



Robert Wood Johnson Foundation Clinical Scholars

An RWJF national program

The *Robert Wood Johnson Foundation Clinical Scholars* program provides post-residency training across specialties for young physicians interested in research and leadership careers in health policy, academic medicine, government, and elsewhere. Clinical Scholars learn to conduct innovative research and work with communities, organizations, practitioners, and policy-makers on issues important to the health and well-being of all Americans.

Originally authorized by the Board of Trustees in 1972, it is the oldest national program of the Robert Wood Johnson Foundation (RWJF). Since 1978, the U.S. Department of Veterans Affairs (VA) has collaborated in the program, providing substantial financial and in-kind research support. In 2012, the program had 25 first-year and 27 second-year Scholars, funded with a combination of grants from RWJF, the VA, and the four universities that host the program. As of August 2012, the program had graduated 1,199 Clinical Scholars.

CONTEXT

By the late 1960s, medicine had become a field of subspecialists. It was common, for example, for internists to subspecialize in cardiology, gastroenterology, or infectious disease, for pediatricians to subspecialize in neonatology, for surgeons to subspecialize in orthopedics.

This was in part a logical response to a growing knowledge base in medicine. With an array of new procedures and technologies open to them, physicians tended to sharply focus their knowledge and skills. However, this focus has often come at the expense of a broader understanding of the overall health care arena.

Meanwhile, the health care system in the United States has grown increasingly complex. The creation of federal programs such as Medicaid and Medicare in the 1960s, the advent of managed care in the 1980s, the continuing challenges of the rising cost of health care and caring for an aging population, and the 2010 passage of major health care reform all demand physician leaders with a broad perspective on health, health care systems, and policy and medicine.

Physicians pursuing careers as researchers, policy-makers, and health system leaders need to be trained as thoroughly as subspecialists in other disciplines, but with a focus on such issues as:

- The organization and financing of health services
- The contribution of medical care to overall population health
- The sciences of improving health care quality and safety
- The impact on health and health care of economic, social, and demographic forces—and the relationships among them

They also need to learn to work closely with administrators, policy-makers, and other health professions to design and implement new systems of care to take advantage of emerging knowledge and technology and to address the inevitable social, ethical, economic, and legal issues and dilemmas facing American medicine and society.

Prior to the *Robert Wood Johnson Clinical Scholars* program, a physician who was interested in a career that addressed broader health care issues had few educational choices beyond a year at a public health school to get a master's degree in public health, or a stint with the Epidemiology Intelligence Service at the Centers for Disease Control and Prevention (CDC).

No program provided an integrated educational experience devoted to obtaining knowledge and skills in population health, epidemiology, research methods, health care

“No longer can physician-scientists design research studies in a vacuum and expect that subjects will participate and embrace the findings of such research. It is clear that in the 21st century, the public must have input into the conceptualization, design and execution of research studies in collaboration with the medical scientists.”

From an assessment of the program, 2002.

organization, economics, and health policy that would be needed by future leaders in medicine.¹

RWJF's Strategy to Build Leaders in Health Care

RWJF Clinical Scholars is a core program within the Foundation's Human Capital portfolio, which seeks out people whose work advances health and health care, identifies those with the potential to transform the health care system, and provides them the support to realize their promise. The portfolio's investments are designed to yield results for many decades and generations to come. Its approach is to identify talented individuals from diverse backgrounds and give them the tools and expertise to take a fresh approach to health issues and clinical practice, so they can become catalysts and creators of change.

Other key programs include:

RWJF Health Policy Fellows provides an opportunity for midcareer health professionals and behavioral and social scientists to participate in a one-year residency in Washington working for Congress on health policy issues. Read [Program Results](#) for more information.

RWJF Scholars in Health Policy Research aims to produce the next generation of creative thinkers and problem solvers in health policy by attracting talented recent graduates of doctoral programs in economics, political science, and sociology to the field of health policy research. See [Program Results](#) for more information.

RWJF Health & Society Scholars seeks to build the field of population health by producing leaders who will change the questions asked, the methods used to analyze problems, and the range of solutions offered to improve the health of all Americans. See [Program Results](#) for more information.

Robert Wood Johnson Foundation Executive Nurse Fellows is an advanced leadership program for nurses in senior executive roles in health services, public health, and nursing education who aspire to help lead and shape the U.S. health care system. Read [Program Results](#) for more information.

RWJF Nurse Faculty Scholars seeks to increase the stature and academic standing of nurse faculty and draw more nurses to teaching careers. Read [Progress Report](#) for more information.

¹ The material in the "Context" section is drawn from Chapter 5, volume VII, of the RWJF Anthology, *To Improve Health and Health Care*. Available [online](#).

THE PROGRAM

The *Robert Wood Johnson Foundation Clinical Scholars* program fosters the development of physicians who are equipped to lead the transformation of U.S. health and health care through positions in academic medicine, public health, and other leadership roles.

The program offers graduate-level study and research in a university-based, post-residency training program leading to a master's degree. In 2012, the program had 25 first-year and 27 second-year Scholars, funded with a combination of grants from the RWJF, the VA, and the four universities that host the program.²

Since the program was founded in 1972, 15 universities have at some point offered graduate-level, post-residency training to Clinical Scholars. Four schools—University of California, Los Angeles (UCLA), David Geffen School of Medicine; University of Michigan Medical School; Perelman School of Medicine at the University of Pennsylvania, and Yale University School of Medicine—have been training Clinical Scholars since 2005. See [Appendix 1](#) for details on university participation in the program since it started.

Clinical Scholars learn to conduct innovative research and work with communities, organizations, practitioners, and policy-makers on issues important to the health and well-being of all Americans.

Early History and Evolution

The *RWJF Clinical Scholars* program has evolved over its long history in response to an array of challenges and opportunities. In the early years, the program focused on equipping physicians to do health services research³—“at the time a new mechanism to improve health care quality and access and to reduce health disparities,” said Kristin R. Siebenaler, MPA, the deputy director of the program.

² The 2012–14 cohort of 25 Scholars includes nine fully funded by RWJF, 10 supported with joint RWJF and VA funding, four supported by university sites, and two others supported jointly by two university sites and the VA. The 2011–13 cohort of 27 Scholars includes 16 funded solely by RWJF, eight jointly by the VA and RWJF, and three by university sites.

³ 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)

The Scholars' program expanded rapidly in the 1970s. By the 1976–77 academic year, 128 Scholars at 11 sites were participating in the program. In 1978 the VA agreed to fund eight additional Clinical Scholars in each cohort at affiliated medical centers.⁴

By the early 1980s, though, RWJF staff became concerned that they had expanded the program too rapidly, and that it was becoming too large and diffuse.

RWJF decided to reduce the number of Scholars receiving awards to 20 per year across all sites so that only 40 Scholars were participating annually in the two-year program. RWJF staff also decided to require Scholars to pursue full-time and concentrated education and research in nonbiological disciplines, with their clinical activities supported only when they were integral to the research and training they pursued as Scholars.

By the 1990s, the flow of dollars and resources into health care and medical education was beginning to slow. Graduating Scholars were finding fewer job opportunities than their predecessors, and there was decreased interest in primary care, which diminished the pool of the kind of physicians who normally applied to become Clinical Scholars. There was also an increase in the number of scholarship and fellowship programs competing for the same scholars.

A 2002 assessment led to a redesign of the program in order to address fiscal challenges and develop in its participating physicians more sustainable and transformational skills.

Shifting to Community-Based Participatory Research

The program redesign, which went into effect with the 2005 cohort of Scholars, shifted to include training physician scientists to collaborate with the lay public and learn the requisite skills of conducting community-based participatory research (CBPR). The CBPR concept recognizes that patients or community members should be part of efforts to examine health issues and design clinical trials, and should be helped to adapt research findings to their own health behaviors or the health of their communities.

“The program was prescient—translating medical innovation into something that actually improves health and healthcare is now being recognized by the NIH and other agencies,” noted Desmond K. Runyan, MD, DrPH, in 2007 as he assumed leadership of *RWJF Clinical Scholars*.⁵

⁴ The partnership with the VA continues to the present and has expanded. In 2012, the VA supported 12 Scholars.

⁵ In 2006, the NIH initiated the [Clinical and Translational Science Awards \(CTSA\)](#), a type of U.S. federal grant administered by the National Center for Advancing Translational Sciences. The program was fully implemented in 2012 and involves 60 grantee institutions and their partners. The mission is to catalyze the

“CBPR has become another important tool in the quiver of Scholars, along with health services research, clinical epidemiology, and quality improvement, which will enable Scholars to change the practice of medicine,” he added.

