

PROFILES *in* INNOVATION



INSTITUTE FOR
HEALTHCARE POLICY
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PROFILES *in* **INNOVATION**



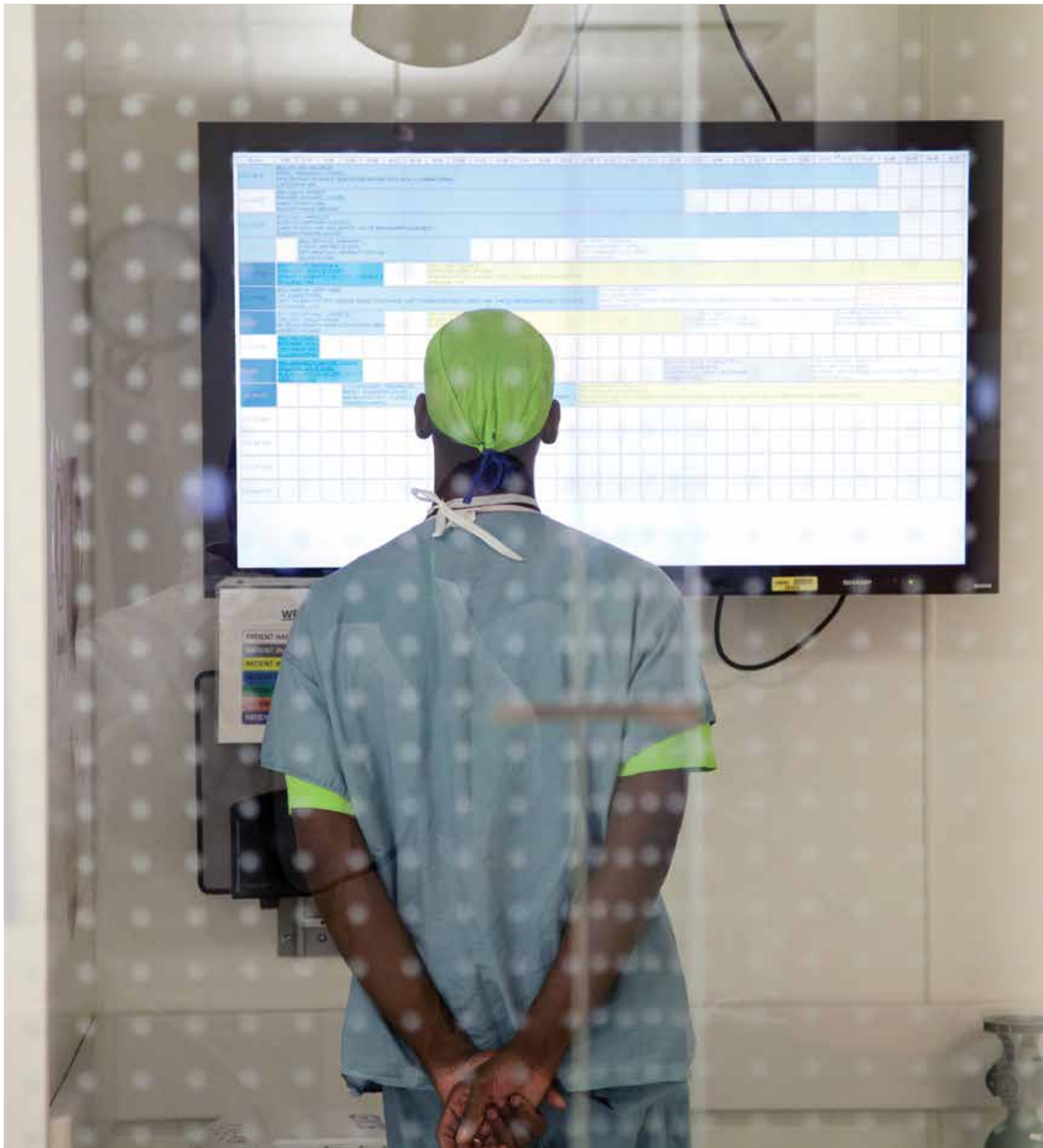
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Reframing challenges as **opportunities**



*John Ayanian, M.D., M.P.P.,
IHPI Director*

Our work at the Institute for Healthcare Policy and Innovation (IHPI) addresses the most pressing questions facing healthcare today. By developing, sharing, and implementing essential evidence and critical insights, we are innovating and shaping healthcare policy and practice.

Examine our nation's healthcare system, and you'll find no shortage of acute challenges: Persistent safety issues with deadly consequences for patients. Uneven and inequitable access to life-changing and lifesaving health services, obstructed by barriers such as cost, coverage, and unequal community resources. Swelling costs that burden patients, families, and providers, demand tough and sometimes excruciating choices, and jeopardize our nation's economic wellbeing. Failures to provide the very young with the healthy starts they need to thrive throughout their lives, and failures to maintain quality of life throughout seniors' later years.

At IHPI, we see these challenges as opportunities for innovation.

We view our mission to improve the safety, quality, cost, and accessibility of healthcare as both our inspiration, and our obligation. Each day, this pursuit fuels the unprecedented creativity, imagination, and vision of our collaborative community of researchers and scholars at the University of Michigan.

