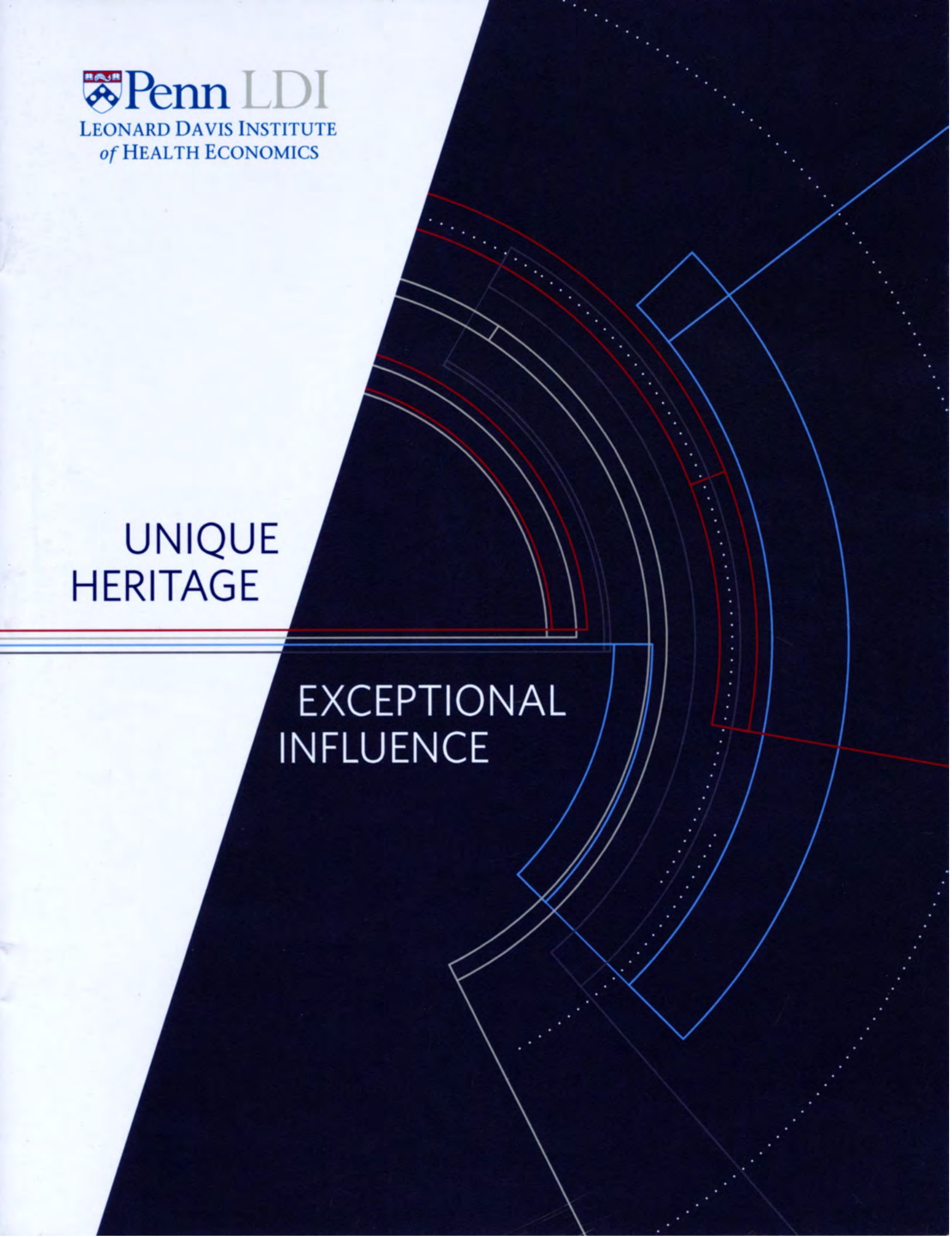
Penn LDI

LEONARD DAVIS INSTITUTE
of HEALTH ECONOMICS

UNIQUE HERITAGE

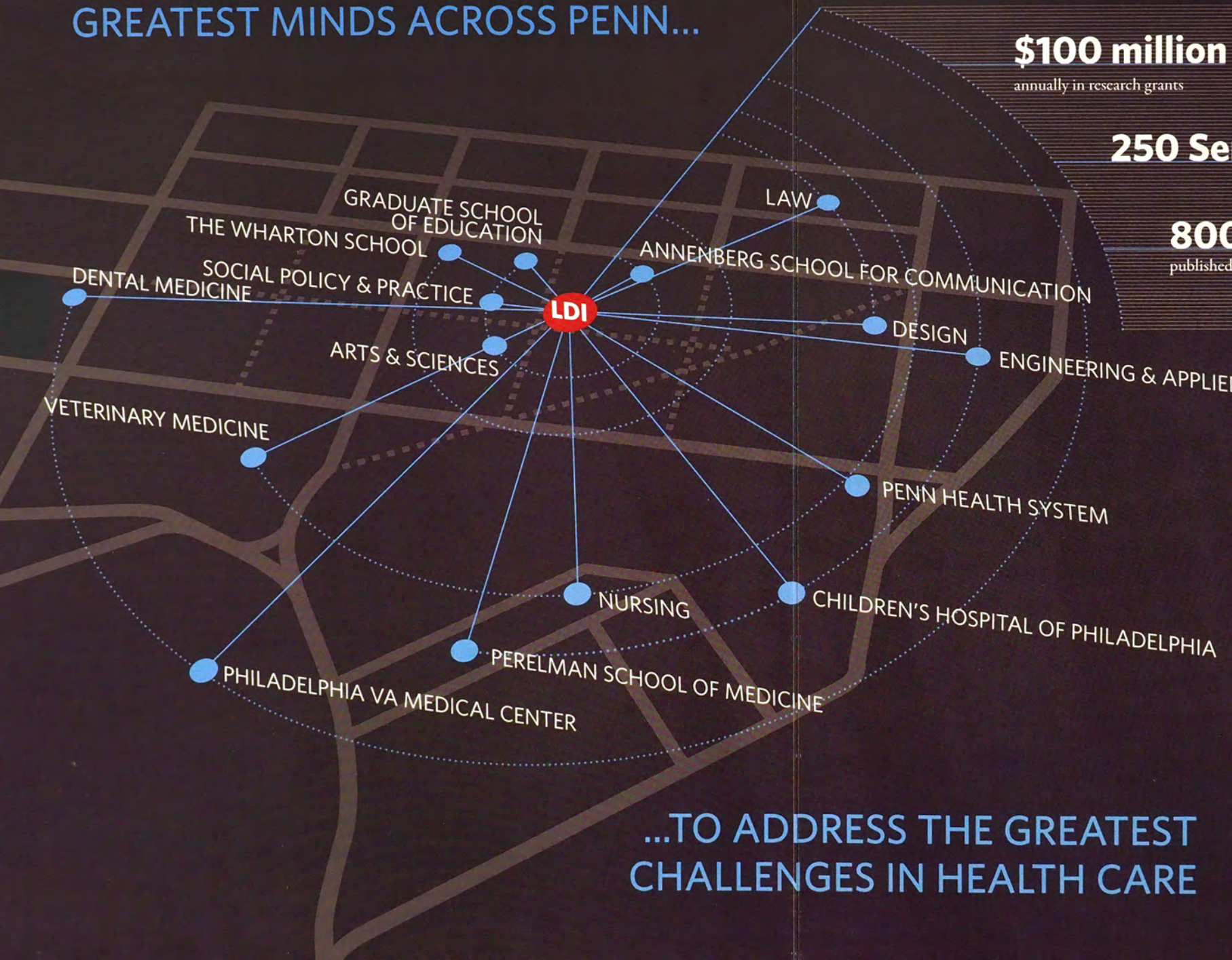
EXCEPTIONAL INFLUENCE



"LDI is the country's only truly interdisciplinary program of research in health care delivery and policy. I have never seen another program that sweeps across a big university like Penn, catalyzing collaboration between noted and productive scholars from every school to address the leading issues of the day in health policy."