A Focus on Policy Change

Along with a deepened focus on community-based participatory research, Scholars have in recent years focused more intensely on policy change. Siebenaler estimated that about one-third of scholars take “policy electives”—weeks to two-month-long stints with local, state, or federal agencies or other organizations concerned with health care policy.

“Scholars in this program had previously gone predominantly into academic medicine,” Siebenaler said. “Now there is interest and a belief that you can also change health and health care in other venues, such as public health or state, local or federal governments. Thus, the interest in health policy and influencing policy through research has become even more important.”

A Focus on Leadership Development

Training sites and the national program office are required to provide leadership development training and opportunities as an integral part of this fellowship. This has evolved into a strong element of the program in which Scholars:

- Receive formal didactic leadership training
- Develop their leadership and team member roles in community-partnered research
- Pair with health executive leaders for mentoring and shadowing
- Bring speakers on leadership to campus
- Visit with influential leaders in state capitols, New York City, Philadelphia, and Washington.

Each year, the national program office in collaboration with Scholars designs a Scholar training session at the annual research meeting including a session on media advocacy and other professional development skills.

Other emphases of the current iteration of the program are increasing the visibility of the *Clinical Scholars* program, engaging alumni Scholars, and reaching potential Scholar candidates from underrepresented minority groups—in particular, Hispanics. All of the above elements combine to create a unique multi-disciplinary physician fellowship program.

generation of innovative methods and technologies that will enhance the development, testing, and implementation of diagnostics and therapeutics across a wide range of human diseases and conditions.

For more details about the history and evolution of the *RWJF Clinical Scholars* program see [Appendix 2](#).

Program Description

Since 2005, four schools have hosted the training of Clinical Scholars:

- University of California, Los Angeles (UCLA), David Geffen School of Medicine
- University of Michigan Medical School
- Perelman School of Medicine at the University of Pennsylvania
- Yale University School of Medicine

The VA Scholars go through the same selection process as the other Scholars, receive the same training, and participate fully in all *RWJF Clinical Scholars* program activities while they are providing medical care and working with VA mentors at the VA's affiliated medical centers.

Beginning in 2005, the *RWJF Clinical Scholars* program added an optional third year of study. However, in response to the economic recession, RWJF reduced the term of the Scholars to two years, beginning with the 2012 cohort. (Graduates of the Scholars program can, however, apply to the VA for an additional year of support if their proposed activities address issues of importance to veterans' health.)

Although the university programs vary in design and emphasis, each institution has developed a core structure to introduce Scholars to health services research, health policy, and community-based participatory research, and each offers a formal academic curriculum, leadership training, and mentored research.

Under the program, the Foundation provides 10 RWJF-funded Scholars with stipends, fringe benefits, and research funds. The Foundation provides another 10 Scholars with research funding in combination with VA funding for stipends and fringe benefits, as well as in-kind VA faculty support, clinical resources, and research databases. Starting with the 2012–14 cohort, the university training sites will try to fund at least one additional scholar position.

Scholars are expected to complete graduate-level projects in their areas of interest. To date, Scholars have conducted studies in diverse health-related fields, such as problems of health care delivery and financing, clinical decision-making, social determinants of health, biomedical ethics, medical history, and health policy.

“As a Clinical Scholar, I was able to step back and ask more important policy questions, as opposed to getting stuck in the weeds. This suddenly made my work more policy relevant.”

*–Nirav R. Shah, MD, MPH,
New York State
Commissioner of Health*

The program's [website](#) includes descriptions of the program, an online application, Scholar and alumni accomplishments and publications, an electronic newsletter, an online Scholar directory, and videos highlighting Scholars' research and accomplishments, and links to the websites of the training sites. See the [Bibliography](#) for more details and [Appendix 3](#) for program site contact information.

Management

National Program Office

The University of North Carolina Chapel Hill School of Medicine has hosted the national program office since 2007.⁶ Under the leadership of Program Director Runyan⁷ and Deputy Director Siebenaler, national program office staff provides technical assistance, assists participating institutions in recruiting Scholar candidates, and provides a range of administration support.

National Advisory Committee

The [national advisory committee](#) consists of 17 members plus two liaisons from the Department of Veterans Affairs. The VA Office of Academic Affiliations provides leadership, direction, and staffing to support the collaboration with this program.

Advisory committee members, appointed by the president of RWJF, are generally senior medical school faculty representing a variety of clinical specialties. Faculty at the universities that train Clinical Scholars cannot serve on the advisory committee.

Members serve a three-year term and may be reappointed for a second term. The chair of the committee may be appointed for a longer term. The committee members:

- Select Clinical Scholars and monitor the progress of the Scholars and the sites in conjunction with the national program office
- Provide mentorship to assigned Scholars
- Make site visits at least annually

Annual Meeting

The national program office sponsors a national meeting each year at which Scholars hear outside speakers and alumni Scholars, engage in informal sessions around common

⁶ Prior to UNC, the program was housed at RWJF; the University of Arkansas for Medical Sciences in Little Rock, Ark.; and at Stanford University School of Medicine in Palo Alto, Calif.

⁷ In 2011, Desmond Runyan was appointed executive director of the Kempe National Center for the Prevention and Treatment of Child Abuse and Neglect at the University of Colorado and also a professor in pediatrics. He remains as program director of *RWJF Clinical Scholars*, with the program office remaining at UNC.

interests, and interact with Scholars and training site directors, as well as with national advisory committee members, alumni, and RWJF staff and trustees.

The annual meeting also offers a platform for second-year Scholars to present their research in a plenary or poster session. Poster presentations are reviewed by program faculty, national advisory committee members, and community partners. Many are later submitted as articles to refereed or peer-reviewed academic journals.

The papers and presentations cover a broad range of topics in health services research and health policy. For example, the 2011 meeting included:

- **Oni Blackstock, MD, MHS**, (Yale VA, 2010–12). “Gender and the Risk of Homelessness Among Iraq/Afghanistan Veterans”
- **Alyna Chien, MD, MS**, (University of Chicago, 2004–06). “Do Physician Organizations Located in Lower Socioeconomic Status Areas Score Lower on Pay for-Performance Measures?”
- **Adrienne Haggins, MD**, (University of Michigan, 2010–12). “When Coverage Expands, What Happens to Health Care Visit Patterns? CHIP as a Natural Experiment”

PROGRAM RESULTS AND IMPACT THROUGH 2012

The results and impact of the *RWJF Clinical Scholars* program can be tracked in several ways:

- The ascendancy of Scholars into position of leadership in health and health care fields
- The impact of Scholars on health services and health policy research
- The influence of Scholars within specialty areas of health care, notably pediatrics, urology, and emergency medicine
- The more recent entry of Scholars into community-based participatory research

Program Director Runyan, a graduate of the program himself, said, “The sustained commitment by RWJF and the VA to developing physician leaders is now paying off in a myriad of ways including new vaccine policies at the governmental level, rational use of preventive services by primary care providers, the development of new approaches to the quality of medical care, the creation and development of [the fields of] geriatrics and child abuse pediatrics, and in the attention to clinical effectiveness in therapeutics and procedures. Among the nearly million physicians in the United States, the odds are great that if a physician is an academic policy leader he or she will either have been a Clinical Scholar or have been trained by a Clinical Scholar.”

Graduates in Leadership Positions in Health and Health Care

As of August 2012, the program had graduated 1,199 Scholars.⁸ While it is impossible to directly tie their experiences in the program to their later accomplishments, Scholars routinely credit the program with helping them set their career course.

Scholars have influenced federal health policy through high-level positions in academia and agencies including the VA, the Department of Health and Human Services and the Centers for Medicare & Medicaid Services, and have directed a number of major, state, and local health agencies and departments, and had senior roles with voluntary health care organizations and foundations.

Academia

Many graduates have moved into leadership positions in academia—eight are current or past deans of schools of public health or medicine, more than 100 are vice chairs and division chiefs, 140 are department chairs, and more than 179 are full professors. Forty-five graduates are members of the Institute of Medicine (IOM), an honorific organization with more than 1,900 members and associates who voluntarily put their knowledge and expertise to work to strengthen the nation’s health. Runyan observed: “The Institute of Medicine has the mission of advancing the nation’s health. Our Scholars share that mission in word and deed and a disproportionate number have been elected to IOM membership in recognition of their contributions to the health and healthcare.”