This publication provides powerful examples of the many ways that IHPI members are advancing our understanding of healthcare and making a difference in improving the health of individuals and communities across our nation and around the world. IHPI invites you to join us in this pursuit at this pivotal moment in healthcare. ●

Seniors are at the center of **HEALTHCARE'S PERFECT STORM**





Both the fastest growing segment of the population and the largest group of healthcare consumers, many elderly are physically, emotionally and economically fragile. Many must manage multiple conditions, requiring them to navigate between multiple providers and take multiple, sometimes contraindicated medications. Sadly, some of the most tragic, incapacitating illnesses strike later in life.

Enter the IHPI storm chasers: health services researchers taking on the most perplexing issues, engaging with patients, payers and policy makers and leading the charge to educate and empower the elderly.

“

The biggest challenge to healthcare,
now and for the next few decades,
is the aging population. It will
place huge financial and clinical
challenges on the system and on
caregivers and family members.

”

*—Donovan Maust, M.D., who studies
serious mental illness in older adults*

Righting the wrong prescription

Older patients with psychiatric illnesses face a number of significant medication-related risks. Although older adults who are seen by doctors are twice as likely as younger adults to be prescribed psychiatric medications, they are less likely to be under the care of psychiatrists, preferring to receive treatment in the primary care setting, where providers may have less experience in managing the side effects and interactions associated with psychiatric drugs. Another concern: as many as one-third of older adults with dementia have been prescribed an antipsychotic to calm aggressive and agitated behaviors, despite the fact that this class of drugs is linked to an increased risk of death in these patients.

“

As an economist, I've always been interested in health insurance because **for decades, insurance coverage has been the biggest differentiator between the 'haves' and the 'have-nots'** when it comes to healthcare.

”

– **Helen Levy, Ph.D.**, HRS co-investigator

The use of antipsychotics in nursing homes has taken on new importance, as it is now a factor considered in the Medicare nursing home rating system. A recent U.S. General Accounting Office report found that while antipsychotic use in long-term care is decreasing, the amount of decrease varies significantly across states. IHPI members are helping develop and evaluate various non-drug strategies for caregivers to help manage the behavioral issues that can accompany dementia, and are working to make these more common first-line treatments.

Big Data in the Big House: The U-M Health and Retirement Study

A nationally representative, ongoing study launched in 1992 and funded by the National Institute on Aging, the U-M Health and Retirement Study (HRS) collects wide-ranging data every two years from a sample of approximately 20,000 people in the United States over the age of 50, and also gathers information from those individuals' loved ones after their deaths. HRS is fueling a number of innovative projects ranging from quantifying the relationship between health literacy among seniors and their use of web-based health information, to better defining the role of end-of-life treatment options in our care of older adults.

“The evidence for non-pharmaceutical approaches to the behavior problems often seen in dementia is better than the evidence for antipsychotics, and far better than for other classes of medication. The challenge is that our healthcare system has not incentivized training in alternatives to drug use, and there is little to no reimbursement for caregiver-based methods.”

– **Helen C. Kales, M.D.**, director of the U-M Program for Positive Aging, who develops non-drug approaches for treating dementia patients' common symptoms



End-of-life healthcare spending surprises

Last-ditch, high-tech heroic treatments. Days in the hospital intensive care unit. You might think this is what makes dying in America so expensive—and that it's where we should focus efforts to spend the nation's healthcare dollars wisely.

But IHPI research using Medicare data is finding that for nearly half of older Americans, the pattern of high spending on healthcare was already in motion a full year before they died. That's due to the care they received for their multiple chronic health conditions—including many doctor visits and regular hospital stays over the year, not just in their final days.

As a result, the last year of life for this large group of seniors costs the Medicare system five times as much as the care received by the much smaller group of seniors who have a sudden burst of very expensive care in their last few weeks of life. The findings have clear implications for efforts to improve care, and contain the growth of costs, at the end of life.

"Our research points to having to do a better job taking care of people who have multiple chronic conditions in a way that maintains or improves the quality of care they receive, but with cost in mind."

—**Matthew A. Davis, Ph.D., M.P.H.**, whose team is working to identify spending patterns in end-of-life care

Drug treatments for macular degeneration: cost ≠ value

One of the biggest challenges in healthcare policy is determining the economic value of healthcare interventions. Case in point: the use of injectable drugs in the treatment of progressive eye diseases like macular degeneration (MD).

Diagnosed in more than 200,000 U.S. seniors each year, MD has no cure, but injections of the drug ranibizumab (marketed as Lucentis) can slow vision loss. Many patients require up to 12 treatments a year, at just over \$2,000 per dose. A cheaper alternative (about \$55 per dose) is the cancer drug bevacizumab (brand name Avastin), yet without FDA approval for this alternative use, reimbursement levels for Avastin are lower, disincentivizing doctors to prescribe it. IHPI investigators have determined that MD treatment with either drug accounts for one-sixth of the entire Medicare Part B drug budget, and that switching everyone to Avastin could save Medicare \$18 billion and patients \$5 billion in copayments over a decade.