— Linda H. Aiken
Claire M. Fagin Leadership Professor of Nursing
Professor of Sociology
Director of the Center for Health Outcomes and Policy Research
University of Pennsylvania

LDI BRINGS TOGETHER THE GREATEST MINDS ACROSS PENN...



$100 million
annually in research grants

250 Senior Fellows

800+ articles
published annually in peer-reviewed journals

...TO ADDRESS THE GREATEST CHALLENGES IN HEALTH CARE

FIRST THEN

THE STORY OF LDI

1967: Just two years have elapsed since the passage of Medicare and Medicaid.

Wharton School faculty recognize that the inextricable link between health care and economics deserves an independent academic focus.

They establish LDI, the first organization to marry the academic pursuits of a leading medical school and business school. Over 50 years, LDI expands its footprint to become Penn's hub for collaboration on health research and policy, linking all 12 schools on a contiguous campus. By engaging and supporting scholars across disciplines, LDI yields innovative solutions to the most pressing health care challenges.

LDI's 250 Senior Fellows represent the most productive and influential health policy research group in the country, with 21 members of the National Academy of Medicine. With advanced degree programs in health care management, policy, and research, LDI has produced more than 2,500 Penn graduates, now leaders in academia, government agencies, foundations, health care organizations, and industry.

FIRST NOW RESEARCH THAT MAKES A DIFFERENCE

LDI focuses on four key areas, producing knowledge that translates into better health care in America.

IMPROVING HEALTH CARE DELIVERY

Gone are the days of physician house calls and community hospitals as the sole sources for medical services. Today, health care is delivered in a wide variety of inpatient and outpatient settings, by a growing range of professionals with varied training and perspectives. LDI studies how health care is financed, organized, and delivered to improve value, quality, and cost.

Nurse health services researcher **Mary Naylor,** for example, designed the team-based Transitional Care Model for transitioning high-risk older adults from hospital to home, which has been proven to reduce rehospitalization and lower cost of care. It has expanded to sites such as patient-centered medical homes, enabling older adults to remain in their homes and preventing costly acute care use.

OPTIMIZING INSURANCE MARKETS

The quest to make care accessible through affordable health insurance is in LDI's DNA, as namesake Leonard Davis, founder of the Colonial Penn Group, Inc., was an architect of the nation's first health insurance plans for retirees. Leading the charge has been former LDI Executive Director and economist **Mark Pauly**, often referred to as the grandfather of the individual mandate.

In 1991, Pauly and economist **Patricia Danzon** called for a mandate that every American purchase insurance with tax credits based on family income—a concept that continues to frame current conversation among researchers and policymakers alike.

MOTIVATING HEALTHY BEHAVIORS

Good health care leads to better health, but so do individual decisions about healthy behaviors. Since 2008, LDI's Center for Health Incentives and Behavioral Economics (CHIBE) has led the nation in applying theories of behavior change to health and health care to address pressing public health problems such as tobacco dependence and obesity.

In a seminal 2010 study, CHIBE Founding Director **Kevin Volpp** found that financial incentives tripled smoking cessation rates among General Electric employees; subsequently, GE implemented a similar program for all of its 152,000 U.S. employees. The *British Medical Journal* honored the work with its Group Award for Translating Research into Practice.

LDI researchers are applying these behavioral economics insights across many domains. In looking at medication adherence among Medicare patients, for example, economist **Jalpa Doshi** found that simply synchronizing refills for common maintenance medications led to better adherence rates.

REACHING VULNERABLE POPULATIONS

In a large and diverse country, providing access to quality health care for all is a challenge. LDI digs deep to understand the mechanisms affecting populations made vulnerable by demographic or geographic disparities. LDI researchers have analyzed issues from appointment availability for Medicaid-eligible patients, to neighborhood effects on health outcomes, to the "leaky pipeline" for minorities in health professions.