Scholars who are/were deans of schools of medical schools and schools of public health include:

- **William B. Applegate, MD, MPH**, president of Wake Forest University Health Sciences and former dean of the School of Medicine in Wake Forest, N.C.
- **Mark Johnson, MD, MPH**, dean, Howard University School of Medicine
- **Max Michael, MD, MPH**, dean, University of Alabama at Birmingham School of Public Health
- **David B. Nash, MD, MBA**, founding dean of the Jefferson School of Population Health at Thomas Jefferson University in Philadelphia
- **Linda Rosenstock, MD, MPH**, former dean, School of Public Health

⁸ In addition, 13 were enrolled in the 2009–12 cohort, 29 in the 2010–12 cohort, 27 in the 2011–13 cohort and 26 in the 2012–14 cohort. The [current cohorts](#) are listed on the program’s website.

Government

Scholars who have held high-level positions in the federal Centers for Medicare & Medicaid Services (formerly the Health Care Financing Administration) and directed a number of major federal, state, and local health agencies and departments include:

- **David A. Asch, MD, MBA**, co-director of Health Services' Research & Development Service, Center for Health Equity Research and Promotion (Pittsburgh-Philadelphia), Department of Veterans Affairs
- **Chisara N. Asomugha, MD, MSPH, FAAP**, senior adviser, CMS Center for Clinical Standards and Quality
- **Peter Bach, MD, MAPP**, former senior adviser to the administrator of the Centers for Medicare & Medicaid Services, current director of the Center for Health Policy and Outcomes, Memorial Sloan-Kettering Cancer Center
- **David Carlisle, MD, PhD**, the immediate past director of the California Office of Statewide Health Planning and Development and currently president of Charles R. Drew University of Medicine and Science in Los Angeles
- **Stephen Cha, MD**, chief medical officer at the Center for Medicaid and CHIP Services
- **Patrick Conway, MD, MSc**, chief medical officer for Medicare & Medicaid Services and director of the Center for Clinical Standards and Quality. For more information, read his [Profile](#).
- **Ed Ehlinger, MD, MSPH**, Minnesota Commissioner of Health
- **David Gifford, MD, MPH**, immediate past health commissioner of Rhode Island
- **Stuart Gilman, MD**, director, Advanced Fellowships and Professional Development Office of Academic Affiliations, Veterans Health Administration, Department of Veterans Affairs
- **Mitchell Katz, MD**, director of the Los Angeles County Department of Health Services. For more information, read his [Profile](#).
- **Giridhar Mallya, MD, MHSP**, director of Policy and Planning for the Philadelphia Department of Public Health

“In retrospect, the most valuable things I learned were from Clinical Scholars’ seminars and mini-courses that I didn’t find particularly stimulating at the time—how to write, a business mini-course, negotiation techniques, and of course, the topical seminars that taught me to ask good questions and fashion effective and valid ways to answer them. And the culture of the program—that you are there to learn to be a ‘change agent’—rubbed off.”

*—Arthur Kellermann, MD, MPH,
Paul O'Neill Alcoa Chair in
Policy Analysis, RAND*

- **David Satcher, MD, PhD**, appointed U.S. Surgeon General and Assistant Secretary for Health in 1998; currently Director of the Satcher Health Leadership Institute at the Morehouse School of Medicine in Atlanta. For more information, read his [Profile](#).
- **Donald F. Schwarz, MD, MPH**, health commissioner and Deputy Mayor for Health and Opportunity for the City of Philadelphia
- **Nirav R. Shah, MD, MPH**, New York State Commissioner of Health
- **Joe Thompson, MD, MPH**, Arkansas' Surgeon General and director of the state's Center for Health Improvement. For more information read his [Profile](#).
- **Eric Whitaker, MD**, former director of the Illinois Department of Public Health, current executive vice president, Strategic Affiliations, associate dean, Community-Based Research, University of Chicago Medicine. For more information, read his [Profile](#).
- **Laurie Zephyrin, MD**, national director for reproductive health, Department of Veterans Affairs
- **Judy Zerzan, MD, MPH**, medical director of Colorado Medicaid in the Colorado Department of Health Care Policy and Financing

Read more [online](#) about how their Clinical Scholars training put some of these health commissioners on the pathway to public service leadership.

Hospitals and Foundations

A number of graduates head health care organizations and foundations:

- Hospital CEOs include **Gary Gottlieb, MD, MBA**, president and CEO of Partners HealthCare in Boston.
- Foundation executives include RWJF President and CEO **Risa Lavizzo-Mourey, MD, MBA**, **Mark Smith, MD, MBA**, president and CEO, California HealthCare Foundation in Oakland, California, and **Robert K. Ross, MD**, president and CEO, The California Endowment (also see his [Profile](#)).

Impact on Health Policy and Health Services Research

When *RWJF Clinical Scholars* began, health services and health policy research were new ideas. By making a long-term commitment to training hundreds of clinicians in these fields, the program helped legitimize and institutionalize them within academic medicine.

“Virtually all research-intensive medical schools now have active health services research programs,” notes a chapter about the program in the 2004 RWJF *Anthology*.⁹ “The National Institutes of Health, the leading funder of medical research, has added this kind of research to its agenda, and physicians, along with social scientists, are now leaders in the field.”

Former Scholars who are leaders in the fields of health services research and health economics include:

- **Robert Dittus, MD, MPH**, Albert and Bernard Werthan Professor of Medicine, associate vice chancellor for public health and health care, and senior associate dean for population health sciences at Vanderbilt University Medical Center in Nashville, Tenn.
- **Allen Douma, MD**, and **Grayson Norquist, MD**, appointed in 2012 as founding members of the Board of Governors of the Patient-Centered Outcomes Research Institute (PCORI) in Washington (created by Congress to advance evidence-based knowledge in health care decision-making), and **David R. Flum, MD, MPH**, appointed in 2012 to PCORI’s Methodology Committee.
- **Raynard Kington, MD, PhD**, former acting director, National Institutes of Health (and now president of Grinnell College in Grinnell, Iowa)

Clinical Scholars have been involved in some of the most influential studies in health policy over the past 30 years, the *Anthology* chapter notes. For example:

- Former Clinical Scholar **Robert Brook, MD, ScD**, played a major role in the RAND Health Insurance Experiment, a landmark study to determine whether increasing copayments for patients affected their use of medical services.
- In the late 1970s and early 1980s, former Clinical Scholars published studies demonstrating wide variation in the use of medical procedures in different regions of the United States and the resulting overuse, underuse, and misuse of therapies. These studies led to an increased focus on clinical practice guidelines, for which the expertise of Clinical Scholars and other physician-researchers was critical.

⁹ Showstack J, Rothman AA, Leviton LC and Sandy LG. “The Robert Wood Johnson Clinical Scholars Program” in *To Improve Health and Health Care*, Volume VII. San Francisco: Jossey Bass, 2004. Available [online](#).

The growing influence of health services researchers in academia catalyzed the development of a national infrastructure for health policy and health services research. In 1989, Congress created the Agency for Health Care Policy and Research to fund outcomes research and develop practice guidelines. The agency (now renamed the Agency for Healthcare Research and Quality) has provided funding to physician health services researchers and wielded considerable influence on efforts to improve the quality of medical care. In 1997, former Clinical Scholar **John Eisenberg, MD, MBA**, became the agency's director (a position he held until his death in 2002).

Clinical Scholars have also had an influential role in setting prevention policy through their service on the United States Preventive Services Taskforce. Taskforce guidelines have played a crucial role in shaping policies on insurance coverage and research funding.

Six former Scholars currently serve on the Taskforce:

- **Kirsten Bibbins-Domingo, PhD, MD**
- **Glenn Flores, MD** (see his [Profile](#))
- **David Grossman, MD, MPH**
- **Wanda Nicholson, MD, MPH, MBA**
- **Sandy Schwartz, MD, MBA**
- **Al Siu, MD, MSPH**

See the [RWJF website](#) for more about the long history of Scholars' involvement on the Taskforce.

The February 2012 special issue of *Health Services Research* illustrates the role current and former Clinical Scholars play in linking research and health policy, and provides examples of how their work has helped to improve health and health care. Available [online](#).

Influence on Core and Specialty Fields of Care

Clinical Scholars have had a notable impact in the fields of medicine, pediatrics, surgery, urology, and emergency medicine. This section highlights advances in pediatrics, emergency medicine, and surgery and urology.