"As the Medicare-eligible population continues to grow, identifying savings while maintaining quality patient care is increasingly important. People don't like to think there are tradeoffs between health and costs, but we certainly do need to think about cost when healthcare is 18 percent of the GDP and growing,"

—**David Hutton, Ph.D.**, whose research evaluates the cost-effectiveness of new public health policies and the use of new drugs and devices ●



IHPI's sights are set on improving the quality, efficiency, responsiveness, and cost of healthcare for older adults by developing a more thorough understanding of their needs and values, and the policies and systems that support their care. By tapping into the perspectives of patients, caregivers, providers, and policymakers on issues related to health, healthcare, and health policy affecting Americans 50 years of age and older, we aim to inform decisions around healthy aging and contribute to new avenues of research and discovery that can benefit this population.



Discover more at
[ihpi.umich.edu/pii/
healthcares-perfect-storm](https://ihpi.umich.edu/pii/healthcares-perfect-storm)



CANCER CARE: SMARTER DECISIONS, SAFER TREATMENTS

A diagnosis of cancer triggers a tidal wave of tough decisions. Patients and their loved ones, feeling hurried by a sense that the disease is progressing with every passing moment, find themselves struggling to become instant experts on the last topic they ever wanted to study.

Oncology professionals, eager to help with those tough choices, struggle with questions of their own. How can we help patients substitute clarity for fear when making decisions about surgery, radiation and chemotherapy? In our attempt to wipe out cancer, are we actually 'overtreating' some patients? As we move toward diagnostics and therapies personalized to an individual's genetics, are we giving patients and their relatives enough information and support to navigate these new options? Do our efforts to deliver the safest, highest quality care place providers at risk?

IHPI members, many of whom maintain active clinical practices in cancer care, are addressing issues like these with novel studies and interventions designed to help patients and providers partner more effectively throughout the treatment journey.

Decision-making in breast cancer

U-M's Cancer Surveillance and Outcomes Research Team (CanSORT), an IHPI affiliate, is home to the only NIH-funded research program in the country focused on cancer decision-making, primarily related to breast cancer treatment. Faculty from U-M's schools of medicine, nursing, and public health are collaborating with colleagues at Stanford, USC, Emory, Harvard, and New York's Memorial Sloan Kettering Cancer Center to understand how patients and their doctors make choices about surgery, chemotherapy and radiation treatment options.

Several projects within the program illustrate the potential of "big data" to curate volumes of patient and provider data about treatment experiences, length of life and quality of life. Along with large population studies, investigators are designing new interventions to help breast (and other) cancer patients make better-informed decisions about screening and treatment. One example is a randomized controlled trial of a tool called iCanDecide, with features that enable it to act as a shared learning decision support system that both patients and clinicians can use to communicate and collaborate on treatment decisions.

Decision support through precision medicine

In their rush to prevent cancer from returning, some patients default to the most aggressive treatment possible, even when it is not necessary to save their lives. This is the case for the 70 percent of patients diagnosed with early stage non-invasive breast cancer who elect a double mastectomy. In these patients, less aggressive treatments have been shown to result in near 100 percent survival.

Genomic testing of a tumor to determine the risk of cancer coming back is one tool doctors and patients



can use to reduce uncertainty about treatment choices. Specifically, these tests help verify if chemotherapy is actually needed for a particular patient, and can help avoid overtreatment if it is not needed. Another is genetic germline testing, which identifies genetic mutations in a patient (like BRCA1 and BRCA2) that may predispose her to future cancer.

CanSORT has received a \$13.7 million grant from the National Cancer Institute focused on the challenges of individualizing treatment for breast cancer, including issues of genetic and genomic testing, use of breast imaging, and assessing patient-reported experiences and outcomes. The study involves a diverse population of English- and Spanish-speaking breast cancer patients in Los Angeles and Georgia, along with their treating medical, surgical, and radiation oncologists. The program examines physician behavior and attitudes to assess current uptake of new tests and treatments and to identify challenging clinical scenarios in breast cancer care. The team is also studying how to best improve the treatment decision process for breast cancer patients through the iCanDecide tool.

“Precision medicine is changing decision-making by giving doctors evaluative tools to better target individual treatment. These advances have markedly reduced dangling uncertainty for these patients, the stress of treatment decision-making and improved health outcomes,”
—**Steven Katz, M.D., M.P.H.**, who directs CanSORT

“In cancer care, we tend to focus on the services needed for survivorship, when many patients have other conditions that also need to be addressed. Looking at the patient as a whole and finding the best ways to provide coordinated, consistent care and engaging them in managing their own care are big challenges.”
—**Sarah Hawley, Ph.D., M.P.H.**, a CanSORT investigator whose primary research is in decision-making related to cancer prevention and control, particularly among racial/ethnic minority and underserved populations

Safer chemotherapy for patients—and nurses

The infusion suite where patients receive chemotherapy is one of the busiest areas in a cancer clinic, and for decades it has been known that chemotherapy drugs pose a significant health risk to nurses who handle them on a regular basis. The remedy, consistent use of


protective equipment to safeguard them from these caustic substances, is often overlooked as nurses work to provide compassionate care in a high-volume environment.

IHPI members, including those from the U-M Cancer Center, School of Public Health, the Ross School of Business, and the College of Pharmacy, are studying nurses' exposure to hazardous drugs and designing specific interventions to empower them to take better care of themselves each and every time they administer chemotherapy.