In one example, a working group led by internist and pediatrician **Shreya Kangovi** developed a community health worker program to help patients set and achieve their health goals. Their work led the Penn Health System to support programs of this kind by establishing the Penn Center for Community Health Workers.

Penn LDI: 50 YEARS OF INFLUENCE AND IMPACT

LDI scholars have made a unique impact on the history of U.S. health care.

1965:
President Lyndon Johnson enacts Medicare and Medicaid. The laws, drafted in part by William Kissick, provide unprecedented health coverage for elderly and low-income Americans.

1967:
LDI is established at Wharton with the support of Leonard Davis, an innovator in private health insurance, and his wife, Sophie.

Robert Wood Johnson Foundation

1973:
Penn becomes an early site of the Robert Wood Johnson Clinical Scholars Program, the first of its kind to provide post-residency training in health services research and policy.

Congress enacts the Health Maintenance Organization Act, based largely on the academic work of Robert Eilers.

1978:
Arnold "Bud" Relman establishes Penn's Division of General Internal Medicine, naming John Eisenberg as its founding chief.

1985:
Under Mark Pauly's leadership, Wharton establishes the first PhD program dedicated to health care systems research, which continues today as a PhD in Health Care Management and Economics.

1968:
LDI drives the creation of a Health Care Management MBA at The Wharton School, a prototypical degree in advanced business management for health care industry professionals.

1970–1971:
Rising to the top of the political agenda, National Health Insurance is the focus of a national conference hosted by LDI and a two-part article in the *New England Journal of Medicine* by Robert Eilers.

1976:
LDI establishes the National Health Care Management Center, the first federally funded research center devoted to the management and organization of health care.

1981:
LDI hosts a meeting of the country's leading health services researchers and policymakers, who elect to form a professional organization called the Association for Health Services Research, now known as AcademyHealth.

AcademyHealth

1987:
In response to Philadelphia's growing AIDS crisis, LDI houses the newly created Philadelphia Commission on AIDS, led by Mark Smith.

1998:
Linda Aiken establishes Penn's Center for Health Outcomes and Policy Research, now an international leader in health workforce and outcomes studies and advanced training for nurse health services researchers.

1999–2000:
LDI research on health disparities draws the attention of national agencies including the VA and the Institute of Medicine. LDI launches its Summer Undergraduate Minority Research (SUMR) pipeline program.

2013:
Six months before the launch of HealthCare.gov, LDI holds the first annual National Health Insurance Marketplace Conference, a new forum for academics, government officials, and insurance professionals from across the country to understand and improve the marketplaces.

HealthCare.gov

2008:
LDI founds the Center for Health Incentives and Behavioral Economics (LDI CHIBE), one of only two NIH-funded centers dedicated to behavioral economic research in health.

2013:
LDI alumni break new ground, as Katrina Armstrong becomes Massachusetts General Hospital's first female physician-in-chief and Patrick Conway is named the first director of the Center for Medicare and Medicaid Innovation.

1994:
William Kissick publishes his landmark "Iron Triangle" theorem of the three competing elements that define the health care system: access, quality, and cost containment.

1997:
John Eisenberg becomes director of the federal Agency for Health Care Policy and Research, providing pivotal leadership as it transitioned to the present Agency for Healthcare Research and Quality (AHRQ), earning the nickname "John of AHRQ."

2004:
David Brailer is appointed the first national health IT czar, and promotes widespread adoption of electronic health records.

2010:
The Affordable Care Act is enacted to greatly expand health insurance coverage and to reform health care delivery towards value. Ezekiel Emanuel, an architect of the law, joins Penn the next year.

2012:
LDI collaborates in establishing the Penn Medicine Center for Health Care Innovation, developing and testing new health care delivery strategies for better outcomes and value.

2017:
LDI marks its 50th Anniversary and convenes alumni, policymakers, and industry leaders throughout the year to shape the future of health care.