“The training I got as a Clinical Scholar exposed me to the field of quality measurement for the first time and gave me an appreciation for the importance of accurately measuring quality. It gave me a great education in the field and helped create my enthusiasm for doing the work.”

—Mark A. Schuster, MD, MPH, Director, Pediatric Quality Measures Program Centers of Excellence

Pediatrics

In 2009, the Agency for Healthcare Research and Quality created seven separate Pediatric Quality Measures Program Centers of Excellence. Each center is charged with testing, refining and adding to AHRQ's draft quality measures. Five of the seven centers are led by former Clinical Scholars (**Lawrence Kleinman, MD, MPH; Mark A. Schuster, MD, MPH; Gary Freed, MD, MPH**, (read his [Profile](#)); **Rita Mangione-Smith, MD, MPH**; and **Jeffrey Silber, MD, PhD**).

An [article](#) on the RWJF website describes the impact of Clinical Scholars on pediatric care. In it, Kleinman and Schuster credit the *RWJF Clinical Scholars* program with providing them the training and network of contacts they needed to make a mark on the field. "The training I got as a Clinical Scholar exposed me to the field of quality measurement for the first time," Schuster said, "and gave me an appreciation for the importance of accurately measuring quality. It gave me a great education in the field and helped create my enthusiasm for doing the work."

Scholars and alumni also contributed 11 articles to a special online-only issue of *PEDIATRICS* entitled, "Visioning, Measuring, and Improving the Quality of Health Care for Children: Insights From the Robert Wood Johnson Foundation Clinical Scholars Program." The [special issue](#) was published in March 2013.

Emergency Medicine

As of 2012, some 41 emergency physicians have trained through the Clinical Scholars program. According to an [article](#) in the April 2010 issue of *Academic Emergency Medicine*,¹⁰ Scholars helped to "propel EM into the mainstream of health care, especially in the academic world."

Scholar alumni in key positions in emergency medicine include:

- **Brent Asplin, MD, MPH**, chair of emergency medicine at the Mayo Clinic in Rochester, Minn.
- **Herb Garrison, MD, MPH**, professor of emergency medicine at East Carolina University, in Greenville, N.C.
- **James Gordon, MD, MPA**, creator of a revolutionary medical simulation center as a faculty member at Harvard Medical School; chief, Division of Medical Simulation, Department of Emergency Medicine, Massachusetts General Hospital, Boston
- **David Magid, MD, MPH**, director of research for the Colorado Permanente Medical Group (CPMG); director of external affairs for the Kaiser Permanente Colorado

¹⁰ Landman A and Meisel ZF. "The Robert Wood Johnson Foundation Clinical Scholars Program and Emergency Medicine." *Academic Emergency Medicine*, 17(4):e17–e22, 2010. Available [online](#).

Institute for Health Research (IHR); chair of the Kaiser Permanente National Research Council, and associate professor of emergency medicine and preventative medicine at the University of Colorado Health Sciences Center, in Denver.

As one measure of impact, recent emergency medicine-trained Scholars have published more than 60 peer-reviewed publications in academic journals, according to the *Academic Emergency Medicine* article.

Surgery and Urology

The field of surgery has been transformed by training Clinical Scholars who have gone on to positions of leadership and influence in a field that prior to 2000 had little expertise in health services research. For example:

- Based on research about variability in surgical care conducted as a Clinical Scholar **Richard Goss, MD**, now medical director at Harborview Medical Center, built the Clinical Outcomes Assessment Program, a voluntary surveillance program to drive performance improvement in cardiac surgery.
- **David R. Flum, MD, MPH**, leads the Research Committee of the American College of Surgeons and also directs the biannual Outcomes Research Course at the ACS and serves on the PCORI methodology committee. Building on Goss' Clinical Outcomes Assessment Program, Flum created the nation's first, voluntary statewide surgical quality network (**SCOAP**) and from that a comparative effectiveness research network (**CERTAIN**) to advance the concept of a learning health care system in surgery.
- **Clifford Ko, MD, MSHS**, leads the Division of Research and Quality of the American College of Surgeons
- **Carlos Pellegrini, MD**, (a member of the Clinical Scholars national advisory committee) is the president of the American College of Surgeons (ACS),
- Former Clinical Scholars **Flum; Ko; Axelrod; Arden Morris, MD, MPH; Melinda Maggard, MD, MSHS**; and others helped organize the surgical health services community by founding the **Surgical Outcomes Club (SOC)** The SOC has grown from seven, mostly former Clinical Scholars members in 2003 to 175 faculty, fellows, and trainees in 2012.

The program has trained seven urologists; three others are current Scholars, and the 11th trainee has been accepted to join the class of 2015.¹¹ Urologist graduates of the *RWJF Clinical Scholars* program, despite being few in number, have affected the field of urology in a substantive manner. Scholars have led successful projects in community-

¹¹ Current Scholars are Charles D. Scales, MD, MSHS, Jonathan Bergman, MD, and Timothy J. Daskivich, MD and training at University of California, Los Angeles; incoming Scholar: Hung-Jui Tan, MD, also will be training at UCLA.

partnered participatory research, primary data collection-driven outcomes research, and epidemiologic secondary data analyses.

Scholars have assumed key leadership positions within urology and in the wider health policy sphere. For instance:

- **Stanley K. Frencher, MD, MPH**, chief resident in Urology, Yale University, and partner in the Black Barbershop Health Outreach Program.
- **John L. Gore, MD, MSHS**, assistant professor, Department of Urology, University of Washington School of Medicine, and steering committee member, Cancer Endorsement Maintenance, National Quality Forum
- **John M. Hollingsworth, MD, MS**, assistant professor of urology, University of Michigan, and director of the Urologic Diseases in America Project's Benign Prostatic Hyperplasia Prevention Initiative
- **Mark S. Litwin, MD, MPH**, professor and chair, Department of Urology, David Geffen School of Medicine at UCLA, and professor of health services, UCLA Fielding School of Public Health
- **Danil Makarov, MD, MHS**, a urologist caring for men with prostate cancer, serves as director of Urologic Services Research at New York University. His work assessing patterns of appropriate and inappropriate utilization of prostate cancer imaging was cited as a part of the Choosing Wisely Campaign by the American Society of Clinical Oncology in their list of the top five procedures that can be reduced to save health care costs and improve quality of care.
- **Michael P. O'Leary, MD, MPH**, is professor of surgery, Harvard Medical School
- **David F. Penson, MD, MPH**, professor of urology, Vanderbilt University; director of Vanderbilt Center for Surgical Quality and Outcomes Research; previous American Urologic Association National vice chair for healthcare policy, current representative to the Commission on Cancer. Penson is a nationally recognized expert in prostate cancer outcomes research, and his ongoing comparative effectiveness work will shed new light on patient-reported outcomes associated with different management approaches. His expertise has been recognized not only within his own institution but also influences policy and education through his work with the American Urological Association, serving as chair of the Quality Improvement and Patient Safety Committee.

To showcase Scholar and alumni research in surgery, the RWJF Clinical Scholars national program office sent out a call for papers in January 2013 entitled, "Transforming Surgical and Interventional Care—Insights from the *Robert Wood Johnson Foundation Clinical Scholars* program." It will be published as a special section to a regular issue of *Surgery* in 2013.

Impact of Community-Based Participatory Research on Medical Schools and Communities

Since 2005, Clinical Scholars have taken the lead in community-based participatory research (CBPR), which “has changed the host medical schools and the clinical scholars engaging in it,” Siebenaler noted. “The scholars are held up as models for the rest of the medical school.

“The community partners also are changing,” Siebenaler continued. “They are becoming fluent in the language of research, and conversely, the Scholars and faculty are conversant in the problems and opportunities in the community around them.” The following are examples of this work:

- **At Yale**, at least 15 percent of the Scholars’ time is devoted to research in partnership with organizations serving New Haven. So far, 19 projects have been completed and disseminated; another nine are either under way or being planned.

Natasha Ray, development coordinator for New Haven Healthy Start Consortium, has worked with Scholars on several CBPR projects. One with **Deepa Camenga, MD, MHS**, and **Kelly Kyanko, MD, MHS**, aimed to increase the rates at which adult caregivers are vaccinated against whooping cough by offering the vaccine during well-child visits.

In the pilot, health care providers at Saint Raphael Pediatric Clinic in New Haven educated all 102 caregivers (including 60 mothers) attending the one- and two-week visit using patient-centered materials that community members helped to create. As a result, 69 percent of the caregivers got vaccinated. Health providers also discovered that a large proportion of caregivers did not receive routine medical care or have insurance. The findings, published in the January 2012 *Academic Pediatrics*,¹² suggest that the pediatric office represents a substantial opportunity to increase vaccination rates. Read an [RWJF story](#) about their work.