“I was influenced early on by my grandmother’s journey with breast cancer. It didn’t go well. She had lots of decisions to make and not a lot of support. That experience shaped my career in cancer, both as a nurse and a researcher focused on issues of cost and quality of care.”
—**Christopher Friese, R.N., Ph.D., A.O.C.N.®, F.A.A.N.**, whose program of research is focused on understanding and improving healthcare delivery in high-risk settings, such as cancer ●



**Discover more at
[ihpi.umich.edu/pii/
smarter-decisions-
safer-treatments](http://ihpi.umich.edu/pii/smarter-decisions-safer-treatments)**



Overcoming disparities in healthcare and outcomes is a primary component of IHPI's mission. That mission starts right in our own backyard, with healthcare interventions designed and implemented for specific populations in need, including residents of the City of Detroit, and military veterans who receive care at the Ann Arbor Veterans Administration Health Care Systems.

**LEVERAGING THE POWER OF
COMMUNITY:
WORKING TOWARD HEALTH EQUITY IN
DETROIT**

Mural in Detroit's Mexicantown neighborhood. Photographer: Emily Mathews



The University of Michigan has a long history of working to improve the health of Detroiters. A prime example is the Detroit Community-Academic Urban Research Center (Detroit URC). Established in 1995, the Detroit URC is a collaboration of academic, health service, and community partners that identifies problems affecting the health of Detroit residents, conducts interdisciplinary, community-based participatory research, and uses the learning to design, conduct, and evaluate public health interventions and policies that promote health equity.



Two anchoring approaches inform the work of the Detroit URC. The first is community-based participatory research (CBPR), a mutually beneficial approach to research that emphasizes equity and power sharing and involves all partners in defining the issues, designing research, and implementing health interventions.

The second is the active role of Community Health Workers (CHWs) in the design, implementation, and testing of health interventions. CHWs are frontline public health workers who are also trusted members of the same communities involved in the intervention(s). Through this relationship, CHWs are trained to serve as bridges between healthcare providers and the community to facilitate access to services to improve the quality and cultural competence of service delivery. CHWs also build individual and community capacity by increasing health knowledge and self-sufficiency through a range of activities such as outreach, community education, informal counseling, social support and advocacy. Because they share a common culture, language and neighborhood



with those they work with, CHWs play a critically important role in IHPI's efforts to improve health and reduce health inequities in Detroit.

Two partnerships affiliated with the Detroit URC led by IHPI members illustrate what's possible when CHWs are engaged with individuals, families and communities to address health issues. The Healthy Environments Partnership (HEP) is a CBPR partnership among community-based organizations, health service providers and academic researchers focusing on promoting heart health and reducing socioeconomic and racial inequities related to cardiovascular disease in Detroit neighborhoods.

HEP worked closely with community residents and leaders to design a multilevel intervention to promote physical activity among Detroit residents, and to promote walkability within Detroit neighborhoods. One component of this intervention demonstrated the effectiveness of CHW-led walking groups in neighborhoods whose residents encounter many challenges in their efforts to lead active lifestyles, including high levels of poverty and perceived safety challenges.

The REACH (Racial and Ethnic Approaches to Community Health) Detroit partnership is a community-driven approach to preventing diabetes and related conditions and improving quality of life in several predominantly African-American and Latino

communities in the city. Community Health and Social Services (CHASS), a Federally Qualified Health Center and URC partner in southwest Detroit, has served as host organization, collaborating with U-M, health system and community organization partners since REACH Detroit's founding in 1999. REACH Detroit's efforts have developed various community resources and activities, including CHASS's community produce market and community-based physical activity initiatives. Its affiliated CHWs link participants with community resources and services that address the social determinants of health, help participants develop health-related and other goals, and provide individual and group education and social support through home visits, group education sessions, and by accompanying participants to clinic visits.

"Our research shows that community health workers are effective in empowering residents of low-resource communities to achieve healthy behavior change. Sustaining their work as members of healthcare teams is an essential part of healthcare reform."

—Edith (Edie) Kieffer, MPH, PhD, URC member and PI of Healthy MOMs and several REACH Detroit-affiliated projects

Evaluations by Detroit REACH have consistently shown that CHW-led diabetes self-management programs have helped participants significantly improve blood sugar control, diabetes-related knowledge and self-management, and reduce diabetes

distress and depressive symptoms. e-Health approaches to further increase the effectiveness and reach of CHW-led initiatives are also demonstrating great promise.

"My passion is how we can design systems that better support patients, and how we can create linkages between primary care and community resources. Particularly for people living with chronic conditions, most of what determines their health is what they have to do between face-to-face visits. A lot of what I do is thinking about how we can better extend support beyond the clinic, through self-management support, peer support, community health workers, and mobile health tools."

—Michelle Heisler, M.D., M.P.H., whose research has documented the positive impact that CHWs can have on people managing diabetes

A sister CHW-led diabetes prevention initiative, Healthy Mothers on the Move (Healthy MOMs), has shown significantly improved dietary outcomes and reduced depressive symptoms among pregnant Detroit Latinas.

Based on these successes, the CHW programs are being integrated into ongoing care at CHASS. U-M researchers and CHASS partners are evaluating the implementation and effectiveness of this significant change in healthcare delivery.