1967 2017 50 YEARS

1965 1967 1968 1970 1973 1976 1978 1981 1985 1987 1994 1997 1998 1999 2004 2008 2010 2012 2013 2017

LEADERSHIP

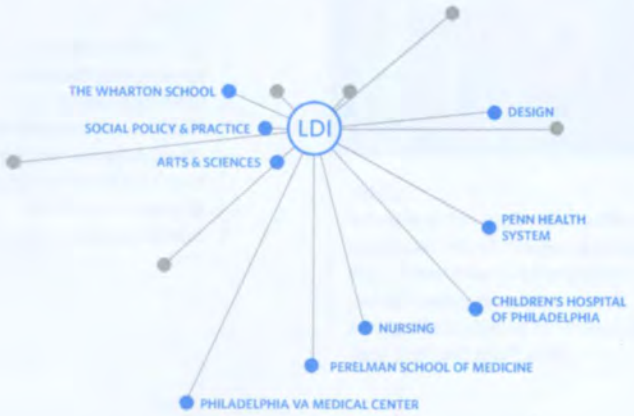
Robert Eilers | Samuel Martin III | William Pierskalla | John Hershey | Mark Pauly | J. Sanford Schwartz | David Asch | Daniel Polsky

COLLABORATING FOR MAXIMUM IMPACT

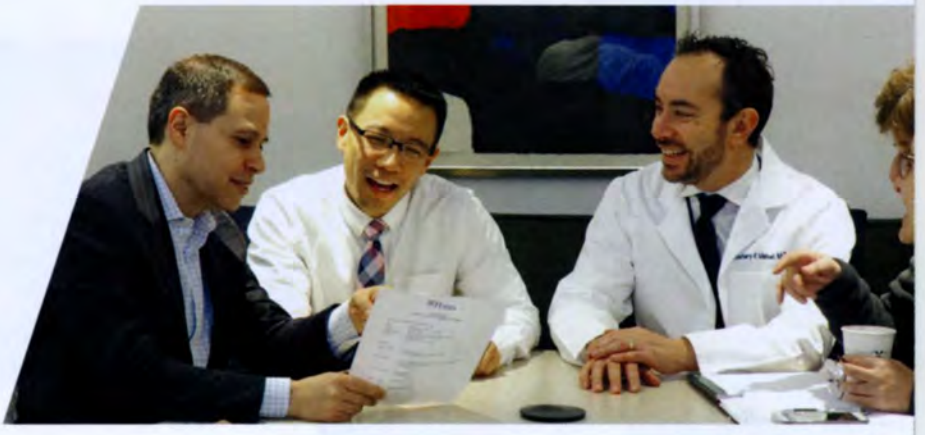
MEASURING AND IMPROVING QUALITY

With the new emphasis on paying for "value" in health care, quality measurement is more important than ever. How can we determine which metrics to use to improve care?

In a study AcademyHealth named its Article of the Year, LDI Executive Director **Daniel Polsky**, internist/economist **Rachel Werner**, and co-authors revealed that many nursing home operators were "gaming" the federal government's Nursing Home Compare system.



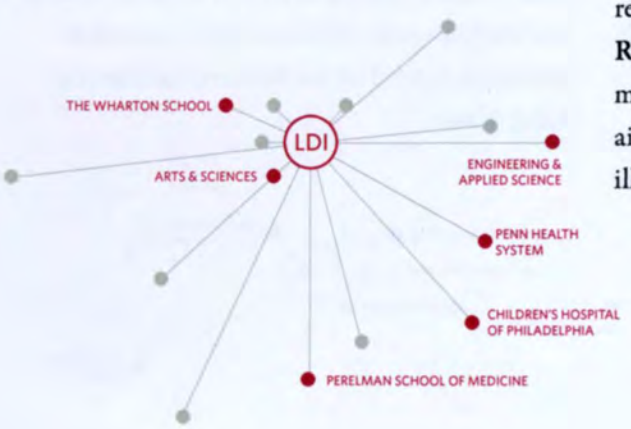
Anesthesiologist **Mark Neuman** and pediatrician/economist **Jeffrey Silber** have identified important features affecting a patient's functional status and outcomes after hip surgery. An international authority on outcomes measurement, Silber developed a number of widely used outcome measures that have been adopted by the National Quality Forum, including "failure to rescue." In a longstanding collaboration, Silber and nurse/sociologist **Linda Aiken**, who leads the Center for Health Outcomes and Policy Research, have produced metrics that now serve as tools to transform the quality and efficiency of health care.