CBPR has helped strengthen community organizations, too. “To get grants or funding, you have to show that your program is working,” Ray said. “The Scholars’ research has been instrumental in sustaining some community organizations and putting them in a position to apply for funding because now there is a study that shows the impact.”

An [article](#) in *Yale Medicine* highlights the impact of community-based participatory research on the Scholars and the medical school.¹³

¹² Camenga DR, Kyanko K, Stepczynski J, Flaherty-Hewitt M, Curry L, Sewell D, Smart C and Rosenthal MS. “Increasing Adult Tdap Vaccination Rates by Vaccinating Infant Caregivers in the Pediatric Office” *Academic Pediatrics*, 12(1): 20–25, 2012. Available [online](#).

¹³ Kaylin J. “Scholars Work Toward Healthy Communities.” *Yale Medicine*, 46(3), 2012. Available [online](#).

- **At UCLA**, alumni and current Scholars partnered with the newly appointed Martin Luther King, Jr. Hospital board of directors to launch an initiative focused on developing a culture of quality at the new institution. The aim was to develop a strategy for designing a quality improvement (QI) infrastructure at the new hospital. To inform this effort, the Scholars conducted site visits to five hospitals considered models of high-quality health care delivery: Denver Health System, Virginia Mason Medical Center, Grady Health System, Mt. Sinai Hospital, and Harlem Hospital.

The exemplary hospitals shared several features:

- A culture of quality created by an experienced and skilled executive leadership team committed to improvement
- Empowerment of staff at all levels of the organization to engage in QI
- The institution-wide use of a specific QI methodology to maximize patient-centered outcomes and efficiency
- A significant investment in an advanced electronic health record system that allows standardized clinical decision-making, quality monitoring, and performance improvement
- Rigorous monitoring and collection of clearly defined quality measures with continuous feedback to all providers and employees at every level

In addition, five organizational components emerged from the data as being essential to the establishment of a high-quality health care delivery system: Institutional Guiding Principles, Personnel Quality Practices, Finances, Quality Monitoring, and Care Integration. A report of these findings was presented to the hospital board of directors to inform the implementation of the new hospital infrastructure. When the closure of the hospital in 2008 caused community controversy over health care needs for the uninsured in the South Los Angeles area, this community-based participatory research project served as an example for the UCLA and local community of the importance and potential impact of partnerships to create meaningful change.

The impact of the program and CBPR on local communities continues beyond the Scholars training. As a program alumnus from UCSF and as the director of Los Angeles County Department of Health Services, Mitchell Katz, MD, has infused the county system with leaders trained by Clinical Scholars to transform the health, health care, and the culture of quality improvement in Los Angeles County. This group of leaders includes:

- **Anish Mahajan, MD, MSHS**, director of system planning, improvement, and data analytics, where he leads performance measurement and improvement for the health system of Los Angeles County, which provides care to over 750,000 individuals each year.

- **Lauren Patty, MD, MSHS**, director of the Los Angeles County Safety Net Eye Health Program, where she works on policy and technological interventions to increase access to ophthalmic care for underserved/safety-net populations. In this position she also practices comprehensive ophthalmology and lead teleophthalmology initiatives for the Los Angeles County Ambulatory Care Network.
- **Raymond Perry, MD, MSHS**, medical director of the Los Angeles County Juvenile Court Health Services where he oversees health care services provided to youth in one of the country’s largest juvenile correctional systems, as well as facilitates quality improvement, system change, and clinical outcomes research within the system.
- **Erin Saleeby, MD, MPH**, director of Los Angeles’ Women’s Health Programs and Innovation where she collaborates with communities and the departments of public health to implement innovative and evidence-based programs, and to evaluate their effectiveness and implementation.

The program’s CBPR focus also provided the gateway to meet the need for medicine to be responsive to patients and diverse stakeholder priorities which is at the core of the healthcare reform movement and initiatives such as Patient-Centered Outcomes Research Institute (PCORI). Through the CPBR focus, Scholars have not only received training in rigorous health services research methods and the application of these methods to policy and implementation areas, but also in how to build partnerships to do this work.

Scholars’ projects across sites consistently include a hybrid of these components. They are also echoed in the projects of NIH and CDC centers led by program faculty—such as those of the UCLA–Drew National Institute on Minority Health and Health Disparities Export Program, and the National Institute of Mental Health Partnered Research Center—as well as the [Clinical and Translational Science Institute \(CTSI\)](#). All of these have both benefited from, and continue to support, the work of Scholars.

Thus the program has created leaders poised to take the initiative in the reform of local and national services systems. Many scholars are now going into policy, public service,

“The program tries to promote physician engagement in new and creative ways. Teaching physicians the tools to engage in community-partnered research can be a vehicle for meaningful change in communities.”

*—Kristin Siebenaler,
Deputy Director*

implementation, and evaluation positions with high levels of responsibility at an early career stage. Three features of the program have supported the growth in these areas:

- The focus on CBPR and partnered research, as well as collaborations with community and policy agencies
- The growth of off-site policy electives such as spending one to three months in Washington with Nicole Lurie, MD, MSPH, Assistant Secretary of Preparedness and Response at the U.S. Department of Health and Human Services
- The growth of the Clinical Scholars alumni network and extended connections with leaders that reach into policy sectors including former scholars in major senior policy leadership positions

In addition to the Scholars listed above, examples of Scholars in such positions include:

- **Stephen Cha, MD, MHS**, chief medical officer at the Center for Medicaid and CHIP Services
- **Patrick Conway, MD, MSc**, chief medical officer and director of the Office of Clinical Standards and Quality at the Center for Medicaid & Medicare Services. For more information see his [Profile](#).
- **Sonali Kulkarni, MD, MPH**, interim medical director of the Office of AIDS Programs and Policy at the Los Angeles County of Public Health.
- **Kavita Patel, MD, MS**, fellow in the economic studies program and managing director for clinical transformation and delivery at the Engelberg Center for Health Care Reform, former director of health policy programs at New America Foundation and former White House adviser

A supplement to the December 2009 issue of the *American Journal of Preventive Medicine* includes 14 articles showcasing community-based participatory research conducted by Scholars and alumni. The articles also highlight the challenges of and lessons learned in conducting CBPR. See the [Bibliography](#) for a list of the articles in the supplement with full text on the Foundation's website.

“CBPR helps heal the mistrust that has historically existed between universities and the communities their researchers have studied,” noted Roseanne Bilodeau et al., in a commentary introducing the special issue.

“In the past, universities have engaged in what is known in communities as ‘helicopter’ research, in which researchers swoop into a community and temporarily engage a community organization to provide access to data or research subjects. The researchers do their research, the organization rarely hears about the results, and as a consequence, the community never directly benefits. CBPR is breaking down the mistrust and paving

the way for stronger university–community relations that can benefit both the university and the community.”¹⁴

Among the research projects, in addition to those mentioned above, Scholars and community partners have participated in are the following:

- Interviewed school-based mental health counselors in New Orleans following Hurricane Katrina to improve the delivery of these mental health services on campuses
- Studied the experiences with the U.S. healthcare system of Somali immigrant women living in the Columbus, Ohio, area, exploring how attitudes, perceptions, and cultural values, such as female genital cutting, influence their use of reproductive health care
- Evaluated interventions for diabetes prevention and treatment
- Analyzed the costs and benefits of a comprehensive pregnancy prevention program
- Improved the transitions of care between the hospital and homeless shelters
- Completed a health impact assessment of a highway reconstruction project
- Through their research a team of Scholars worked with a consortium of community partners, policy-makers and providers to establish and fund a new organization to provide specialty care to the uninsured

See the [Bibliography](#) for details.

50 Studies Every Doctor Should Know, a book by former Clinical Scholar Michael Hochman, MD, aims to help physicians, nurses and other health care providers keep up with important research. “I’ve always had an interest in making complex medical information more accessible,” he said.

¹⁴ Bilodeau R, Gilmore J, Jones L, Palmisano G, Banks T, Tinney B and Lucas GI “Putting the ‘Community’ Into Community-Based Participatory Research: A Commentary.” *American Journal of Preventive Medicine (Supplement)*, 37(6): S192–194, 2009. Available [online](#).