"Within CBPR, there's recognition that we as researchers come with expertise



on how to conduct research, but our community partners know what's culturally appropriate, what's going to be viable in the community, and what the issues and concerns of community members are."

—Barbara Israel, Dr.P.H., director of the Detroit Urban Research Center

IHPI is supporting the development of broad initiatives targeting high-priority populations within and beyond the city of Detroit, including new enrollees with chronic conditions like diabetes and cardiovascular disease. By working with multiple health plans serving Medicaid enrollees in Detroit, with high utilizers of healthcare as a particular focus, IHPI will work to assess the impact of a CHW program on health service utilization, health status, quality of life, satisfaction with care, and reductions in care gaps.

Looking out for veterans

IHPI members are devoted to making healthcare for veterans more patient-centered, effective, safe and affordable. Many of their projects focus on helping individuals and providers manage some of the most common and challenging chronic health conditions faced by veterans:

Diabetes

Type 2 diabetes impacts one in four veterans, a significantly higher

prevalence than is seen within the general population. While several strategies have been developed and tested to help people improve blood sugar control through diet, exercise and medication, much work remains to develop interventions that will be both effective for veterans and cost-effective for the VA health system.



One IHPI team is studying how a lifestyle modification plan called the Diabetes Prevention Program (DPP), which has been shown to be highly effective within the general population, could be adapted for veterans, and how DPP compares to the current standard of diabetes prevention used within the VA system, an exercise-based program called VA-MOVE.

In addition to adapting existing interventions to the needs of veterans, IHPI members within the VA Center for Clinical Management Research (VA CCMR) and the U-M Center for Health Communications Research (CHCR) are working on novel new interventions in diabetes, including:

- Technology-Enhanced Coaching (TEC)—a program for improving diabetes outcomes through peer mentoring and support.
- iDECIDE for Veterans—a program that helps veterans work with their healthcare providers to develop diabetes management plans.

Chronic Obstructive Pulmonary Disease (COPD)

Veterans are three times more likely to develop COPD than the general population. Low levels of physical activity are common in patients with COPD, leading to greater risk of death and hospitalizations and poor health-related quality of life. IHPI investigators have developed and tested a walking program for veterans with COPD (Taking Healthy Steps). Using pedometers to count steps, participants log on to an internet-based platform to track their results and communicate with providers and other participants. Several elements of the intervention, including goal setting, education, motivation and the feedback and support of a community, have been shown to contribute to better results than walking with a pedometer alone.

Prostate Cancer

VA CCMR and CHCR investigators have developed and are testing an intervention called Making the Choice for Veterans, a tool to help veterans make treatment decisions regarding early-stage prostate cancer.

Heart Attack and Stroke

Another VA CCMR and CHCR partnership project, the VA Cardiovascular Tool, allows physicians to input data and generate patient-specific heart attack and stroke risk-reduction strategies and treatment options to discuss with patients. ●



Discover more at ihpi.umich.edu/pii/power-of-community

USE AND OVERUSE

DISRUPTING THE OPIOID EPIDEMIC

It's an all-too-familiar story: an otherwise healthy individual suffers chronic pain following an injury or surgery. Attempting to manage the pain, a doctor prescribes an opioid, a class of highly effective yet potentially addictive narcotics that includes codeine, hydrocodone, oxycodone and morphine. Over time, the individual's use becomes more frequent and the dosage needed for an effect increases, as do other problems related to the opioid such as misuse of the medication and physical dependence.

As more and more individuals find themselves trapped in habits of overuse, opioids are diverted from legally prescribed, controlled use into a widespread illegal marketplace serving both pain patients experiencing addiction and recreational users, all seeking to meet their growing dependence, too often with tragic consequences.

The pattern of opioid use, abuse, addiction and overdose presents a significant and growing public health threat. According to the Centers for Disease Control and Prevention (CDC), opioid prescriptions have quadrupled since 2000; during the same period, the rate of opioid overdoses has tripled. Opioids including heroin were involved in 61 percent of all drug overdose deaths,

making them the most common substances involved in overdoses in the U.S.

While not every prescribed opioid sets this heartbreaking pattern in motion, more and more do. To stem the tide, IHPI members are working to break a number of links in the chain. Their work is yielding potent evidence-based interventions and policy recommendations.

"Low income individuals are more likely to struggle with addiction, and they're also more likely to be impacted by the changes brought about by healthcare reform. That provides a real window of opportunity to study how we can make addiction treatment and other mental health services more effective and accessible than ever before."

—Mark Ilgen, Ph.D.,
whose work aims to develop and evaluate interventions to prevent suicides linked to substance use

"There is an opportunity to have a tremendous impact and save lives right now, if we act on what the research has shown can work."

—Amy Bohnert, Ph.D.,
who has helped develop a toolkit to reduce prescription opioid misuse among emergency department patients at risk for overdose

How much is too much?

IHPI members are examining the line between opioid use and accidental overdose, and challenging how providers determine proper opioid doses. In a study utilizing Veterans Administration (VA) data, they were among the first to demonstrate that the threshold for safe dosing was likely lower than prescriber guidelines were recommending at the time. This and related research has resulted in both the VA and the CDC issuing new recommendations for opioid prescribing using lower dosage threshold recommendations.