BIG IDEAS FOR BIG DATA

Can Big Data help identify, in real time, the patients at highest risk for changes in health in the hospital, at home, and in the community?

To find out, LDI used a $5 million grant from the Pennsylvania Department of Health to implement collaborations involving Penn, Temple, and Carnegie Mellon; private insurers; and innovators Apple and Intel. The project promises to transform the focus of our health care delivery system from treating expensive clinical events after they occur to preventing common and high-risk events in the first place.



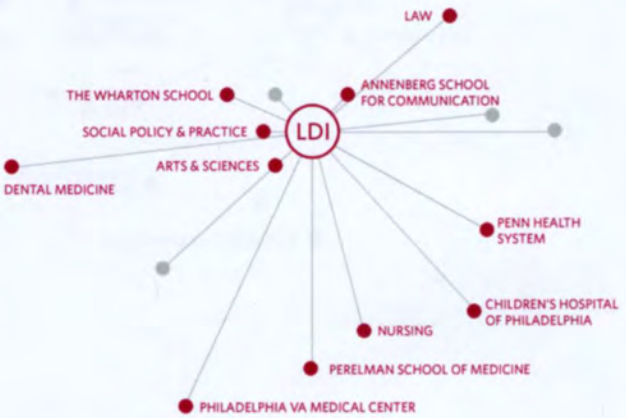
Internist/economist **Amol Navathe** is using a unique data platform designed by Penn Medicine to predict which patients might develop complications after surgery. By integrating data from patients, insurance claims, and electronic health records, internist **Mitesh Patel** is seeking to identify which patients are likely to be readmitted to the hospital. A team of physicians, computer scientists, demographers, and health disparities researchers led by emergency medicine physician **Raina Merchant** is building a tool based on social media and statewide data to predict and monitor ailments like heart disease, cancer, and foodborne illness at a community level.

TARGETING SUBSTANCE ABUSE

With more than two million people addicted to opioids, the United States is facing a high-stakes epidemic. What is the most effective way to combat it?

The Penn opioid task force, led by emergency medicine physician **Zachary Meisel**, convenes researchers across disciplines from eight Penn Schools and six external organizations to address substance abuse issues. Economist **Abby Alpert,** anesthesiologist **Michael Ashburn**, nurse **Salimah Meghani**, and others are studying multiple ways to alleviate the opioid crisis at reduced expense, including interventions targeted at providers, patients, and the public.

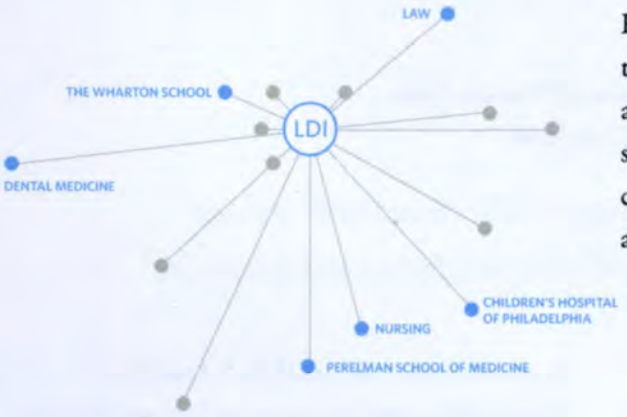
This timely work is supported by The Center for Health Economics of Treatment Interventions for Substance Use Disorders, HCV, and HIV (CHERISH), a collaboration between LDI, Weill Cornell Medicine, Boston Medical Center, and the University of Miami Miller School of Medicine, funded by the National Institute on Drug Abuse.