PROFILES OF SCHOLARS AND THEIR WORK

The published work of many Clinical Scholars is profiled on the RWJF website and its Human Capital blog, for example:

- **Oni Blackstock, MD, MHS**,¹⁵ (VA Scholar) was the winner of a 2012 Society for General Internal Medicine Lawrence Linn Award for her submission: “Are There Sex Differences in Health-Related Quality of Life, Prognosis, and Mortality Among HIV-Infected Women and Men in Veterans Affairs Care?” Blackstock’s study, published in the April 2012 issue of *Medical Care*,¹⁶ examines gender differences in the use of VA specialized homeless services programs among veterans of the conflicts in Afghanistan and Iraq. Read a Human Capital [blog post](#) about Blackstock’s study.
- **Robin Clarke, MD**, (VA Scholar) led a study of assessment tools used to evaluate community health centers functioning as “medical homes”—a health care delivery model touted as an antidote to fragmented, uncoordinated and reactive care. The study, published in *Health Affairs* in 2012,¹⁷ found no relation between how well a health center scored on the National Committee for Quality Assurance assessment and the quality of diabetes care it provided. Read a profile of [Clarke](#).
- **Stephen Henry, MD**,¹⁸ led a study of how well patients and their physicians communicate about pain. “Pain is one of the most common reasons patients seek primary care, Henry says, but pain is also subjective and can be difficult to articulate and describe. This can cause lost time and frustration for both the provider and patient.” Read a profile of [Henry](#).
- **Michael Hochman, MD**, realized that medical professionals have little time to read medical research. His book, *50 Studies Every Doctor Should Know*, aims to help physicians, nurses, and other health care providers keep up with important research. “I’ve always had an interest in making complex medical information more accessible,” said Hochman, who has written about medicine for the *Boston Globe* and several other publications, and now works as an internist at the VA of Greater Los Angeles. Read a profile of [Hochman](#).
- **Crista Johnson-Agbakwu, MD, MSc**, became aware of a health care disparity addressed by few physicians—Somali, Sudanese, and other refugee or immigrant women often found it difficult to find desperately needed, culturally sensitive ob-gyn care in the United States, if they had undergone the traditional practice of female circumcision. As a result, the women often feared American doctors and had very

¹⁵ She was a VA Scholar at Yale University, 2010–12.

¹⁶ Blackstock OJ, Haskell SG, Brandt CA and Desai RA. “Gender and the Use of Veterans Health Administration Homeless Services Programs Among Iraq/Afghanistan Veterans.” *Medical Care*, 50(4): 347–352, 2012. Available [online](#).

¹⁷ “Tool Used To Assess How Well Community Health Centers Function As Medical Homes May Be Flawed,” *Health Affairs*, February 2012. Available [online](#).

¹⁸ He was a VA Scholar at University of Michigan Medical School, 2009–12.

high rates of pregnancy complications, infant death, and maternal morbidity. Read a profile of [Johnson-Agbakwu](#).

- **Christie A. Lancaster, MD, MS, co-authored a study showing that stress and anxiety can increase risk of depression in pregnancy.** Stress, history of depression, lack of social support, and unintended pregnancy are among the major factors that contribute to increased risk of depression in pregnant women, a new study shows. The study appears in the January 2010 issue of the *American Journal of Obstetrics & Gynecology*.¹⁹
- **Aasim Padela, MD, MSc**, is assistant professor of medicine at the University of Chicago and directs the Initiative on Islam and Medicine at the university's Program on Medicine and Religion. He is also on the faculty at the Maclean Center for Clinical Medical Ethics and the University of Chicago Center on Religion and Medicine. His most recent work, published in the *Journal of General Internal Medicine*,²⁰ examines health care accommodations requested by American Muslims that can improve their experiences with the U.S. health care system. Read an [RWJF story](#) about the work.

“The first 25 years of the program are really responsible for the legitimacy of health services research and health policy research as major disciplines in the country.”

—Gary Gottlieb, MD, MBA, Clinical Scholar, 1983–85

“Is the ‘Wall’ Between Medicine and Public Health Crumbling?” an article in the Human Capital section of the RWJF website highlights the work of other Scholars working to bridge the barrier between medicine and public health.²¹

See the [Profile List](#) at the end of this report for more profiles of Scholars, and the [Current Scholar News](#) section of the program's website for more stories about Scholars.

¹⁹ Lancaster CA, Gold KJ, Flynn HA, Yoo H, Marcus SM and Davis MM. “Risk Factors for Depressive Symptoms During Pregnancy: A Systematic Review.” *American Journal of Obstetrics & Gynecology*, 202(1): 5–14, 2010. Available [online](#).

²⁰ Padela AI, Gunter K, Killawi A and Heisler M. “Religious Values and Healthcare Accommodations Voices from the American Muslim Community.” *Journal of General Internal Medicine*, 27(6): 708–715, 2012. Available [online](#).

²¹ Available [online](#).

SIGNIFICANCE OF THE PROGRAM

Deans and department chairs of medical schools participating in the *RWJF Clinical Scholars* program noted in a 1992 evaluation of the program²² that:

The program had changed the intellectual climate of their institutions for the better. It had, they said, increased the interest in and respect for epidemiological research and led to more health services research, even outside the program's traditional base of departments of medicine and pediatrics. Additionally, the subject matter of the *Clinical Scholars* program had influenced the schools' curricula.²³ Finally, the host institutions consistently showed an interest in keeping Clinical Scholars on their faculty after they completed the program.

Gary Gottlieb, MD, MBA, a Clinical Scholar from 1983 to 1985, commented more recently on the impact of the program. Gottlieb has served on its national advisory committee and has taught and mentored Scholars as a faculty member at the University of Pennsylvania Medical School.²⁴ He offered these thoughts in an interview conducted for this report:

The first 25 years of the program are really responsible for the legitimacy of health services research and health policy research as major disciplines in the country. The program and its investments have created a base in these areas in the institutions in which they are sited, and a national base of physician leadership in academic medicine and in health care delivery.

The program's recent investments have started to legitimize for physicians the body of science around research in health care disparities and community-based participatory research. It has created a new venue for discussion in that area. It is also one of the few programs where mentorship is truly valued and reinforced with faculty. I have never seen a program where the accountability of the faculty is all about mentorship. There is also a level of medical school dean's responsibility for the program for which RWJF has kept the schools accountable.

The program is an extraordinary resource, and the return-on-investment to the Foundation is remarkable. The Foundation's brand has improved in a special way because of its association with this program and because of the number of leaders who are seeding major institutions throughout the country.

²² Evaluators were Harvard University health economist, Rashi Fein, and then-president of New York City's Mt. Sinai Medical Center, John Rowe.

²³ The unpublished report by Fein and Rowe noted that academic leaders at the University of Pennsylvania credited the *RWJF Clinical Scholars* program with helping to foster an academic program in geriatrics; that Clinical Scholars and the program's faculty at Yale had supported development of multidisciplinary geriatric research; and that the program's faculty at the University of Washington had developed courses for the Clinical Scholars that were later added to the general curriculum.

²⁴ Gottlieb is currently president and CEO of Partners HealthCare in Boston.

LOOKING TO THE FUTURE

Robert Wood Johnson Clinical Scholars, by virtue of its longevity and the productivity of its graduates, has become an institution in and of itself. As with any institution, program staff must find the proper balance between continuity and reformation. “The need remains stronger than ever for this physician fellowship program to create well-trained Scholars who can guide the country to the next level of health care in this era of rising costs and health care reform,” says Joanne Elmore, MD, MPH, alumnus and national advisory committee member.

“The program faculty and Scholars re-invent the program every year,” says Program Director Runyan. “Over the years Scholars have asked about access, burden of disease, social inequalities, distribution of medical specialties, patient preferences, doctor-patient communication, and medical ethics, among many other topics. Scholars have been early leaders in assessing quality of care, financing of medical care, and the role of public health. Now, leadership, mentorship, and community participation have joined as topics [they want] to address. The expectations for productivity have risen as the faculty have learned the marvelous capability of the Scholars, but their enthusiasm for the mission and the commitment to patients has not diminished.”

“The program tries to promote physician engagement in new and creative ways,” Deputy Director Siebenaler said. “Teaching physicians the tools to engage in community-partnered research can be a vehicle for meaningful change in communities. Health services research, community-based participatory research, leadership development have been core to this program. Upon graduation Scholars do not have to conduct CBPR but will have the tools to work with a broad array of stakeholders in the research and policy arenas.”