A related IHPI project focuses on an equally tragic end point for too many opioid users—suicide. Initial findings from a study of nearly 124,000 veterans showed that those receiving the highest doses of opioids for pain were more than twice as likely to die by suicide (by any means) than those receiving the lowest doses. These findings highlight both the very real suicide risk faced by those with chronic pain and the elevated suicide risk faced by individuals using high doses of opioids to control that pain.



Overprescribing opioids after surgery

Each year more than 50 million surgeries are performed in the U.S., and most of those patients receive a postoperative opioid prescription. Shortly after surgery, most patients can switch to a non-opioid medication like ibuprofen or acetaminophen to help control any lingering pain. Yet if patients are prescribed too many opioid pills, they may not limit their use to surgical pain, using them for other pain, for mood disorders like depression, or even as sleep aids. This pattern of misuse can eventually lead to abuse. In addition, many who discontinue their opioids postoperatively fail to safely dispose of their remaining pills, making them available to children, family and friends for diversion and abuse.

Despite the well-documented risks of opioid overuse and dependence, there are no guidelines to help doctors determine how many pills to prescribe following surgery. IHPI investigators, in partnership with surgeons, are developing a preventive model to educate physicians and reduce postoperative opioid use.

"The CDC estimates 78 people die every single day from opioid- or heroin-related overdoses. That's like a plane full of people crashing every week."

—Chad Brummett, M.D., who is leading efforts to improve prescribing practices within the state of Michigan 🌐



Discover more at
[ihpi.umich.edu/pii/
opioid-use-and-
overuse](https://ihpi.umich.edu/pii/opioid-use-and-overuse)

IHPI aims to disrupt the epidemic of prescription opioid addiction now affecting all age groups from our nation's youth to the elderly through early intervention—that is, by using a preventive approach that draws on robust networks of providers to systematically improve prescribing practices and thereby reduce the unintended opioid distribution into our local communities. Michigan-OPEN is an IHPI-led effort to prevent surgery-related opioid addiction by analyzing and sharing information about opioid prescribing patterns in the state and by helping hospitals learn how to hold drug take-back events in their community. By heading off this problem at the source of prescription, the initiative aims to prevent the misuse of these powerful drugs within our state, and share knowledge that can help other areas throughout the country facing similar challenges.

Members from **17**
U-M Schools, Colleges and Institutes
across three U-M campuses

490+
faculty members (Business, Dentistry,
Economics, Engineering, Information,
Kinesiology, Law, Pharmacy, Public
Policy, Social Research, Social Work,
Medical School, School of Public Health,
Nursing; includes Ann Arbor,
Dearborn, and Flint campuses)

2,000
peer-reviewed papers
in 2015

**\$123
Million**
in Health Services Research Dollars
Expenditures in 2015 Fiscal Year

Headquarters at U-M's
**North
Campus
Research
Complex**

Datasets that
include more than
20
terabytes of data

17
state-wide Collaborative
Quality Initiatives led
by IHPI members

C.J. South Photography



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One of the greatest surprises when first arriving at U-M was discovering IHPI and its interdisciplinary approach. **Michigan Medicine seeks new innovation that will help deliver higher quality care** to its patients and welcomes the opportunity to be a testing ground for new ideas produced by IHPI.

”

—**Marschall S. Runge, M.D., Ph.D.**
*Executive Vice President for Medical Affairs,
Dean, U-M Medical School,
and CEO, Michigan Medicine*




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The biggest problems don't set themselves up to be solved by one-source solutions. Problems don't know what discipline they are supposed to fall under; they are just problems. **We can bring to bear the intellectual power of our outstanding schools and colleges to approach problems from every angle and perspective.** Our Institute for Healthcare Policy and Innovation brings together a wide range of scholars from 17 schools and colleges to address these problems.

