



Innovation

The Schaeffer Center Report 2011-2012

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About the Schaeffer Center



The Leonard D. Schaeffer Center for Health Policy and Economics was established in 2009 at the University of Southern California (USC) with a generous gift from Leonard and Pamela Schaeffer. The Center reflects Mr. Schaeffer's life-long commitment to solving health care issues and transforming the health care system.

Addressing health policy issues requires complex solutions, creative research methods, and expertise in a variety of fields, including medicine, economics and public policy. For this reason, the Schaeffer Center is based on the principle of interdisciplinary research.

Resulting from a collaboration between the USC Sol Price School of Public Policy and the USC School of Pharmacy, the Center brings together health policy experts from the School of Public Policy, a seasoned pharmacoeconomics team from the School of Pharmacy, and other affiliated faculty and scholars from across USC and a number of other distinguished universities.

The Center is committed to developing exceptional human and technical capacity to conduct interdisciplinary research, policy analysis and training. More than 20 distinguished scholars and faculty work in the Schaeffer Center to investigate a wide array of topics. The Center's work is supplemented by a visiting scholars program and collaborations with other universities, allowing outside researchers to take advantage of the Center's research infrastructure and data.

The Schaeffer Center is actively engaged in training new investigators with excellent research skills who can be the "innovators of the future." At the same time, the Center is helping the next generation of health care leaders develop strong management, team-building and communication skills as part of this training.

The Center's vision is to become a premier research and educational institution recognized for innovative, independent research and significant contributions to policy development and health care system improvement. Its mission is to promote health and value in health care delivery by conducting rigorous research and policy in the United States and internationally. With its extraordinary breadth and depth of expertise, the Center will have a vital impact on the transformation of health care.

Transformational Gift for a Transformational Year



Leonard D. Schaeffer

TRANSFORMATIONAL GIFT

In 2012, the Schaeffer Center received \$25 million from Leonard D. Schaeffer to endow and support the Center’s mission. Mr. Schaeffer stands among our nation’s leading experts on health policy and, at USC, holds a Judge Robert Maclay Widney Chair, an extremely select appointment that bears the name of the university’s chief founder. His visionary gift ensures that as health care assumes an even more prominent place in public policy discussions, the Schaeffer Center will remain at the fore of these complex conversations, while offering a uniquely interdisciplinary perspective.

DAUTERIVE GROUNDBREAKING

In September 2012, ground was broken for Verna and Peter Dauterive Hall, the future home of the Schaeffer Center. Dauterive Hall will provide a place where USC faculty members from diverse disciplines can work together with thought leaders from other institutions around the world to tackle problems too complex to be resolved by any single discipline alone — problems related to energy and the environment, world hunger, affordable health care, global financial policy, border and transportation security, and more.

From advanced laboratories and the latest technology to central kitchenettes and a five-story atrium providing a prime location for informal gatherings, the building will be configured to foster connections and creativity among scholars. Dauterive Hall will be a building that does more than simply house great research with policy impact, but that actually engenders it by its design. The building is slated for completion in the summer of 2014.



(From left to right) Leonard D. Schaeffer, USC President C. L. Max Nikias, Verna B. Dauterive, USC Provost Elizabeth Garrett, and Dana P. Goldman at the groundbreaking for the Verna and Peter Dauterive Hall, a six-story structure dedicated to interdisciplinary learning.

Message from the Director



‘To innovate’ is defined as ‘to introduce something new.’ By conducting inventive, interdisciplinary research and questioning existing paradigms here at the Schaeffer Center, we continually innovate. The Schaeffer Center has held fast at the vanguard of health policy advancements by consistently introducing new concepts and methods to the health policy conversation. As such, I am proud to present this report entitled “Innovation” chronicling the Schaeffer Center’s activities and accomplishments over the past two years.

Within the past few years, the Center quickly became an integral voice in the national health policy dialogue. Our Center has maintained its stellar reputation for timely, nonpartisan analysis. The Center faculty have published numerous articles in a variety of peer-reviewed publications, and have presented their research findings for audiences that ranged from government officials to business leaders. We have brought the brightest minds together, as collaborators in our Center and through our numerous events and conferences. We celebrated our host schools’ jump in national rankings for health policy from ninth to fourth.

In this report, we highlight our pioneering work on priority health policy issues related to Medicare, cost containment, and human behavior and choice. We also showcase our dedication to training a new era of health economists who will be the future of the field. Health care policy has been hallmarked by a rapidly changing landscape over these last few years and the impact will be felt for generations to come. By providing innovative analyses for these changing times and by staying true to our core values of remaining relevant, rigorous and independent, we have flourished in this environment. As we share our exciting work and successes with you, our hope is that you continue to engage with us as we expand and innovate.

In closing, I want to thank our many champions, but in particular, Leonard D. Schaeffer, a life-long advocate for evidence-based health policy. I would also like to especially acknowledge Jack Knott, Dean of the Sol Price School of Policy and Pete Vanderveen, Dean of the School of Pharmacy, as always, for their unwavering support of the Schaeffer Center.

Sincerely,
Dana Goldman

Meet the Faculty, Fellows and Staff

CORE LEADERSHIP

- Dana P. Goldman**, Director
- Geoffrey F. Joyce**, Director, Health Policy
- Darius N. Lakdawalla**, Director, Research
- Neeraj Sood**, Director, International Programs
- Sadena Thevarajah**, Director, External Affairs
- Julie M. Zissimopoulos**, Associate Director

STAFF

- John Booker**, IT Consultant
- Alejandro Bugacov**, Quantitative Analyst
- Richard Chesler**, Project Specialist
- Laura Gascue**, Programmer/Quantitative Analyst
- Daniel George**, MIS Manager
- Tara Knight**, Program Manager
- Duncan Leaf**, Research Programmer
- Alice Liu**, Program Specialist
- Jacklyn Mancilla**, Administrative Assistant
- Raj Mehta**, Program Specialist
- Patricia St. Clair**, Senior Quantitative Analyst
- Devin Stambler**, Assistant Director of External Affairs
- Bryan Tysinger**, Research Programmer
- Zach Wagner**, Project Specialist
- Briana White**, Program Manager, Education and Training
- Cristina Wilson**, Contracts and Grants Manager

QUINTILES SENIOR FELLOWS

- Davis Agus**, Professor of Medicine and Engineering, Keck School of Medicine at USC and the Viterbi School of Engineering, M.D. University of Pennsylvania; B.A. Princeton University
- Jay Bhattacharya**, Associate Professor of Medicine; Ph.D., Economics, Stanford University; M.D., Stanford University; B.A., Economics Stanford University
- Amitabh Chandra**, Professor of Public Policy, Director of Health Policy Research, Director of Ph.D. Admissions, and Area Chair for Social and Urban Policy, Harvard Kennedy School of Government; Ph.D., Economics, University of Kentucky; M.A., Honorary Degree, Harvard University; B.A., Economics, University of Kentucky
- Eileen Crimmins**, AARP Professor of Gerontology, Davis School of Gerontology, USC; Ph.D., Demography, University of Pennsylvania
- Bob Kocher**, M.D., George Washington University; B.A. Political Science, B.S. Zoology, University of Washington

- Pat Levitt**, Provost Professor of Neuroscience, Pharmacy, Psychiatry, Pediatrics and Psychology, Keck School of Medicine at USC; Ph.D., Neurobiology, University of California, San Diego; B.A., Biological Sciences, University of Chicago
- Anup Malani**, Lee and Brena Freeman Professor of Law, University of Chicago and Professor, University of Chicago Pritzker School of Medicine., Ph.D., Economics, University of Chicago; J.D., University of Chicago Law School; B.S. Foreign Service, Georgetown University
- Tomas Philipson**, Daniel Levin Professor of Public Policy, University of Chicago; Ph.D. Economics, University of Pennsylvania; M.A. Economics, University of Pennsylvania; Undergraduate degree in Mathematics, Uppsala University, Sweden

QUINTILES CLINICAL FELLOWS

- Sanjay Arora**, Associate Professor of Emergency Medicine, Keck School of Medicine of USC; M.D. University of California, Los Angeles
- Steve Kim**, Assistant Professor of Clinical Urology, Children's Hospital Los Angeles; M.D. Cornell University; M.S. Clinical Epidemiology, University of Pennsylvania; B.S. Biology, Yale University
- Ashwini Lakshmanan**, Assistant Clinical Professor of Pediatrics, Keck School of Medicine of USC and Attending Neonatologist at the Newborn and Infant Critical Care Unit at Children's Hospital Los Angeles; M.D. Keck School of Medicine at USC; M.P.H. Harvard School of Public Health; B.S. Biological Sciences, B.A. Social Sciences (Economics), University of Southern California
- Michael Menchine**, Associate Professor of Clinical Emergency Medicine and Research Director, Keck School of Medicine of USC; M.D. University of California, Los Angeles; M.P.H. University of California, Los Angeles

FACULTY

- Jason Doctor**, Ph.D. Clinical Psychology, University of California, San Diego; B.A. Psychology, University of California, San Diego
- Dana P. Goldman**, Ph.D. Economics, Stanford University; B.A. Cornell University
- Joel W. Hay**, Ph.D. Economics, Yale University; M.A. and M.Phil. Economics, Yale University; B.A., Amherst College
- Marco D. Huesch**, Ph.D. Business Administration, University of California, Los Angeles; M.A. Economics, University of California, Los Angeles; MBA INSEAD, France; MBBS, Sydney University, Australia

