue	
Federal grant and contract revenue	$36,317,705
Other sponsored revenue	$5,866,794
Group Health Cooperative support	$1,895,689
Total revenues	**$44,080,188**
Expense	
Personnel expenses	$26,078,760
Other expenses	$18,001,428
Total expenses	**$44,080,188**
Net gain/loss	**$0**

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The Group Health Research Advisory Board assesses the quality, innovation, and relevance of Group Health research in enhancing quality of care and consumer value.

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Director, MacColl Institute for Healthcare Innovation

Institute Faculty

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David Arterburn, MD, MPH
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William Beery, MPH
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Katharine A. Bradley, MD, MPH
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Eric A. Johnson, MS
Do Peterson, MS
Rod Walker, MS
Robert Wellman, MS
Onchee Yu, MS
Weiwei Zhu, MS

Affiliate Investigators

Group Health Physicians

John Dunn, MD, MPH
Beverly B. Green, MD, MPH
Elizabeth H. Lin, MD, MPH
Andrew R. Shors, MD, MPH

Fred Hutchinson Cancer Research Center

Peggy Porter, MD, Human Biology

Free & Clear, Inc.

Sue Zbikowski, PhD

The Ohio State University

Amy Bonomi, PhD, MPH, Education and Human Ecology

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