TOWARD AFFORDABLE, EFFECTIVE INSURANCE

How do health insurance markets function, and how well does the health insurance that's available meet the needs of consumers?

Daniel Polsky, executive director of LDI, leads an investigation of the link between insurance expansion and provider access, and studies the cost and quality implications of limited provider networks, also known as "narrow networks."



At the nexus of health care, insurance, and the law, legal scholar **Tom Baker** and economist **Robert Town** study the effects of the Affordable Care Act's state marketplaces on how consumers pick health plans, and the insurance outcomes of those choices.

Economist **Jalpa Doshi** directs a policy lab that examines how prescription benefit design and reimbursement policies impact access to specialty drugs and the quality and cost of health care for patients with life-threatening, chronic, and rare diseases.

PLATFORMS FOR BEHAVIOR CHANGE

How can health care providers measure, monitor, and encourage healthy behaviors beyond the few hours they spend with their patients?

LDI CHIBE faculty and staff, working with software developers, designed "Way to Health," an efficient, scalable, and low-cost way to test behavioral interventions using a platform that can be deployed anywhere in the United States. The mobile platform, used by more than 10,000 participants across 45 states, automates many functions of randomized trials with features such as two-way text messaging, interactive games, monetary incentives, and team engagement.

This effort is led by **Kevin Volpp**, a VA Medical Center physician and founding director of LDI CHIBE; former LDI Executive Director **David Asch,** who now leads the Penn Medicine Center for Health Care Innovation; and **Roy Rosin**, chief innovation officer at Penn Medicine and formerly VP of innovation for Intuit.

INSPIRING THE NEXT GENERATION

LDI is preparing a diverse generation of researchers to shape health policy and bring LDI's collaborative spirit to other institutions.

CHARLENE WONG

Assistant Professor, Division of Primary Care, Duke University School of Medicine

"LDI allowed me to meet collaborators with different lenses and expertise who shaped my research portfolio."

As a Robert Wood Johnson Clinical Scholar, adolescent medicine pediatrician Charlene Wong explored her interest in youth health access and developed as a clinician-researcher by working with LDI's Health Insurance Exchanges Working Group and a multidisciplinary team of mentors and scholars.

In just two years, she published articles in *Health Affairs* and the *Annals of Internal Medicine* that illuminated how to improve the choice environment on the health insurance exchanges.

SMALL GRANTS, BIG IMPACT

In addition to providing access to an interdisciplinary community, LDI launches early research careers by providing seed funding to promising lines of inquiry. The LDI Small Grants Program selects about 15 worthy research projects each year, like Anita Ravi's work with survivors of sex trafficking.

"This grant has transformed the trajectory of my career," says Ravi, a family medicine physician and Robert Wood Johnson Clinical Scholar who collaborated with the New York City Department of Health and Mental Hygiene. "It enabled me to start and sustain a new primary care clinic for this vulnerable and, for now, largely invisible population. The ripple effect of this work is ongoing."

LORRAINE DEAN

Assistant Professor of Epidemiology,
Johns Hopkins Bloomberg School of Public Health

"This program has had a handprint on every single step in my career."

As a Penn undergraduate studying the biological basis of behavior, Lorraine Dean knew she wanted a career in medicine, but was unfamiliar with health services research. Fortunately, a faculty member recommended the LDI Summer Undergraduate Minority Research (SUMR) program. The experience connected Dean, a first-generation college student, to a network that led her to a Fulbright Scholarship in Venezuela, a doctoral program at the Harvard T. H. Chan School of Public Health, and, most recently, a research career at Johns Hopkins, studying the financial impact of breast cancer.

"I can't overemphasize how important this level of support is for first-generation and minority students like me," Dean says. "LDI gave me a context for focused attention that helped guide my career path."

In the intervening years, Dean mentored subsequent SUMR students, several of whom co-authored publications with her. Dean's example has also inspired younger cousins in her family to pursue higher degrees and consider health careers.