- Geoffrey F. Joyce**, Ph.D. Economics, City University of New York; M.P.P., University of Michigan; B.A. Economics/Political Science, Connecticut College
- Darius N. Lakdawalla**, Ph.D. Economics, University of Chicago; B.A. Mathematics/Philosophy, Amherst College

- Yang Lu**, Ph.D. Policy Analysis, Pardee RAND Graduate School; M.P.P., University of Maryland; Bachelor of Law, University of International Business and Economics

- Jeffrey S. McCombs**, Ph.D. and B.A. Economics, University of California, San Diego

- Daniel L. McFadden**, Ph.D. Behavioral Science (Economics), University of Minnesota; B.S. Physics, University of Minnesota; 2000 Nobel Laureate

- Glenn Melnick**, Ph.D. Urban and Regional Planning, University of Michigan

- Michael B. Nichol**, Ph.D. Public Administration, University of Southern California; M.S. Public Affairs, University of Oregon; B.A. Political Science, University of Tulsa

- John A. Romley**, Ph.D. Economics, Stanford University; B.A. English/Economics, Amherst College

- Neeraj Sood**, Ph.D. Policy Analysis, Pardee RAND Graduate School; M.A. Economics, Indiana University-Purdue University Indianapolis; M.A. Economics, Delhi School of Economics, India; B.A. Economics, Delhi University, India

- Vivian Wu**, Ph.D. Health Policy, Harvard University; M.S. Health Policy, Harvard University; B.S. Rehab Medicine, National Taiwan University

- Julie M. Zissimopoulos**, Ph.D. Economics, University of California, Los Angeles; M.A. International and Public Affairs, Columbia University; B.A. Political Science and Spanish, Boston College

- Yuhui Zheng**, Ph.D. Policy Analysis, Pardee RAND Graduate School



Back row, from left to right: Yuhui Zheng, John Booker, Bryan Tysinger, Daniel George, Raj Mehta, Geoffrey Joyce, Neeraj Sood, Jason Doctor, Mike Nichol, Devin Stambler, Patricia St. Clair, Cristina Wilson, Laura Gascue. Front row, from left to right: Tara Knight, Marco Huesch, Briana White, Sarah Axeen, Sadena Thevarajah, Julie Zissimopoulos, Dana Goldman, Alice Liu, Richard Chesler, John Romley, Jeff McCombs, Vivian Wu, Alejandro Bugacov.

Meet the Schaeffer Center Advisory Board

LEONARD D. SCHAEFFER, ADVISORY BOARD CHAIR

Leonard D. Schaeffer currently holds the Judge Robert MacLay Widney Chair at the University of Southern California and is a Senior Advisor to TPG Capital, a private equity firm.

Mr. Schaeffer was the founding Chairman & CEO of Well-Point, the nation's largest health insurance company. His public service included appointments as Administrator of the federal Health Care Financing Administration (now CMS), Assistant Secretary for Management and Budget of the federal Department of Health, Education and Welfare, and Director of the Bureau of the Budget for the State of Illinois.

Mr. Schaeffer is a member of the Institute of Medicine and currently serves on the boards of the Brookings Institution, Quintiles, Amgen, Inc. and RAND Corporation. He also serves on the Board of Fellows at Harvard Medical School, the Editorial Board of Health Affairs, and the Advisory Boards of the National Institute for Health Care Management and RAND Health.

DREW ALTMAN, PH.D.

Drew Altman is President and Chief Executive Officer of the Henry J. Kaiser Family Foundation, one of the nation's largest private foundations devoted to health.

Dr. Altman is a former Commissioner of the New Jersey Department of Human Services. He was also Director of the Health and Human Services program at the Pew Charitable Trusts and Vice President of the Robert Wood Johnson Foundation.

Dr. Altman is a member of the Council on Foreign Relations and the Institute of Medicine. He is an innovator in the world of foundations and a leading expert on national health policy.

ROBERT BRADWAY

Robert Bradway is the Chairman and Chief Executive Officer of Amgen. In this role, he is responsible for the company's Global Commercial Operations, Manufacturing Operations, Global Value and Access, Information Technology, Global Government Affairs and Worldwide Compliance and Business Ethics organizations. Prior to joining Amgen, he was a managing director at Morgan Stanley in London where he had responsibility for the firm's banking department and corporate finance activities in Europe.

Bradway holds a bachelor's degree in Biology from Amherst College and an MBA from Harvard University. He is a member of the board of Norfolk Southern Corporation.

JOHN DIEKMAN, PH.D.

John Diekman is a founder and Managing Partner of 5AM Ventures. Previously, Dr. Diekman was a founder and Managing Director of Bay City Capital as well as Chairman and CEO of Affymetrix, Inc. where he still serves as a Director.

Dr. Diekman currently serves as Board Chairman of AmbRx and Envoy Therapeutics as well as on the Boards of Directors of Igenica, Ingenuity Systems, Marcadia, PhaseRx and Wildcat Discovery. He is a Special Advisor to the Singapore Economic Development Board, Trustee of Princeton University, and is also former Trustee of The California Institute of Technology and The Scripps Research Institute.

DENNIS GILLINGS, CBE, PH.D.

Dennis Gillings is the Executive Chairman and former Chief Executive Officer of Quintiles. He began providing statistical consulting and data management service to pharmaceutical clients in 1974 during his tenure as a professor of biostatistics at the University of North Carolina at Chapel Hill. Quintiles arose from his consulting activities and was incorporated in 1982 with 10 employees.

Dr. Gillings was born and educated in the United Kingdom. Today he serves on several boards and councils. He was honored by the Queen as Commander of the Most Excellent Order of the British Empire in 2004 for services to the Pharmaceutical Industry.

ROBERT INGRAM

Robert Ingram is General Partner of Hatteras Venture Partners, a venture capital firm. Mr. Ingram was the Chairman and CEO of GlaxoWellcome and co-led the merger that formed GlaxoSmithKline.

He currently serves as Lead Director of VALEANT Pharmaceuticals International and Chairman of Elan Corporation. He also serves on the boards of Allergan Inc., Cree Inc., Edwards Lifesciences Corporation, Pharmaceutical Products Development Inc. and PhaseBio Pharmaceuticals, Inc.

Mr. Ingram also serves on the boards of the James B. Hunt Jr. Institute for Educational Leadership and Policy, Research Triangle Foundation, H. Lee Moffitt Cancer Center, National Board for Professional Teaching Standards, President's CEO Roundtable on Cancer, and GlaxoSmithKline Foundation.

PAM KEHALY

Pam Kehaly is President of Anthem Blue Cross, the largest health benefits company in California. Previously, Ms. Kehaly was president of national accounts for Aetna. There she had responsibility for the division's profit and loss performance, and managed sales, underwriting, account management and operation teams.

Ms. Kehaly received a B.A. in Business Administration from California State University, Stanislaus. She is on the board of the California Association of Health Plans, the California Chamber of Commerce, and LA Adaptive Business Leaders. She is an active member of the Los Angeles Division of the Susan G. Komen Foundation.

BOB KOCHER, M.D.

Bob Kocher is a Partner at Venrock, focusing on health-care IT and services investments. Previously he was a Partner at McKinsey & Company, served in the Obama Administration as Special Assistant to the President for Healthcare and Economic Policy, and was a member of the National Economic Council.

Dr. Kocher currently serves on the boards of Castlight and Hope Street Group and the advisory boards of the National Institute of Healthcare Management, Harvard Medical School Health Care Policy Department, and ChildObesity180. He is also a non-resident senior fellow at the Brookings Institution and co-chair of the Health Data Initiative.

ROBERT MARGOLIS, M.D.

Robert Margolis is Co-Chairman of the Board, DaVita HealthCare Partners, and CEO, HealthCare Partners LLC, HealthCare Partners Medical Group. He was a founding and managing partner of HealthCare Partners' predecessor, California Primary Physicians Medical Group.

Dr. Margolis serves as a member of the HealthCare Policy Advisory Council for Harvard Medical School and the Executive Management School Advisory Committee of the School of Public Health at the University of California, Los Angeles. He is also on the boards of the National Committee for Quality Assurance, the California Association of Physician Groups, California Hospital Medical Center, Los Angeles, the Council of Accountable Physician Practices and Martin Luther King, Jr., Hospital.

MICHAEL A. MUSSALLEM, M.D.

Michael A. Mussallem is chairman and chief executive officer of Edwards Lifesciences Corporation. Dr. Mussallem has been chairman and chief executive officer since 2000 when the company spun-off from Baxter International. Prior to his current position, Mussallem held a variety of positions with increasing responsibility in engineering, product development and senior management at Baxter.

Mussallem is the former chairman of the board of directors of the Advanced Medical Technology Association(AdvaMed). He is currently on the boards and executive committees of AdvaMed, California Healthcare Institute and OCTANE, and is a trustee of the University of California, Irvine Foundation.

JOHN J. ORLOFF, M.D.

John J. Orloff, M.D. is the Chief Medical Officer and Senior Vice President, Global Development, for Novartis Pharmaceuticals. In this position, Dr. Orloff is responsible for providing strategic and scientific leadership for all processes within Global Development, and for representing Novartis externally in various forums interfacing with the scientific, academic, and health policy communities. In addition, Dr. Orloff serves as Chair of the Pharma Portfolio Stewardship Board (PSB), which oversees safety and risk management plans for products within Pharma.

Dr. Orloff graduated from Dartmouth College, received his medical degree from the University of Vermont, and completed specialty training in Endocrinology and Metabolism at Yale University, where he served on the faculty as an Associate Professor of Medicine.