Approximately every 10 years, RWJF opens to re-competition the location of the program sites in order to “reflect and to change certain elements of the curriculum and funding mechanisms to protect the vitality and endurance of the program and to produce physician change agents,” Siebenaler said. RWJF expects to issue a request for proposals in 2015 after a Foundation-wide external review underway in 2013 and 2014.

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APPENDIX 1

Clinical Scholars Program Sites History

Years	# of Sites	Sites
Before 1972 (prior to RWJF)	5	Case Western Reserve University Duke University Johns Hopkins University McGill University Faculty of Medicine Stanford University School of Medicine
1972–1975 ²⁵	5	Case Western Reserve University Duke University Johns Hopkins University McGill University Stanford University
1974–1976	7	Case Western Reserve University Johns Hopkins University McGill University University of California, San Francisco/Stanford University University of North Carolina University of Pennsylvania Yale University
1975–1978	11	Case Western Reserve University Columbia University George Washington University Johns Hopkins University McGill University University of California, Los Angeles University of California, San Francisco/Stanford University University of North Carolina University of Pennsylvania University of Washington Yale University
1979–1993	6	Stanford University University of California, Los Angeles University of North Carolina University of Pennsylvania University of Washington Yale University
1993–2005	7	Johns Hopkins University University of California, Los Angeles University of Chicago University of Michigan University of North Carolina University of Washington Yale University
2005–2012	4	University of California, Los Angeles University of Michigan University of Pennsylvania Yale University

²⁵ In the 1970s there was an overlap year at the outset of each new iteration of the program when existing sites were completing their programs and the new sites were launching theirs.

APPENDIX 2

RWJF Clinical Scholars Program: History and Highlights

The *Clinical Scholars* program evolved from a three-year pilot program started in 1969 with funding from the Carnegie Corporation and the Commonwealth Fund and operated at five university medical centers.²⁶ See [Appendix 1](#) for a table of participating universities since the program's inception.

The pilot program sought to enable young physicians trained in internal medicine to acquire non-biomedical skills not offered in traditional post-residency training programs, and to prepare them to assume research and leadership roles in the health care system. An additional goal was to use the program as a vehicle to establish the field of health services research as a serious discipline within clinical medicine.

1972–75: Establishing the Program at RWJF

As the three-year pilot program was coming to a close in 1972, an endowment from Robert Wood Johnson²⁷ established RWJF as the largest philanthropy in the nation devoted to improving health and health care.

RWJF encouraged the institutions participating in the pilot program to present to its Board of Trustees a joint proposal to create a national *Clinical Scholars* program. Approved in October 1972, it became RWJF's first national program, with an initial authorization of \$5.9 million, including interim funding for the existing projects in the five medical schools.

Like the pilot, the *Clinical Scholars* program was designed to train young physicians in the knowledge and skills needed to respond to the emerging problems and opportunities in health care. RWJF expanded the program to include physicians from all clinical specialties, rather than limiting it to those trained in internal medicine, as the pilot had done.

Program staff at RWJF appointed a national board, later called the national advisory council, to oversee the program and select the initial sites, and announced the first national competition for program sites in April 1973. Annie Lea Shuster signed on to manage the program, initially at RWJF, where she was a program officer, and then

²⁶ The initial schools were Case Western Reserve University School of Medicine, Duke University School of Medicine, Johns Hopkins University School of Medicine, McGill University Faculty of Medicine, and Stanford University School of Medicine.

²⁷ Johnson had built Johnson & Johnson into the major, multi-national corporation it is today. Upon his death in January 1968, the bulk his fortune was left to establish a foundation in his name.

through a national program office established at the University of Arkansas for Medical Science.²⁸

More than 70 institutions submitted letters of intent to compete for grants; of those, 20 were invited to present formal proposals. After an extensive review process that included site visits, the board selected seven university medical schools for three-year funding to begin in July 1974.²⁹

Each selected site proposed to develop both a curriculum and practicum that together would produce Scholars capable of functioning as high-quality contributors to health services research and leaders of health policy change.

The initial competition made it clear that other institutions were capable of training Clinical Scholars if funds were available. In 1973, the RWJF Board of Trustees authorized a \$4 to \$5 million expansion of the program and announced a second round of competition. In June 1974 the *Clinical Scholars* program board selected four additional sites, with funding to begin in July 1975.³⁰

1976–78: Refocusing the Program

By the 1976–77 academic year, 128 Scholars at 11 sites were participating in the program. In 1978, the VA began to provide funds to support eight additional Scholars each year. The VA Scholars go through the same selection process as the other Scholars, receive the same training and participate fully in all *Clinical Scholars* program functions.

Over time, RWJF staff became concerned that the program had expanded too rapidly, and was becoming too large and diffuse. Many of the Scholars were also completing their residencies during their two-year tenure as Scholars, and RWJF staff thought their attention to the aims of the program might become diluted.

RWJF decided to reduce the number of Scholars receiving awards to 20 per year across all sites so that only 40 Scholars were participating annually. RWJF staff also decided to require Scholars to pursue full-time and concentrated education and research in non-

²⁸ Grant ID# 29337, which started in May 1996 funded the office. Seven additional grants for the University of Arkansas to manage the program ran through June 2003.

²⁹ The seven sites launched in 1974 included four that had participated in the pilot program (Case Western Reserve, Johns Hopkins, McGill, and Stanford) and three new locations (University of North Carolina at Chapel Hill School of Medicine, University of Pennsylvania School of Medicine, and Yale University School of Medicine). McGill was allowed to compete for funding despite its Montreal location, which is outside the RWJF's geographic funding region, because it had been funded under the pilot program; no other Canadian medical schools were allowed to compete.

³⁰ The sites added in 1975 were Columbia University College of Physicians and Surgeons, George Washington University School of Medicine, University of California at Los Angeles School of Medicine, and University of Washington at Seattle School of Medicine.

biological disciplines, with their clinical activities supported only when integral to Scholars' research and training programs.

The national advisory committee and RWJF staff also implemented a national process for recruiting, screening, and selecting Scholars to assure that applicants from institutions without a *Clinical Scholars* program would be equally competitive.

While implementing these decisions, RWJF also determined that only the strongest sites in the program should be continued and phased out five of the programs.³¹

1991–93: Assessing the Future of the Program

The program continued in this form until the early 1990s when RWJF staff decided its progress should be assessed. In 1991, RWJF awarded a grant³² for this purpose to Mount Sinai School of Medicine in New York City.

John W. Rowe, MD, then president and CEO of Mt. Sinai Medical Center and now president and CEO of Aetna, and Rashi Fein, PhD, professor of medical economics at Harvard Medical School (now professor emeritus) conducted the yearlong assessment. The researchers examined the contribution of the program to the careers of Scholars, the likely demand for Scholars in the future, and areas in which the program could be improved.

After reviewing documents and program records, interviewing key informants, and conducting information-gathering visits at each *Clinical Scholars* program site, the assessors concluded that, overall, the *Clinical Scholars* program was a “tremendous success.”

Rowe and Fein stated that the program was serving both the interests of academic rigor and the development of physician leaders in a healthy balanced fashion. They cautioned, however, that the balance needed to shift slightly toward the conscious integration of social and behavioral science training, ethics, business training, and other intellectual tools likely to assist in the development of Clinical Scholars both willing and able to “make a difference.”

³¹ From 1979 until 1993, the *Clinical Scholars* program consisted of six sites: University of California, San Francisco, School of Medicine; Stanford University School of Medicine; University of California, Los Angeles, School of Medicine; University of North Carolina at Chapel Hill School of Medicine; University of Pennsylvania School of Medicine; University of Washington School of Medicine (Seattle); and Yale University School of Medicine.

³² ID# 18143

Recommendations

As a result of the assessment and in consultation with the national advisory committee, RWJF program staff recommended in October 1992 that the RWJF Board of Trustees:

- Authorize the program for an additional 10 years from the end of the then-current authorization—through 2005
- Present a review of the *Clinical Scholars* program to the RWJF Board of Trustees with each new three-year budget request. (While the program was authorized for 10 years, budget requests were made on a three-year cycle.)
- Increase the number of Clinical Scholars selected annually from 20 to 36
- Increase the number of sites from six to seven
- Invite the six active *Clinical Scholars* program sites to compete for four slots and all other medical schools to compete for the remaining three³³

2000-2003: Another Reassessment in Response to a Changing Environment

In the late 1990s changes in both the health care environment and in training opportunities for physicians prompted RWJF to reassess the *Clinical Scholars* program. At the time, resources were not flowing into medical care as rapidly as they had before, and increased competition and lower reimbursement rates were beginning to eat into the revenues of academic health centers. By the late 1990s, there were disquieting signs that the graduates of the *Clinical Scholars* program were not finding the job market as expansive as their predecessors had found it.