SUMR@PENN

Since 2000, the LDI Summer Undergraduate Minority Research program has introduced underrepresented minority students to the disciplines and culture of the academic health services research community. During a paid 12-week internship, SUMR scholars gain direct research experience under the close mentorship of LDI-affiliated faculty. Nearly 200 students from across the country have completed the program and almost half have gone on to doctoral-level programs in health-related fields.

BRINGING ANSWERS CLOSER, SOONER

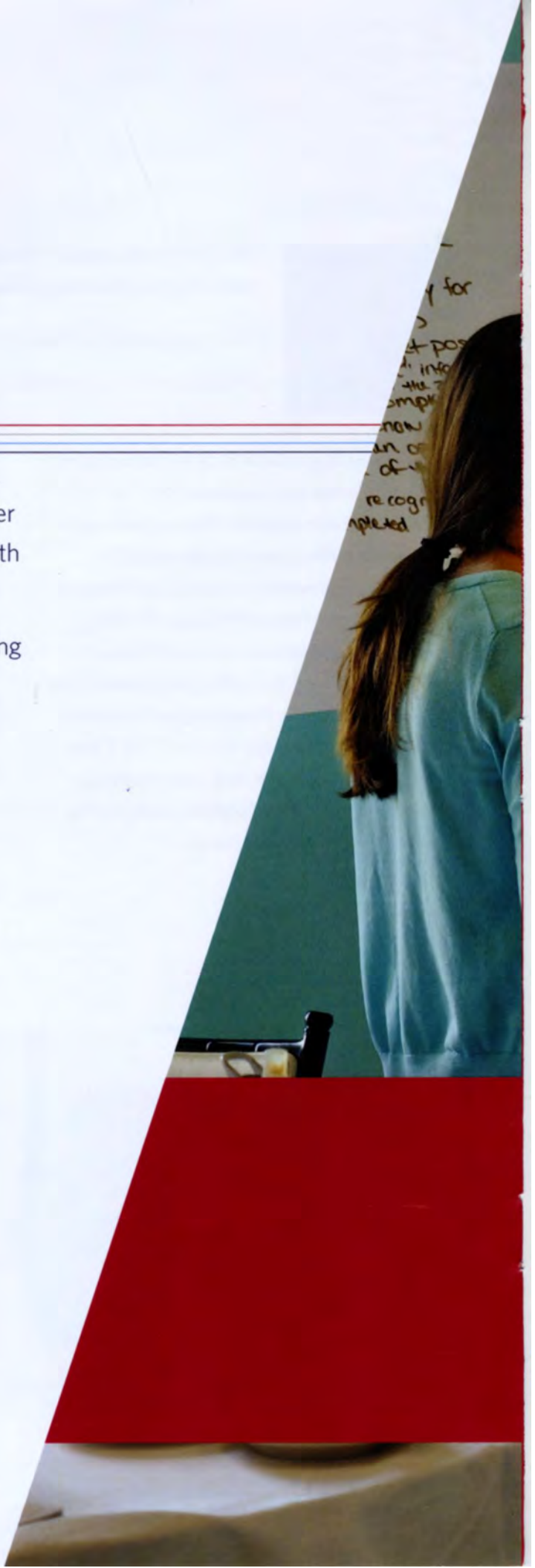
As we look toward our next 50 years, LDI works to further our vision of a health care system that promotes the health and well-being of all patients and communities.

Our community of researchers is committed to discovering ways to provide affordable, high-value health care that effectively engages patients and vulnerable populations.

We welcome partners in this effort, to:

- Support our venture fund to incubate tomorrow's solutions to today's problems.
- Expand our research infrastructure and platforms for policy engagement.
- Develop the next generation of LDI scholars.

We invite your inquiry.



"In terms of health care research and policy, Penn stands out from other institutions because of LDI. It has a proven track record of training physician and non-physician researchers and leaders."

— David Blumenthal, President, The Commonwealth Fund

"Everyone's looking for the next new idea. LDI takes a unique perspective on issues of the day, publishing research that you don't usually see in the normal course of keeping on top of the industry. They don't plow the same ground that's been plowed."

— Tim McDonald, Partner, Guidon Partners

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