NORMAN C. PAYSON, M.D.

Norman C. Payson is the former Chairman and CEO of Apria Healthcare Group. Dr. Payson was chairman of Viant Holdings and its predecessor company, Concentra, Inc., Chief Executive Officer of Oxford Health Plans, co-founder and Chief Executive Officer of Healthsource, Inc., and CEO of a 120 physician multispecialty group practice.

Dr. Payson is a graduate student lecturer at the Tuck School at Dartmouth, the Columbia University School of Public Health and the University of Chicago Graduate School of Business.

Dr. Payson is a graduate of the Massachusetts Institute of Technology and received his M.D. at Dartmouth Medical School.

THOMAS M. PRISELAC

Thomas Priselac has served as President and Chief Executive Officer of the Cedars-Sinai Health System since January 1994 and has been associated with the organization since 1979.

Mr. Priselac currently serves on the California Healthcare Foundation Board. He is a past Chair of the American Hospital Association Board of Trustees, the Association of American Medical Colleges and the California Hospital Association. The holder of the Warsaw/Law Endowed Chair in Healthcare Leadership at Cedars-Sinai Medical Center, Mr. Priselac also serves as an adjunct professor at the UCLA School of Public Health and is an author and invited speaker on a variety of healthcare issues.

ROBERT D. REISCHAUER, PH.D.

Distinguished Fellow Robert D. Reischauer was president of the Urban Institute, director of the Congressional Budget Office, and a senior fellow at the Brookings Institution. A nationally recognized economist, he frequently contributes to the opinion pages of the nation's major newspapers, comments on public policy developments on radio and television, and testifies before congressional committees.

Reischauer is the Senior Fellow of the Harvard Corporation, one of two public trustees of the Social Security and Medicare trust funds, and serves on the boards of several educational and nonprofit organizations. He was a member of the Medicare Payment Advisory Commission and also chaired the National Academy of Social Insurance's project.

JUDITH A. SALERNO, M.D., M.S.

Judith A. Salerno is the Leonard D. Schaeffer Executive Officer of the Institute of Medicine and is the executive director and chief operating officer of the Institute.

Dr. Salerno was Deputy Director of the National Institute on Aging (NIA), directed the continuum of Geriatrics and Extended Care programs for the U.S. Department of Veterans Affairs (VA), and was Associate Chief of Staff at the VA Medical Center in Washington, D.C. Dr. Salerno also cofounded the Washington D.C. Area Geriatric Education Center Consortium, a collaboration of more than 160 educational and community organizations. She has served on numerous boards and national committees concerned with health care issues.

DAVID SCHLOTTERBECK

David Schlotterbeck is the former Chairman and CEO of Aperio Technologies, an e-pathology company, and has been in the medical device industry for the past 22 years. He was President and CEO of Alaris Medical Systems, Vice Chairman of Cardinal Health, and Chairman and Chief Executive Officer of CareFusion.

Mr. Schlotterbeck is a graduate of the General Motor Institute with a B.S. in electrical engineering and an M.S. in electrical engineering from Purdue University. Mr. Schlotterbeck also serves as a member of the board of directors of Juniper Networks and Aperio Technologies since 2009. He retired in 2012.

ELLIOTT SIGAL, M.D., PH.D.

Elliott Sigal, M.D., Ph.D., is Executive Vice President, Chief Scientific Officer and President, R&D for Bristol-Myers Squibb. He serves on the Board of Directors for Bristol-Myers Squibb and the Mead Johnson Nutrition Company.

Dr. Sigal held various positions at the pharmaceutical company Syntex and was Vice President of Research and Development and later CEO at the genomics firm Mercator Genetics. He also served as faculty of the University of California, San Francisco (UCSF) Department of Medicine.

Dr. Sigal received his M.D. from the University of Chicago in 1981 and trained in Internal Medicine and Pulmonary Medicine at UCSF.

ROBERT J. SZCZERBA ,PH.D.

Dr. Robert J. Szczerba is the Corporate Director of Global Healthcare Initiatives and a Senior Fellow Emeritus for Lockheed Martin, a Fortune 50 company with approximately 120,000 employees worldwide and 2011 net sales of \$46.5 billion. Dr. Szczerba has a proven track record of strategic planning, program management, and new market exploration with a focus on transformational technology, business innovation and global growth. He is currently applying game-changing technologies from the aerospace and defense industries to the healthcare domain.



Leonard D. Schaeffer



Pam Kehaly



Thomas M. Priselac



Drew Altman, Ph.D.



Bob Kocher, M.D.



Robert D. Reischauer, Ph.D.



Robert Bradway



Robert Margolis, M.D.



Judith A. Salerno, M.D., M.S.



John Diekman, Ph.D.



Michael A. Mussallem, M.D.



David Schlotterbeck



Dennis Gillings, CBE, Ph.D.



Norman C. Payson, M.D.



Elliott Sigal, M.D., Ph.D.



Robert Ingram



John J. Orloff, Ph.D.



Robert J. Szczerba, Ph.D.

Medicare Research

The Schaeffer Center's Nobel Laureate Work

The future of the Medicare program poses one of the greatest policy challenges to the United States. This popular program has brought universal health insurance coverage to the elderly and others who would otherwise lack access to needed health services. Yet in several ways Medicare is an anachronism. Medicare's fee-for-service reimbursement system, combined with high beneficiary supplemental insurance, reduces beneficiary sensitivity to costs when making health care decisions. There is dramatic variation in per capita Medicare expenditures across the US which cannot be explained by demographic or health characteristics (high resource areas do not have superior health outcomes), which results in services that are often a poor match to the needs of many older Americans. To further compound Medicare's notable challenges, is the ever-present

issue of cost; the program is the largest fiscal liability of the Federal government.

THE SCIENCE OF MEDICARE REFORM

Addressing Medicare's fundamental shortcomings and ensuring a successful legacy requires new and unique approaches to innovatively address the immense dimensionality of the program. In late 2010, the National Institutes of Health (NIH) awarded the Schaeffer Center more than \$5 million to lead a multidisciplinary team spanning four research institutions to study specific applications of comparative effectiveness research (CER) to the Medicare program.

Schaeffer Center faculty, Daniel McFadden, is a major part of the Science of Medicare Reform effort. Dr. McFadden was awarded the Nobel Prize in Economic Sciences in 2000, along with James Heckman, for the development of theories and methods for

analyzing discrete choice. With Medicare Part D central to the current policy debate, the team focuses on consumer choice in the Medicare Part D marketplace.

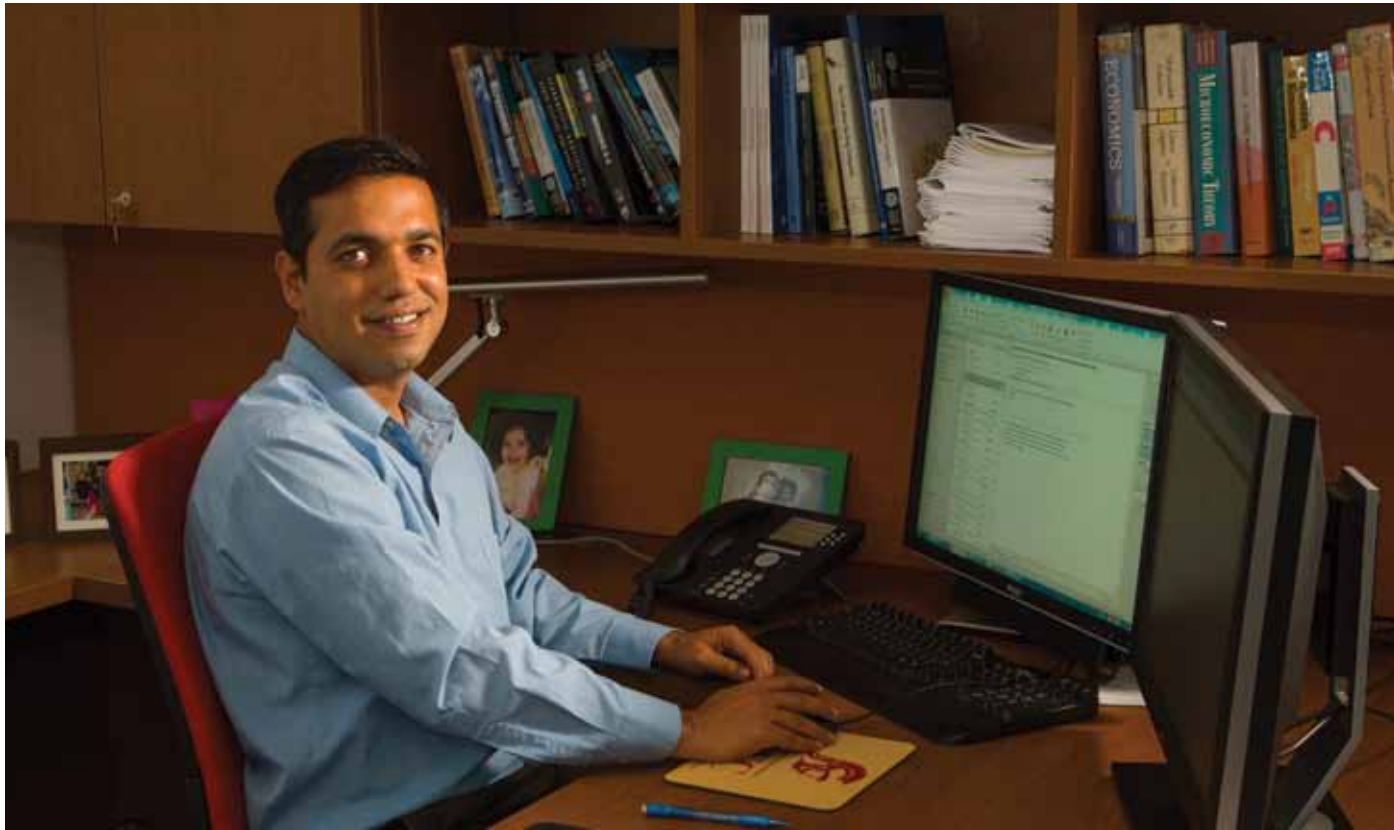
Science of Medicare Reform studies underway at the Schaeffer Center highlight the motivating factors determining beneficiary choice and firm behavior in the presence of complex regulations and information imperfections, which generate potential adverse selection. The Center's researchers have made impressive gains in the investigation of how formulary and benefit design affects completion, utilization, health and spending; and apply comparative effectiveness analysis to identify clinical areas for potential savings.