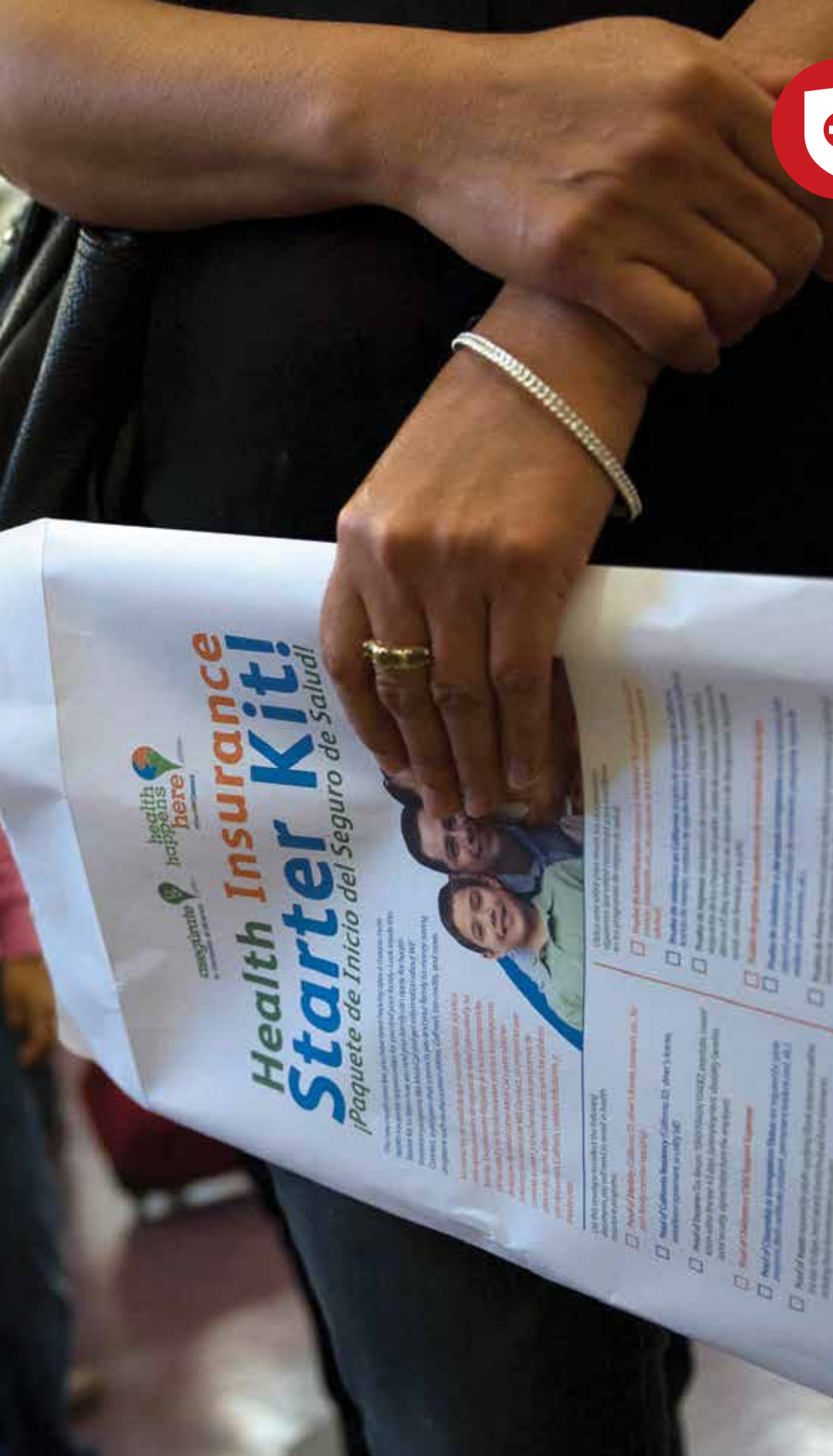
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—**Mark S. Schlissel, M.D., Ph.D.**
U-M President



BIG CHANGES, TOUGH CHOICES:

**EVOLUTIONS IN HEALTH
INSURANCE REFORM**



Our nation's healthcare landscape is undergoing its most significant transformation since the launch of Medicare and Medicaid in 1965. The evolving discussions on healthcare reform in the United States represent an unprecedented opportunity for IHPI to provide decision makers with critical evidence and expert perspectives on questions about access, quality, costs, and health outcomes, starting in our home state of Michigan.

Evaluating Michigan's Medicaid Expansion

In 2013, the governor and state legislators enacted a Michigan-specific expansion of Medicaid under the Affordable Care Act (ACA). Named the Healthy Michigan Plan, the expansion includes a number of special features, including health risk assessments, financial incentives for healthy behaviors and new cost-sharing requirements.

The University of Michigan was selected by the Michigan Department of Health and Human Services and the federal Centers for Medicare and Medicaid Services (CMS) to conduct an independent evaluation of the plan. IHPI is spearheading this five-year evaluation to understand how the program impacts health outcomes and costs.

In the Healthy Michigan Plan's first year, approximately 600,000 residents enrolled (many joining in the first 100 days), from the most rural corners of the Upper Peninsula to the inner-city neighborhoods of Detroit. Evaluating the plan is an opportunity to have a positive impact on these newly covered citizens, many of whom have had little or no access to care for many years. The research will consider a variety of perspectives, most importantly those of the people

in communities who are directly affected by the changes unfolding in healthcare reform.

Seventeen faculty members from five U-M schools and colleges are collaborating on this complex project. Clinical, economic and policy experts, as well as top minds in data collection and analysis, are coming together to study the impact of health insurance on low-income American adults. In the coming years, the findings could be valuable for other states as they consider how to structure healthcare coverage in a way that best improves health outcomes, access to care, and contains costs.

Considering the legal aspects of healthcare reform

Countless legal questions have arisen in conjunction with the ACA's original implementation, as well as what the provisions it established will look like over the longer term. As Americans debate these questions in courtrooms, legislatures and the public square, the need for informed voices and evidence-based recommendations has never been greater. IHPI has built a communications team to introduce the views and analysis of U-M scholars into the public debate. Commentary and quotes from IHPI members are being widely covered by the press and other influencers and, as a result, members of Congress, state lawmakers, and the general public are taking notice.

"Right now in the U.S. we pay an extraordinary amount for healthcare, much of it very high quality but some of it appallingly low quality. The most significant and urgent issue is how to make sure we get good value for our healthcare dollars."