As well—perhaps because of the success of the *Clinical Scholars* program—a number of new fellowships were developed in the late 1980s and 1990s and competed directly for the same pool of applicants as the *Clinical Scholars* program. These included the National Research Service Awards, the VA's National Quality Scholars Fellowship Program, career development awards from the National Institutes of Health and the Agency for Healthcare Research and Quality, and general internal medicine fellowships. Many of these competing fellowship programs were easier to get into, shorter in length, and included training that was similar to that received by the Clinical Scholars.

³³ The seven schools participating in the program from 1993 to 2005 included four continuing participants: University of California, Los Angeles, School of Medicine; University of North Carolina at Chapel Hill School of Medicine; University of Washington School of Medicine; and Yale University School of Medicine. The three new participants were Johns Hopkins University School of Medicine; University of Chicago Division of Biological Sciences, Pritzker School of Medicine; and University of Michigan Medical School.

In 2000, RWJF funded researchers from the Institute for Health Policy Studies at the University of California, San Francisco, to conduct a “market survey” of the *Clinical Scholars* program, to inform a discussion about ways to add value to the program as the budget came up for renewal in 2002.³⁴

The assessment consisted of two surveys—the first of current and former Clinical Scholar participants in the program and the second of medical residents who were asked about their interests in fellowship training in general and the *Clinical Scholars* program in particular.

Findings: Clinical Scholars Survey

The evaluators reported the following findings to RWJF in 2002:

- **Two-thirds of Scholars identified academia as a career goal at the time they were considering the program.** The remainder identified other settings, such as government or clinical practice. Respondents said the quality of the program was the most influential factor and that their partner's location was an important personal factor in their decision to apply. A significant majority (74 percent) found jobs in academia.
- **A large proportion of respondents (87%) said that the program met their needs.** Many indicated that there were additional unexpected gains, such as superb networking during and after the program. Although a portion of respondents (13%) stated that mentoring was an additional unexpected gain from the program, a similar percentage felt that mentoring could have been increased.
- **An increasing percentage of Scholars over the decades held jobs while participating in the program, which might have reflected increasing financial pressures, as well as the need to keep up with clinical skills.**
- **Overall, 38 percent of Scholars completed additional clinical or research training after they finished the program.**
- **Over time, the proportion of Scholars who indicated that they advanced in their careers as rapidly as they had expected decreased markedly.** In the 1970s, only one in five Scholars expressed disappointment in the speed of their career advancement; by the 1990s, however, this proportion had almost doubled to 39 percent. Through the information provided on the curricula vitae submitted by Scholars, researchers verified that career advancement appears to have been significantly slower.
- **The most commonly mentioned change in the program suggested by Scholars was to increase mentoring.** Smaller percentages suggested the program add a third year and that it display “less bias toward academia.”

³⁴ ID# 39938

Findings: Residents Survey

- **The majority of resident respondents (69%) had clinical practice as their career goal, with 39 percent stating that they had interest in academia at some time in their career.** When asked about possible job options after completing residency, 62 percent indicated clinical practice, 30 percent indicated fellowships, 22 percent academics, and 10 percent government.
- **Residents receive little information from residency programs about fellowship options.** One-quarter of the responding residents indicated that they received no information at all.
- **Most residents who were considering a fellowship were interested in specializing (69%), with only a small percentage interested in generalist fellowships.** Some 35 percent of residents stated that they expect to apply for a fellowship in their third year of residency; 23 percent intended to apply in their second year; 12 percent of respondents stated that they would apply for fellowship within five years.
- **Only 7 percent of the responding residents were considering applying to the *Clinical Scholars* program, and 13 percent indicated the RWJF sponsorship was an important indicator of the quality.**
- **Some 84 percent of respondents rated the availability of a mentor as an important attribute of a fellowship program.** Some 78 percent considered the quality of the program as evidenced by its national reputation as important.
- **When those who were not planning to pursue a fellowship were asked about the personal considerations of that decision, respondents cited family responsibilities as most important, followed by finances and then partner needs.**

Program Redesign

Informed by this assessment survey, RWJF staff, the national program office, the national advisory committee, directors of the program's training sites, and outside experts determined that the program should strive to:

- Identify and support a somewhat smaller cadre of physicians, but invest more heavily in their training and development
- Increase the expected productivity and skill set of these Scholars
- Offer a “ladder” of support through the option of a third year of fellowship support and a competitive career development award
- Augment Scholars' research training with leadership training

Program and RWJF staff believed these program elements would attract an even stronger cadre of talented, committed physicians, and appropriately equip them for rapid academic and/or leadership advancement in a wide variety of settings.

Program Enhancements

In 2002, the Board of Trustees approved the above changes with an authorization renewal of \$64.5 million beginning in 2005. The cohort of Scholars who begin in the fall of that year enrolled in a program with the following enhancements:

- **Fellowship Sites (\$36.25 million).** Under the renewal, RWJF launched a new competition for four program sites and reduced the number of Scholars trained annually from 36 to 28 (20 supported by RWJF, eight by the VA).

From 2008 to 2011, the American College of Surgeons supported two Scholar positions.

Each site offered a standardized two-year core curriculum introducing Scholars to basic non-biological disciplines and the methods used in health care research; other parts of the curriculum tended to reflect each institution's individual strengths and faculty interests.

During their two years in the program, Scholars were typically expected to complete at least three research projects, including at least one project collecting primary data. The program had a special focus on training physician scientists to conduct community-based participatory research.

In addition, Scholars participated in a centralized leadership training program, providing them with both real-world skills for career success and greater insight into their own leadership style. An optional third year became available in 2005, but ended with the 2012 cohort.

- **A new program, the *Robert Wood Johnson Foundation Physician Faculty Scholars* (\$22.5 million; February 2006 through October 2012).** This program offered a competitive three-year, \$300,000 career development award annually to support the activities of as many as 15 innovative young physicians.

Both graduates of the Clinical Scholars program and others who have completed a research fellowship (or have equivalent experience) could apply. The awards were portable, allowing talented physicians to receive support during the critical period between ending fellowship training and receiving extramural grant support for research).

It also allowed RWJF to invest in talented physicians who, for a variety of reasons, may not have been able to pursue training as Clinical Scholars. This award program provided support for physicians pursuing innovative community-based action programs that were not typically supported by funding agencies.

- **Leadership Training (\$5.75 million).** Beginning in 2005, the *Clinical Scholars* program offered a centralized leadership training program to Scholars coupled with intensive local training designed by the sites.

APPENDIX 3

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BIBLIOGRAPHY

(Current as of date of the report; as provided by the grantee organization; not verified by RWJF; items not available from RWJF.)

Articles

To showcase Scholar and alumni research in surgery, the RWJF Clinical Scholars national program office sent out a call for papers in January 2013 entitled, “Transforming Surgical and Interventional Care—Insights from the *Robert Wood Johnson Foundation Clinical Scholars* program.” The papers will be published as an add-on to a monthly issue of *Surgery* in 2013.

“Visioning, Measuring, and Improving the Quality of Health Care for Children: Insights From the Robert Wood Johnson Foundation Clinical Scholars Program.” *Pediatrics* online-only special issue of Scholar and alumni research March 2013. Abstracts available [online](#). Full-text requires a subscription. Contains the following articles from program management and participants:

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Communication or Promotion

The program’s website, <http://rwjfsp.unc.edu> provides the following:

- Background information about the program
- Program news
- Current and former Scholar news

- Information about applying to become a Clinical Scholar, including an on-line application
- A list of national advisory committee members with photos and bios
- A list of Clinical Scholars currently enrolled in the program with photos and bios
- Program e-newsletter
- Alumni news
- Downloadable program brochure and call for applications
- Links to websites of the four participating universities, along with descriptions of their programs; alumni profiles; and program press releases.

PROFILE LIST

The Scholars profiled here reflect (1) the diversity of backgrounds and interests that Scholars bring to the program, (2) careers at several levels of development, from recent alumni to Scholars at the peak of their careers, and (3) the directions and levels of accomplishment that represent both the goals of the CSP and the actual careers of many of its alumni. Profiles are current as of the date of their posting, but can become out of date as former Scholars advance in their careers.

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