The Center's research suggests many consumers are making sensible choices among Part D plans. While few choose the best plan available to them and under-subscribe to generous plans, the amount consumers overspend is relatively modest. Initial comparative-effectiveness research using claims data highlights the power of this data source in evaluating competing drug therapies. The findings demonstrate the importance of several empirical and methodological issues that researchers should consider in conducting such observational studies. Schaeffer Center research results are specifically focusing on cost savings and the reduction of moral hazard, informing policy solutions essential for significant Medicare reform.



Nobel Laureate Daniel McFadden presents an economist's view of the 2010 Patient Protection and Affordable Care Act, explaining that government interference and private market shortcomings are both "serious contributors to the dysfunction of our health care system."

The National Institutes of Health awarded the Schaeffer Center more than \$5 million to lead a multidisciplinary team spanning four research institutions...



NEERAJ SOOD EXAMINES

Medicare's Bundled Payment Pilot

Medicare recently embarked on a national pilot program of bundled payments, which are payments for multiple services that a patient receives during an episode of care are linked together. Bundled payment systems have been proposed as a way to promote care that is both more efficient and less costly.

Neeraj Sood of the Leonard D. Schaeffer Center for Health Policy and Economics at the University of Southern California and colleagues from Harvard, UCLA and RAND helped shape the discussion on the promises and pitfalls of bundled payments by offering recommendations on two important design features: which conditions to include and how long an episode of care should be.

The researchers presented their findings at the Health Affairs Forum on Confronting Costs in September of 2011, to an audience of policymakers, regulators, academics and advocacy groups.

Their findings, based on Medicare data and looking at the pilot model for acute and postacute care, suggest that hip fracture and joint replacement are good conditions to include in the pilot because of their cost-savings potential and because these conditions pose less financial risk to providers. They also found that using longer episodes of care provides greater assurance that patients' conditions have stabilized and that patients do not need ongoing care, while only slightly increasing financial risk for providers. Overall, they recommended that the Medicare pilot test alternate design features to help foster payment innovation throughout the health care system.

Data Core

SCHAEFFER CENTER DATA CORE: STREAMLINED DATA MANAGEMENT

The purpose of the Schaeffer Data Core is to acquire, process, maintain, and make available key data sets for Center projects. The Data Core is responsible for all data management and oversight activities, including data acquisition and updating, preparation, integration, management, quality control, security, and archiving. Data Core staff provide expertise in measurement, in specification of key variables, and in interpretation across projects. Because the number of databases housed at the Schaeffer Center is quite large and because similar analyses will be performed on different datasets, the comparability of the databases is a critical issue.

The Data Core is charged with constructing Center-wide datasets in a common, uniform, and streamlined format, along with related documentation and other tools to facilitate data use among Center research projects. These activities will promote integration of information across projects and efficient use of large of large datasets. In addition, the Schaeffer Center Data Core serves as a repository for Medicare Part D data for the larger research community.

INNOVATIVE RESEARCH RESOURCES: INFORMATION SCIENCES INSTITUTE (ISI)

The Schaeffer Center has partnered with the USC Information Science Institute (ISI) and Dr. Carl Kesselman in the storage and processing of data to take advantage of the ISI research staff and models for large-scale data analysis. Dr. Kesselman and the Schaeffer Center have designed

and procured a new computing system to improve the processing time of complex modeling and simulation analyses. This includes a multi-processor, multi-core computational platform, a very high-bandwidth storage interconnect network, and optimized storage devices to enable high-performance queries over large data sets. Researchers at the Center access data stored at ISI through remote connection from their offices at CHPE. ISI is a world leader in research and development of advanced information processing, computer and communications technologies. A unit of the University of Southern California's highly ranked Viterbi School of Engineering, ISI is one of the nation's largest, most successful university-affiliated computer research institutes. The Institute attracts nearly \$60 million annually—from corporations and more than 20 federal government agencies—for basic and applied research. A pacesetter for nearly 40 years, ISI helped conceive, design and implement the Internet, including communications protocols that remain fundamental to Net operations. It also developed the Domain Name System (DNS) and its now-familiar ".com" address system. ISI is one of the premier data facilities in the world for analyzing large quantities of biomedical data. It serves as the home of the NIH National Biomedical Informatics Coordinating Center.

SCIENCE OF MEDICARE REFORM CONFERENCE



Julie Zissimopoulos presenting her research on how seniors respond to entering the Medicare 'doughnut hole'.

Medicare reform is one of the most hotly debated topics on the national agenda today. In January 2012, the Schaeffer Center brought leading scholars from USC and Harvard University together on the USC campus for a conference entitled "Science of Medicare Reform." Over two days, these experts presented work-in-progress in two areas: Medicare's prescription drug coverage and its private insurance option, Medicare Advantage.

Much attention has been given to the so-called "doughnut hole" in Medicare's drug coverage: the gap between an initial coverage limit and a point of "catastrophic coverage." While in this gap, Medicare beneficiaries pay all or a large fraction of their drug costs. Schaeffer Center professors Dana Goldman, Geoffrey Joyce, and Julie Zissimopoulos are investigating how seniors respond to entering the doughnut hole: To what extent do they start using generic drugs, for example, switch to cheaper drug substitutes, or discontinue therapy? Schaeffer Center professor Daniel McFadden is studying how well equipped Medicare consumers are to evaluate and optimize their choice of prescription drug plan. This work will yield a comprehensive view of decisionmaking among the Medicare population. And with corporate profits from drug sales to seniors rising, the Schaeffer Center's Darius Lakdawalla and Neeraj Sood are answering the question of whether Medicare's prescription drug program affects drug advertising. They use a unique database of advertising data on the top 1000 pharmaceutical products sold in the United States.

In the current environment, objective scientific research on the important issues involved in Medicare reform is vital. The innovative work presented at this conference is grounding controversy in data-driven fact, providing a basis for informed policymaking, and serving the public good.

Cost Cutting Measures

Issues in Cancer Care: Value, Costs and Quality

Schaeffer Center scholars authored a cluster of articles published in a special issue of Health Affairs entitled “Issues in Cancer Care: Value, Costs and Quality,” which provided a closer look at how much healthy people and cancer patients value treatment and hope. Taken together, the articles probed additional considerations for policymakers, patients, providers and others as to when a high-cost treatment is ‘worth’ the price.

THE VALUE OF HOPE

One analysis led by Darius Lakdawalla, director of research at the Schaeffer Center at USC and associate professor in the USC Price School of Public Policy, surveyed 150 cancer patients currently undergoing treatment. Lakdawalla and his co-authors found the overwhelming majority of cancer patients prefer riskier treatments that offer the possibility of longer survival over safer treatments: 77 percent of cancer patients said they would rather take a “hopeful gamble”—treatments that offer a 50/50 chance of either adding three years or no additional survival—to “safe bet” treatments that would keep them alive for 18 months, but no longer.

“Consumers tend to dislike risk, and researchers and policy makers have

generally assumed that patients care about the average gain in survival,” Lakdawalla said. “But patients facing a fatal disease with relatively short remaining life expectancy may have less to lose and be more willing to swing for the fences. This analysis points to the larger ideal—that value should be defined from the viewpoint of the patient.”

U.S. CANCER PATIENTS OUTLIVE THEIR EUROPEAN COUNTERPARTS

Tomas Philipson, Senior Fellow at the Schaeffer Center at USC and Daniel Levin Chair in Public Policy at the University of Chicago, and his coauthors, looked at the higher cost system of cancer treatment in the United States and compared it to care in 10 European countries from 1983-1999.

The United States spends more on cancer care than European countries, but the analysis suggests that this investment also generates a greater ‘value’ for US patients who typically live nearly two years longer than their European counterparts.

For most cancer types, U.S. cancer patients lived longer than their European counterparts, according to the results in the Health Affairs paper. Cancer patients diagnosed from 1995 to 1999 lived 11.1 years after diagnosis in the United States, on average, compared to 9.3 years after diagnosis in Europe.



Darius Lakdawalla surveyed cancer patients to learn more about how they value survival gains in treatment.

This analysis suggests that the higher-cost U.S. system of cancer care delivery may be worth it, say the authors, although further research is required to determine what specific tools or treatments are driving improved cancer survival in the United States.

WILLINGNESS TO PAY FOR COVERAGE OF HIGH-COST DRUGS

Healthy people are willing to pay more for generous coverage of high-cost drugs that treat cancer and other serious diseases, according to research led John A. Romley, an economist with the Schaeffer Center at USC and research assistant professor at the USC Price School of Public Policy.

On average, healthy people were willing to pay an extra \$12.94 per month for better

coverage of high-cost drugs. The cost of covering specialty drugs is about \$5 per month—meaning respondents were willing to pay \$2.58 in health care premiums for every dollar in out-of-pocket costs on a less generous insurance plan.

“If sick patients faced with the full cost of care decline to undergo treatment, one might conclude that these treatments are not ‘worth it,’” Romley said. “But our study shows that healthy individuals apparently dislike the financial risk associated with future treatment enough to finance the average cost of coverage across all beneficiaries. Indeed, they’re willing to pay more than the actual cost for coverage, suggesting that the value they place on it exceeds what it costs to provide.”

...value should be defined from the viewpoint of the patient.



A Convergence of Expertise

THE SCHAEFFER CENTER BRINGS GLOBAL SECURITY AND HEALTH CARE TOGETHER

Marco Huesch, MBBS, Ph.D., from the Schaeffer Center is collaborating with the Lockheed Martin Corporation, a global security and technology company, to develop new business models for safer and more efficient health care delivery. The two companies will combine their expertise to identify new ways to unlock value for patients, providers and payers in the health care system. New and revised business models are vital to making progress on improving the care experience, improving health outcomes and lowering costs.

Healthcare today demands that providers, insurers and consumers be held to account for higher-value choices. Revising and re-imagining currently fragmented clinical systems and complex financing arrangements is a key priority for policy-makers and private corporations alike, as is aligning the interests of patients, their physicians and hospitals, and sources of payment and funding. "Lockheed Martin has the expertise in information management, systems integration, and technology development to help transform care delivery not just here in the United States, but for patients and health systems around the world," Huesch says.

Hospital Spending and Inpatient Mortality: Evidence from California

JOHN A. ROMLEY, PHD; ANUPAM B. JENA, MD, PHD; AND DANA P. GOLDMAN, PHD

Research has demonstrated that regions spending more on medical care do not have better health outcomes than regions that spend less. However, less is known about the relationship between spending and health when a patient is admitted to the hospital with a life-threatening condition.

To investigate this issue, Romley, Goldman and Jena reviewed over 2.5 million discharge records of patients admitted to California hospitals between 1999 and 2008. The patients were admitted with one of six major medical conditions: heart attack, congestive heart failure, acute stroke, gastrointestinal hemorrhage, hip fracture or pneumonia.

The study found that, for all six conditions, patients admitted to the hospitals that spent the most were less likely to die in the hospital than those admitted to the hospitals that spent the least. For example, patients admitted to a high-spending hospital for a heart attack between 2004 and 2008 were 19 percent less likely to die than patients admitted to a low-spending hospital. Similarly, from 1999 to 2003,

patients admitted for a heart attack were 9 percent less likely to die in the hospitals that spent the most than in the lowest-spending hospitals.

The researchers also estimated the lives that could have been saved if the patients had been admitted to the highest spending hospitals rather than the lowest spending. They found that 5,198 lives from heart attack, 11,089 lives from pneumonia and 7,467 lives from stroke could have been saved.

The highest spending hospitals in the study spent three to five times more than the lowest spending hospitals. The variation in spending could be attributed to medical procedures, imaging and diagnostic tests, or time spent in intensive care. Alternatively, hospitals with the highest spending may spend more because they admit sicker patients that require more care. While the study did not investigate the reasons for higher spending, the findings inform the ongoing discussion of how to reduce healthcare costs.



Economist John Romley, presenting at a Health Affairs briefing in Washington, DC.

...patients admitted to the hospitals that spent the most were less likely to die in the hospital than those admitted to the hospitals that spent the least.

Understanding Health Care Decisions

Breathing Easier

BEHAVIORAL ECONOMICS TO IMPROVE TREATMENT OF ACUTE RESPIRATORY INFECTIONS

The Schaeffer Center’s growing community of behavioral economists and other experts on health care reform received a \$20 million boost with the announcement of three research grants, including an \$11.4 million award to Dr. Jason Doctor of the Center. The three-year grant from the National Institutes of Health is the largest ever received by the USC School of Pharmacy. Doctor, an associate professor trained in psychology and behavioral economics, plans to explore ways to dissuade doctors from prescribing antibiotics unnecessarily. His research partners include Schaeffer Center colleagues Dr. Dana Goldman and Dr. Joel Hay.

The grant to Doctor’s group aims to improve prescription practices for common acute respiratory infections, which include bronchitis and influenza. Aggressive antibiotic prescribing is a major public health concern for its suspected link to the spread of antibiotic-resistant bacteria.

“It’s widely agreed among physicians that antibiotics are overprescribed, but if you ask a physician about their own care of patients, they tend to see less of a problem,” Doctor said.

“Decisions can be affected by how the clinical environment is structured. If we can modify that structure while preserving physician choice, we may be able to improve prescribing decisions without forcing providers to abide by a particular rule.”

Doctor and his team will apply behavioral economics—the science of how people make decisions—to help reduce the frequency with which doctors prescribe antibiotics for certain acute respiratory infections.

Strategies might include designating non-antibiotic treatments as the default option for certain diagnoses within electronic prescribing systems and providing information to physicians about their rate of antibiotic



The Schaeffer Center hosted a two-day conference in furtherance of Doctor’s grant. Day One (attendees pictured here) included a site visit by the grant’s NIH Program Officer with presentations by the study’s investigators, including off-site collaborators from Boston and Chicago.

prescription compared to that of their best-performing peers.

“Fewer resistant strains means fewer people dying,” Doctor said.

R. Pete Vanderveen, dean of the USC School of Pharmacy, said: “Jason Doctor is an exceptional scientist who is conducting important research to address the serious national health issue of over-prescribing of antibiotics for respiratory infections.

“This project holds great promise for not only improving patient care but reducing health care costs—a critical national priority.” Steven Moldin, executive director of the Office of Research Advancement, added, “A unique component in Jason Doctor’s project is inclusion of underserved

populations through our partnership with community clinics.”

To make sure that strategies are tested in a variety of settings, the grant provides for collaboration with clinics in poorer districts of Los Angeles as well as in more affluent areas near clinics run by Harvard University, the University of Chicago and Northwestern University.

The grant is part of a \$1.1 billion commitment for comparative effectiveness research in health care and policy. Comparative effectiveness research, also called evidence-based health care, evaluates how various drugs, treatments and services stack up against one another in efficacy and cost.

Other investigators include Annie Wong-Beringer, associate professor at the USC School of Pharmacy; behavioral scientists Craig Fox and Noah Goldstein at the UCLA Anderson School of Management; and Daniella Meeker, John Adams and Emmett Keeler from RAND Corp.



Jason Doctor’s innovative behavioral economics research uniquely looks at physician behavior, instead of patient behavior.

This project holds great promise for not only improving patient care but reducing health care costs—a critical national priority.



Tough Choices for Parents

CAN MEDICATION COSTS IMPACT PARENTS' HEALTH CARE DECISIONS FOR THEIR CHILDREN?

Health insurance policies that shift costs to patients through higher co-payments may have serious unintended consequences for children, including less use of effective treatments and an increased number of hospitalizations, according to a study in JAMA by Schaeffer Center scholars Drs. Geoffrey Joyce and Dana Goldman.

In a sample of 8,834 patients from across the United States, the researchers looked at how out-of-pocket medication costs affect health outcomes for children. Larger co-pays have been associated with reduced medication use in adults, but the study is a rare look at whether price sensitivity

for health care applies when families are making decisions for their children.

"Health care plans have increasingly sought to restrain prescription medication spending by shifting costs to patients. But our study shows cost sharing may have social consequences for children who rely on the purchasing decisions of their parents, as well as wider health care costs, including a significant increase in hospitalizations," said co-author Dr. Dana Goldman, director of the Schaeffer Center.

The researchers looked at treatment for asthma, the leading chronic disease among children. For children under the age of five,

larger out-of-pocket costs did not affect whether parents bought the prescribed medication, according to the JAMA study appearing in the journal March 2012.

But for children older than five, parents who had to pay more for medication were slightly less likely to fill their child's prescription. Older children whose parents had the highest co-pays were also about 30 percent more likely to be hospitalized with an asthma-related condition than children whose parents paid the least for asthma medication.

"We didn't know if children are vulnerable to the same cost pressures for health care that we've seen in studies with adults—an important issue since children with chronic illnesses are especially vulnerable to the underuse of effective medical therapies, which can have lifelong implications," said co-author Geoffrey Joyce, director of health policy at the Schaeffer Center at USC and associate professor of pharmaceutical economics and policy at the USC School of Pharmacy. "This study shows that for children over the age of five, higher cost sharing is associated with modestly lower use of medications for the treatment of persistent asthma, though the effects are smaller than what we've observed with adults in prior work."

The researchers limited their sample to children with access to health care and with persistent asthma requiring long-term care. All children in the study sample were prescribed long-term asthma control medication for the first time during the study period and had access to health care through a private insurance plan.

"Barriers to health care clearly exist for uninsured children, but the association of greater medical cost sharing with the health care decisions insured families make for their children has been overlooked," said co-author Anupam Jena, senior fellow at the Schaeffer Center and a resident at Massachusetts General Hospital, Harvard Medical School.

For patients requiring long-term help controlling persistent asthma, medication guidelines recommend daily, year-round use to minimize lifelong problems. Children over the age of five whose parents had to pay the most for asthma medication had prescriptions filled to cover only 41.7 percent of recommended use, about five days less of medication per year than children whose parents had the lowest co-pays.

"Our finding that greater out-of-pocket medication costs was not associated with lower medication use among younger children suggests that parents may be less sensitive to cost for younger children, or may play a more active role with younger children," said Pinar Karaca-Mandic, assistant professor in the University of Minnesota School of Public Health and lead author of the study. "Ultimately, our study suggests that greater prescription medication cost sharing among children with asthma may lead to slight reductions in use of important medications and more frequent asthma-related hospitalizations."



Dr. Dana Goldman and Dr. Geoffrey Joyce.

Our study shows cost sharing may have social consequences for children who rely on the purchasing decisions of their parents... including a significant increase in hospitalizations.

Innovation in

Training for the Future



Schaeffer Center student Sarah Axen and Assistant Professor Vivian Wu review research findings.

Academic Programs

PH.D. IN HEALTH ECONOMICS

The USC Health Economics Ph.D. Program, housed at the Schaeffer Center for Health Policy, is offered by the Titus Family Department of Pharmaceutical Economics and Policy. Students receive training in microeconomics, econometrics, health economics, public finance, and pharmaceutical economics. The Center offers students a stimulating research environment through its distinguished lecture series, mentored research projects and access to rich data.

As a result, USC graduates are highly sought for their solid interdisciplinary background in theoretical and empirical research, and often assume teaching and research positions at universities, in industry and elsewhere.

The Center offers two PhD tracks, one in microeconomics and the other in pharmaceutical economics and policy.

MICROECONOMICS

Students in microeconomics complete the microeconomic theory and econometric sequence and coursework in health economics. They receive focused training and mentoring in health economics through collaboration on research projects led by distinguished health economists at the Schaeffer Center.

PHARMACEUTICAL ECONOMICS & POLICY

Students in pharmaceutical economics and policy specialize in areas such as cost-effectiveness, comparative effectiveness, drug therapy outcomes and organization of pharmaceutical markets. They collaborate on projects led by notable faculty with expertise in pharmaceutical economics and policy.

The Schaeffer Center also provides support to students who are in Master's Programs through the USC Price School of Policy and the USC School of Pharmacy:

MASTER OF SCIENCE IN PHARMACEUTICAL ECONOMICS & POLICY

The USC Pharmaceutical Economics and Policy master's program is conducted collaboratively with the Department of Economics, the Department of Preventive Medicine, and the Public Policy program of the USC Price School of Policy. Master's students are trained to use pharmaco-economics and assessment techniques in

practical decision-making environments such as hospital pharmacies, managed-care pharmacies, third-party payers and government agencies.

A distinguishing characteristic of the USC Pharmaceutical Economics and Policy master's program is the degree to which students are actively engaged in publishable research, either as the lead author or as a secondary author in collaboration with a faculty member.

MASTER OF HEALTH ADMINISTRATION

The USC Master of Health Administration (MHA) program has been training leaders

in health management and policy for more than 35 years. The MHA is a focused health management and policy degree that offers students breadth and depth in areas of specialization. By enrolling for this degree, students gain access to MHA faculty who are renowned experts in their field, develop strong ties to the healthcare community and gain access to numerous employment opportunities. The program includes a 1,000-hour administrative residency and is accredited by the Commission on Accreditation of Healthcare Management Education (CAHME).

Graduate Studies Directors

DR. MICHAEL NICHOL, DIRECTOR OF GRADUATE PROGRAMS IN HEALTH, CLINICAL PHARMACY & PHARMACEUTICAL ECONOMICS & POLICY

Dr. Nichol received his Ph.D. degree from the University of Southern California, and his M.S. from the University of Oregon. He served as associate director and executive director of a regional health planning organization prior to completing his doctorate. He serves on several journal editorial boards, and on the boards of several health care policy and research organizations. Currently, he is a professor of pharmaceutical economics and policy (USC School of Pharmacy), with joint appointments in the Andrus School of Gerontology and the Price School of Public Policy.

DR. JEFFREY MCCOMBS, DIRECTOR OF GRADUATE STUDIES, TITUS FAMILY DEPARTMENT OF CLINICAL PHARMACY AND PHARMACEUTICAL ECONOMICS & POLICY

Dr. McCombs received his Ph.D. degree from the University of California-San Diego. His research interests are in Health economics, technology assessment, competitive pricing systems, retrospective analyses using administrative data, and mental health economics. As a former government official in the Centers for Medicare and Medicaid Services (when it was formerly known as the Health Care Financing Administration), Dr. McCombs is often asked to comment on government programs.



Above: Jeffrey McCombs.
Below: Michael Nichol.

...students are actively engaged in publishable research, either as the lead or secondary author in collaboration with a faculty member.



Jeremy Barofsky with Schaeffer Center colleagues, Bryan Tysinger, Research Programmer and Zach Wagner, Project Specialist.

“My goal is to better understand how social health insurance programs can both improve health and reduce poverty in developing nations. By elucidating the interaction between low-income households, health providers, and regulation, my research can inform policy and improve health outcomes for vulnerable populations.”

Post-doctoral Work

SPOTLIGHT ON JEREMY BAROFSKY

Jeremy joined the Schaeffer Center as a postdoctoral fellow in 2012. He received his Ph.D. in Health Economics in Harvard University’s School of Public Health and his MA in Economics in 2005 and his BA in Economics and Public Policy in 2003, graduating Magna Cum Laude, both from Boston University. After receiving his MA, Jeremy worked for the Harvard Initiative for Global Health where he evaluated health system effectiveness including projects on measuring U.S. hospital performance and the introduction of social health insurance in Mexico.

Jeremy’s interests include health care finance; both how households protect themselves against health shocks in the developing world and how governments shield citizens from catastrophic health expenditure. In addition, he studies the impact of health on wealth and how formal and informal risk-sharing mechanisms affect the transmission of intergenerational

poverty. His interests also extend to using field experiments and behavioral economics to improve our understanding of health decision making and improving policy.

For his dissertation, Jeremy evaluates the impact of Mexico’s recently implemented social health insurance program called Seguro Popular. Using cluster-randomized data, he explores the program’s impact on health spending, poverty, health status and utilization, aggregates these benefits using an expected utility framework, and compares them to program costs. His other dissertation papers explore the factors that determine Seguro Popular affiliation, measures the extent of adverse selection, and tests a model of hyperbolic discounting as a reason for low Seguro Popular take-up.

Grants and Recognition

QUINTILES CHAIR IN PHARMACEUTICAL DEVELOPMENT AND REGULATORY INNOVATION

This past year, Darius Lakdawalla was named the inaugural holder of the Quintiles Chair in Pharmaceutical Development and Regulatory Innovation.

The Quintiles Chair was established in 2011 at the School of Pharmacy with the express purpose of recruiting a world-class expert with the interdisciplinary knowledge of both health economics and regulatory policy. The Chair provides leadership in scholarship and research at the intersection of these two disciplines, contributing to the ultimate shaping of the future of health care.

Lakdawalla initially came to USC as a professor at the Price School of Public Policy and now assumes a primary appointment at the School of Pharmacy with a joint appointment at the Price School. The Quintiles Chair allows USC to proactively address the shift in the regulatory environment for biopharmaceutical products in today’s global marketplace. The Chair supports focused research on identifying potential efficiencies that facilitate the arrival of products to market in cost effective way while ensuring safety and the crumbling of stumbling blocks in the system which prevent the utilization of these efficiencies.

Lakdawalla’s research primarily studies the economics of risk to health, medical innovation and the organization of health care markets. His work looks at how patients, health care providers and health care firms behave, and the resulting implications of that behavior for public policy. For example, he has looked at the broad social consequences of health insurance for innovation and well-being, the decision making of

firms assessing when and whether to pursue the development of a risky new medical technology, how health care providers cope with the risk of medical errors and malpractice and a variety of other topics in health policy and innovation.

Lakdawalla’s work focuses on understanding the long-term consequences of health policy and regulation for medical innovation and for future generations of patients. His work has investigated intellectual property and marketing in the pharmaceutical industry, regulatory exclusivity for drug makers, the design of incentives for medical innovation, the long-term impact of pharmaceutical price regulation and the appropriate role of physician and drug maker liability in the health care system. His work has been referenced by the Congressional Budget Office and has been published in leading journals of economics, medicine and policy, including *Health Affairs*, *Medical Care*, *Journal of Public Economics*, *New England Journal of Medicine*, *Archives of Internal Medicine*, among others.

Lakdawalla is currently a research associate at the National Bureau of Economic Research in Cambridge, Massachusetts, and an associate editor at the *Review of Economics and Statistics*. He is a recipient of the Milken Institute’s Distinguished Economic Research Award and the Garfield Prize for research on the economics of medical innovation.

Lakdawalla received his PhD in economics from the University of Chicago and his BS in mathematics and philosophy from Amherst College.

CENTERS FOR MEDICARE AND MEDICAID SERVICES

The Centers for Medicare and Medicaid Services (CMS) has awarded researchers at the Schaeffer Center a \$12 million grant that will bring pharmacists into safety-net clinics in Southern California as a way to improve medication adherence and safe and appropriate use of prescription drugs, with the intended result of optimizing patient health while reducing avoidable hospitalizations and emergency visits. This highly competitive program fielded more than 8,000 letters of intent and 3,000 full proposals to fund just over a hundred programs.

Dr. Geoffrey Joyce is the principal investigator on the project and also the director of health policy at the Schaeffer Center for Health Policy and Economics at USC and an associate professor at the USC School of Pharmacy.

Nationally, poor adherence to prescription drugs is reaching epidemic proportions, resulting in suboptimal health outcomes, avoidable hospitalizations,



Geoffrey Joyce describing his recently awarded CMMI grant to the Schaeffer Center Advisory Board.

higher risk of death and as much as \$290 billion in avoidable medical spending each year. More than half of all Americans have one or more chronic diseases, and for 90 percent of these patients medications are the first-line of treatment. Finding a way to get people to correctly take their medicine is an imperative step in transforming the health care system to improve care and save money, the charge of the Center for Medicare and Medicaid Innovation, the agency within CMS funding the project.

USC will work with AltaMed Health Services, initially launching the project in three treatment clinics in Orange County. The clinics are located in communities with large underserved populations vulnerable to health disparities and often with limited access to care. In many instances, these clinics are the only source of care for this large uninsured population with a high prevalence of uncontrolled diabetes, hypertension, asthma and heart disease. With pharmacists working collaboratively with physician colleagues, the project aims to use evidence-based treatment regimens to improve patient care and health outcomes while reducing costs.

The clinical aspects of the project will be directed by co-investigator Steven Chen, the Hygeia Centennial Chair in Clinical Pharmacy at the USC School of Pharmacy. Another part of the project, focusing on a web-based training/credentialing program for pharmacists to replicate the model, will be led by co-investigator Jeffery Goad, the USC School of Pharmacy’s vice chair for continuing professional development, credentialing and distance education.



Darius Lakdawalla

Grants and Recognition

MINORITY AGING HEALTH ECONOMICS RESEARCH CENTER

The National Institutes of Health recently awarded USC's Schaeffer Center with \$2.7 million over 5 years to establish a Resource Center for Minority Aging Research (RCMAR). The USC RCMAR is named the *Minority Aging Health Economics Research Center* and with this prestigious, highly competitive award, the Schaeffer Center joins a distinguished group of universities with an established RCMAR.

The Minority Aging Health Economics Research Center is led by Dana Goldman and Julie Zissimopoulos from the Schaeffer Center. The mission is to provide infrastructure and resources to increase the number, diversity, and academic success of researchers focusing on the health and economic well-being of minority elderly populations.

The Center is housed at USC's Schaeffer Center for Health Policy and Economics and brings together the resources of USC's Roybal Center for Health Policy Simulation, Roybal Institute on Aging, Alzheimer's Disease Research Center, and RAND's Roybal Center for Financial Decision Making.

The RCMAR will examine the differences across racial and ethnic groups of elderly in:

1. health care decision making, including medical care utilization and Medicare Part D plan choice;
2. health behaviors and outcomes; and
3. financial behavior including savings and work, and economic well-being.

The aims are to support research careers in the health and economic challenges of minority elderly; to solicit pilot studies; to mentor junior faculty (RCMAR scholars) in multidisciplinary training; to begin new lines of research; and to track and evaluate success of pilot investigators, RCMAR scholars.

Current RCMAR Scholars:
Cleopatra Abdou, Ph.D., conducts experimental and survey research to investigate how society, culture, stress and positive resources interact to affect health, well-being and aging more broadly over the individual lifespan and across multiple generations. Dr. Abdou's research focuses on African Americans, Arabs, and Latinos in the U.S. and Egyptians in the Middle East.



Dana Goldman and Julie Zissimopoulos lead the Minority Aging Health Economics Research Center.

Silvia Helena Barcellos, Silvia Helena Barcellos is an Associate Economist at RAND Corporation. Her research focuses on applied microeconomics topics in labor and development economics.

Ricardo Basurto-Dávila, Ph.D., is a health economist at the Los Angeles County Department of Public Health. He leads economic evaluations and policy analysis, furthering the Department's goal to increase its capacity for decisionmaking through the use of quantitative analysis.



Scholars and investigators convene to discuss the Minority Aging Health Economics Research Center.

Events and Media

Select Events

PROMOTING BIOMEDICAL INNOVATION AND ECONOMIC VALUE: NEW MODELS FOR REIMBURSEMENT AND EVIDENCE DEVELOPMENT

Held in April 2011, this event was co-sponsored with the Engelberg Center for Health Care Reform at the Brookings Institution. Discussions at this meeting highlighted important challenges facing biomedical innovation and our ability to pay for value in health care. The conference brought together representatives from the Food and Drug Administration, pharmaceutical companies and patient advocacy organizations to discuss how the federal health care law enacted in 2009 is affecting the costs of health care, as well as its impact on biomedical research. Former House Speaker Newt Gingrich provided the Opening Keynote Address, while former Obama Administration White House Budget Director, Peter Orzag, provided the closing address.

The conference resulted in the identification of promising policy directions to address the barriers to innovation, moving us closer to achieving the goal of promoting biomedical innovation while keeping access to new technology affordable.

VALUE & INNOVATION IN CANCER CARE

This fall 2011 symposium was co-sponsored with the Center for Health and Wellbeing at the Woodrow Wilson School of Public & International Affairs at Princeton University, and held in conjunction with the journal Health Affairs and Bristol-Myers Squibb. With a focus on Cancer, this symposium served as a model for how industry, academia, and the publishing media can work together to raise awareness for key policy questions to promote value and innovation in all aspects of Cancer care. Schaeffer Center faculty papers presented during the conference are featured in the April 2012 issue of Health Affairs, titled, Issues in Cancer Care: Value, Costs & Quality.

SCIENCE OF MEDICARE REFORM

Medicare reform is one of the most hotly debated topics on the national agenda today. In January 2012, the Schaeffer Center brought leading scholars from USC and Harvard University together on the USC campus for a conference entitled "Science of Medicare Reform." Over two days, these experts presented work-in-progress in two areas: Medicare's prescription drug coverage and its private insurance option, Medicare Advantage.

FRESH-THINKING: OVERCOMING OBSTACLES TO RAPID DIFFUSION OF COST-EFFECTIVE CARE

Focusing on cost-effectiveness in health care, this long-running series was co-sponsored with the Stanford Institute for Economic Policy Research. The goal of this invitation only conference was to bring together influential leaders from academia, industry and government for two days of intriguing presentations and discussions on ways to confront pressing health policy issues by utilizing innovative ideas on promoting the use of cost-effective care.

The FRESH-Thinking series addresses the details of health care reform policy options essential to all reform proposals. The overall objective of the FRESH-Thinking project is to convene a collaborative, multidisciplinary group of scholars who comprehensively study the specific, detailed challenges to health care reform. Their goal is to develop critical analyses to inform all comprehensive health care reform proposals.

Global Health Care Conference in Beijing



Dennis Gillings, Executive Chairman of Quintiles, speaking at the Global Health Care Regulation and Innovation Conference.

In June of 2012, the Leonard D. Schaeffer Center for Health Policy and Economics at the University of Southern California, the Guanghua School of Management at Peking University, and Quintiles brought together intellectual leaders from the United States and China to tackle the global challenges of health care regulation and innovation over a two-day conference in Beijing.

The conference opened with a dinner featuring Dr. Li Yin, Commissioner of the SFDA in China and former Vice Minister of Health. Other esteemed guests included two of the conference hosts, Dr. Hongbin Cai, Dean of the Guanghua School of Management and Dr. Dana Goldman, Director of USC’s Schaeffer Center; as well as Leonard D. Schaeffer, Former Chairman and CEO of Wellpoint; Dr. Pete Vanderveen, Dean of USC’s School of Pharmacy; and Heather Bresch, CEO of Mylan, Incorporated. Dr. Yin set the tenor for the conference by expressing his support for continued innovation and regulation in the

health care sector. In particular, he noted that the scientifically-documented efficacy of drugs that combine traditional Chinese medicine with Western medicine presents an interesting avenue for innovation that can work within the confines of a regulatory system that stresses safety and molecular efficacy.

The discussions continued the next day at Peking University, where attendees included government officials from the US and China, academics from Stanford University, MIT, and the University of Chicago, as well as pharmaceutical industry and health care delivery innovators, among many others. Each of the participants contributed a unique perspective on the future of global health care innovation and regulation. Dr. Dennis Gillings, Executive Chairman of Quintiles, charted the course for the rest of the conference by posing a vital question: how can those who are influential in the health care field best maintain and improve

global health at a time when regulatory science is becoming more complex and the wealth of nations is increasingly devoted to health care? The participants championed various solutions to this overarching question and the six major themes below emerged from the thoughtful exchange:

- Cooperate to ensure food and drug safety.
- Improve government financing of health care.
- Be aware of coming regulatory challenges from personalized or stratified medicine.
- Reform the payment system to improve delivery and population health.
- Share data on outcomes and patient satisfaction.
- Resolve the uncertainty in policy.

The conference participants appreciated that they are working within rapidly changing health care landscapes and that these changes are a joint result of new regulations in each country as well as of evolving technologies globally. Mr. Leonard Schaeffer aptly suggested that navigating this terrain without appropriate, effective leadership will make it impossible to face both the existing and coming challenges to global health care regulation and innovation. With all the solutions that were raised, yet more questions were created and all of the participants could agree that the insightful conversations borne of this conference were surely just the beginning of many more to come.

Schaeffer Center research is consistently covered by the media, and faculty are often approached to provide their opinion on current policy, regulatory actions and legislation. Below are examples of the notable media coverage of the Schaeffer Center and faculty.

Select Media Coverage

USC’s Price School was ranked 4TH in Health Policy and Management (up from No. 9) in the 2013 edition of “America’s Best Graduate Schools”, published by **U.S. News & World Report**. The Report also ranked USC’s Pharmacy School first among all private pharmacy schools.

Many Schaeffer Center faculty, including Dana Goldman, Darius Lakdawalla, John Romley, and Senior Fellow Tomas Philipson published research in a special issue of **Health Affairs**, focusing on value in cancer care. One million health system stakeholders interacted with the special issue and 99 news stories featured study results, including the **Wall Street Journal**, **New York Times**, **Politico**, **Reuters**, **Fox Business** and **NPR**. Additionally, two **Health Affairs** articles that were authored by Schaeffer Center faculty were among the Top 10 Most-Read Articles of **Health Affairs** for 2012.

Dana Goldman was often featured in the **New York Times**, including in an interview by Gina Kolata entitled “A Long View on Health Care- Think Like an Investor.” Goldman also blogs on the **New York Times** Economix blog. A particularly popular post Goldman coauthored was with the Center’s Nobel Laureate Daniel McFadden, and Adam Leive on “Why Medicare Plans Don’t Cost Less.”

The Chronicle of Higher Education also featured McFadden. The story noted that the prolific scholar will work with USC’s Schaeffer Center for Health Policy and Economics, with which he had already been collaborating on a research project that involves analyzing Medicare claims records and other data to determine how health insurance choices influence people’s health.

In the lead-up to the Supreme Court decision on the Affordable Care Act, Schaeffer Center faculty were frequently sought out for their expertise, with over a dozen news outlets conducting interviews with Schaeffer Center faculty to learn more about how the decision would affect Californians, in particular.

ABC News, **The Wall Street Journal**, and **KPCC-FM** all reported on research by Dana Goldman and Geoffrey Joyce of the USC Schaeffer Center for Health Policy and Economics with others, finding that higher insurance co-pays may lead to parents not filling prescriptions for their children.

In response to the biggest introduction of a generic drug in history, the **New York Times** quoted Geoffrey Joyce’s critique of Pfizer’s attempt to block generic versions of the blockbuster cholesterol drug, Lipitor, from being sold in many drugstores. Joel Hay also weighed in on the Lipitor issue to the **Los Angeles Times**, explaining the position of the pharmaceutical companies.

Hay’s expertise in pharmaceutical economics and practices also provided insight into the handling of a manufacturing error that resulted in the incorrect packaging of over-the-counter and prescription painkillers, as reported by the **Associated Press** and in Marketplace Morning Report, **American Public Media** regarding the Novartis recall and its effect on painkillers. Hay is also a frequent Op-Ed writer for the **Orange County Register**.

Julie Zissimopoulos and her colleagues through the MacArthur Network on an Aging Society spoke to Judith Graham



Professor Joel Hay is among our often cited researchers on a variety of issues, ranging from health care costs to comparative effectiveness.

and the **Association of Health Care Journalists** (AHCJ) in December of 2012. The researchers were interviewed regarding the social and economic fabric that older Americans contribute to.

Internationally, **United Press International** ran a news story on the U.S.-European life-expectancy gap that featured research led by Dana Goldman, Darius Lakdawalla and Senior Fellow Tomas Philipson. The research shows that Americans’ health around age 50 is overwhelmingly the main contributor to shorter life spans in the U.S. If levels of obesity, diabetes and hypertension in the U.S. dropped to European levels, the longevity discrepancy would disappear, the research shows. **Xinhua News Agency**, China’s largest news agency, also reported on the Schaeffer Center study, focusing on the effects of obesity on Americans’ life-expectancy, particularly compared to Europeans.

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About the Center’s Parent Schools

Educational Partners

ABOUT THE SOL PRICE SCHOOL OF PUBLIC POLICY

The USC Price School of Public Policy, founded in 1929, engages in research and education that advances society through better governance, more effective social policy, and sustainable urban development. Health care policy has topped the Price School’s research agenda for several decades. In the 2013 “America’s Best Graduate Schools,” published by *U.S. News and World Report*, the school ranked fourth in the country in Health Policy and Management. Overall, the Price School ranked sixth among 266 schools of public affairs nationwide, up from seven in 2010. This was the fifth consecutive top-10 national ranking the school has earned. In 2011, the school received a \$50 million naming gift to honor the legacy of Sol Price, founder of Price Club. Sol Price not only revolutionized the retail industry, he was a life-long philanthropist with a profound commitment to social justice. This gift further cements the school’s standing as one of the country’s most progressive and prestigious schools of public policy, and enhances the work of its world-renowned research centers.



Ralph and Goldy Lewis Hall is home to the USC Sol Price School of Policy, Planning, and Development, University Park Campus



Health Sciences Campus is home to the USC School of Pharmacy

ABOUT THE SCHOOL OF PHARMACY

Ranked by *U.S. News and World Report* as a top-ten pharmacy school nationwide and the top private pharmacy school, the USC School of Pharmacy continues its century-old progressive reputation through its programming and collaborations. Three of the School’s faculty are among the elite leadership team of the Southern California Clinical and Translational Science Institute, awarded a \$56.8 million NIH grant in 2011. Also in 2011, the School launched the International Center for Regulatory Science at USC, building on the School’s longstanding leadership in regulatory science which includes awarding the nation’s first doctoral degrees in the discipline. The School’s clinical enterprise, recognized for its innovative curriculum and community outreach, has launched the USC Medication Therapy and Safety Initiative aiming to double the School’s coverage to 24 safety-net clinics and medical homes by 2013. The School’s focus on clinical pharmacy, regulatory science, drug discovery and development, and health economics and policy positions it as a leader in the safe, efficient and optimal use of medication therapy that can save lives and improve the human condition.

In Memoriam: Dr. Kathleen Johnson



This past year, the Schaeffer Center lost a beloved member, Dr. Kathleen Johnson, vice dean of clinical affairs and outcomes sciences and chair of the Titus Family Department at the USC School of Pharmacy.

Dr. Johnson was a distinguished leader in the pharmacy profession whose career was marked by innovative projects that have been integral in the current national movement to expand the role of the pharmacist as the medication expert on the health care team. Her work to improve medication use and safety generally and for vulnerable, uninsured populations specifically distinguished her with several national awards.

She was one of only twelve professionals elected to the National Academies of Practice in recognition of achievements and contributions to health care practice. Also, Dr. Johnson, as a co-investigator, was awarded a CMS Innovation grant for \$12 million, which aims to use pharmacists to improve health outcomes and save money among patients in safety-net clinics.

Joining the faculty in 1984 as an assistant professor, Johnson assumed the chair of the Titus Family Department of Clinical Pharmacy and Pharmaceutical Economics & Policy in 2006. In 2007, she was named the William A. and Josephine A. Heeres Endowed Chair in Community Pharmacy. Her leadership extended beyond USC, and included serving on the task force of the University of California Office of the President- California Health Benefits Review Program, editorial board of the *Annals of Pharmacotherapy*, and the medication therapy review advisory panel of the American Pharmacists Association.

A dedicated professor, Dr. Johnson taught students pursuing the doctor of pharmacy degree as well as masters and doctoral students in public health and epidemiology and in pharmaceutical economics and policy. Her outreach work to the underserved communities in Southern California has been supported by grants from the Health Resources and Services Administration (Health and Human Services), UniHealth Foundation, QueensCare Foundation, Wellpoint Foundation, among others. Dr. Johnson is the author of over 50 papers and book chapters which have been published by leading pharmacy and managed care journals. Her clinical work has been featured in *USA Today*, *Reuters* and the *LA Times*. Her expertise established her as a sought after speaker among pharmacy professionals worldwide.

Dr. Johnson earned her PharmD from the USC School of Pharmacy in 1978. She received her MPH in 1983 and her PhD in health services research in 1991, both from the University of California-Los Angeles. Her career has been recognized with numerous awards, including

the American Pharmacists Association Pinnacle Award (group recognition in 2007), American Society of Health-System Pharmacists Best Practices Award (group recognition in 2008), and the American Association of Colleges of Pharmacy Transformative Community Service Awards (group recognition, 2009).

With a keen eye to unmet needs, Dr. Johnson was a leader in establishing clinical pharmacy practices in safety net clinics throughout Southern California. She also spearheaded an effort to prevent accidental poisonings among children through educational programming for children and parents in schools with largely Spanish-speaking populations. Her innovative approach paired service learning activities for pharmacy students with unmet community needs, providing students experience in serving diverse populations.

Dr. Johnson also actively pursued research focusing on the hemophilia and the barriers to care that exist among those with this disease. She has co-authored papers on this topic, with a special interest in care improvement and cost of care for hemophilia patients. Dr. Johnson was a featured speaker at the World Federation Hemophilia Conference.

A renowned international speaker and advisor on pharmacy issues, Dr. Johnson lectured extensively throughout Europe, Asia and South America throughout her career. In 2004, she was a visiting scientist for Japan’s Department of Health and Labor. Last May, she was an external examiner for The School of Pharmacy of the Chinese University of Hong Kong.

Dr. Johnson was a member of the American and California Pharmacists Associations, American Society of Health-System Pharmacists, Academy of Managed Care Pharmacy, the American Association of Colleges of Pharmacy, and the American College of Clinical Pharmacy. Prior to joining USC, she served as a pharmacist at California State University-Dominguez Hills Student Health and at Torrance Memorial Hospital. Early in her career, she worked as an intern for the World Health Organization, Pharmaceuticals Division, in Geneva, Switzerland.

Surviving Dr. Johnson is her husband, Wynnsan Moore, their two children, Kimberly and Alex, and her parents, Keet and Dorothy Johnson.