—**Nicholas Bagley, J.D.**, whose research

How do we decide **when patients don't get something they want or need** because it's too expensive, or because someone else has a stronger claim to those limited resources?

— **Susan Dorr Goold, M.D., M.H.S.A., M.A.**, who developed CHAT, and is using the tool to glean public input on Medicaid spending priorities in Michigan communities

on healthcare law considers questions pertaining to the legality of the complexities of health reform

Healthcare reform and ethical implications

Healthcare systems and health insurance markets are in the business of pooling resources to meet individual needs. How do we share these resources fairly? Issues of cost containment and resource allocation are central to deliberations on healthcare reform, and IHPI is home to research projects addressing these issues by surveying patients, payers, and providers in new ways.

One example: Choosing All Together (CHAT), an interactive tool developed at U-M to illustrate the tough tradeoffs of allocating limited health resources. Sometimes referred to as a 'serious game,' it forces 'players' to decide what insurance should cover (and should not cover) when it can't cover everything. Already in use across the U.S. and in several other countries, CHAT offers a powerful way to provide researchers and policymakers with informed feedback from healthcare beneficiaries on the priorities that are most important to them.

How can healthcare reform help ensure a healthier (and more cost-effective) tomorrow?

One long-term goal in rethinking healthcare insurance and delivery has been to shift the focus from acute and chronic illness care to preventive care, with the intent of improving health and saving healthcare dollars "downstream." Many IHPI members with clinical responsibilities have seen firsthand the effectiveness of introducing healthy lifestyle behaviors to control weight and prevent or manage chronic diseases like diabetes. Exciting results are seen when patients are given a healthy start toward exercising or losing weight. For the benefit of two-thirds of Americans who struggle with obesity and inactivity, and for the effectiveness of our healthcare system, the sooner we can establish proven interventions in these areas, the better.

One group affiliated with IHPI is evaluating the effectiveness of incentivizing individuals to participate in lifestyle modification programs for weight loss. Their initial findings indicate that offering insurance discounts can be effective in

encouraging participation and bringing about weight loss, and that programs like these may contribute to lower healthcare costs.

While prevention can save healthcare resources in the long run, cultural and behavioral changes can be time-consuming and expensive. IHPI members continue to pursue preventive interventions that help greater numbers of people more efficiently, freeing up resources for other healthcare priorities.

“The culture of our medical system can be a barrier to implementing the behavior changes needed to get and stay healthier. The challenge is finding ways to reach more people with health behavior interventions that are effective, efficient, and consistent.”

—**Caroline Richardson, M.D.**, whose work focuses on helping people prevent or manage diabetes through physical activity and weight management.

How to balance cost with quality? V-BID’s role in health insurance reform

Historically, consumer cost-sharing in most health insurance plans has followed a ‘one-size-fits-all’ model. This means that patient out-of-pocket costs are the same for every clinician visit within a network, for all diagnostic tests, and for all drugs within a formulary tier—even though these clinical services differ in the health benefits they provide, and their value depends on the individual receiving the service, who provides it, and where it is provided.

Value-Based Insurance Design (V-BID) is an approach pioneered at U-M that implements the concept of ‘clinical nuance’ to align consumer cost with clinical value, by setting cost-sharing in a way that encourages the use of high-value services and

providers and discourage the use of low-value care. In 2005, the U-M Center for Value-Based Insurance Design was formed to develop, implement, and evaluate these innovations in health benefits. Through the years, the V-BID approach has earned widespread bipartisan support. Its principles have been upheld in numerous pieces of legislation and adopted across the public and private sectors. One of the most significant developments was the adoption of V-BID elements within the ACA, which provided more than 137 million Americans with enhanced coverage of preventive care. Specifically, it covers high-value preventive care without consumer cost-sharing, and grants Medicare-eligible individuals access to a free

annual wellness visit and other preventive care. CMS also announced a V-BID demonstration program to begin in 2017.

As evidenced by the V-BID Center’s impact in the national policy arena, this IHPI-affiliated group has made tremendous strides in establishing V-BID as a critical element in making American healthcare smarter. They continue to pursue an ambitious agenda to help consumers, providers, insurers and policymakers work together to write the next chapter in healthcare transformation. ●



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Staff exercising in the Fitness Room of Wolverine Tower. Photographer: Austin Thomason

SAFER HOSPITAL STAYS AND SURGICAL PROCEDURES



Pre-op clinic huddle. Photographer: Scott C. Soderberg

Hospitals are where you go to get better, not worse. Surgery is intended to correct problems, not cause them. Yet in too many instances, **unintended consequences** leave patients and their doctors battling new, even greater hazards.

Diagnostic errors, infections, blood clots and the over-prescription of medications can turn what should be a relatively routine event into a life-threatening incident. IHPI members are working to make surgery and hospitalization less risky propositions. Through numerous cross-disciplinary initiatives, many of which are garnering state and national attention and adoption, they are designing ways to anticipate and counteract human error, ensure improved communication and better prepare both doctors and patients to succeed.

What can be done to lower the risk of hospital-acquired complications?

Intravenous catheters (IVs) are used in more than a billion cases each year in the U.S. Their placement is among the most common procedures

Recently-issued ‘Choosing Wisely’ recommendations from the Society of General Internal Medicine caution physicians against placing PICC lines (an IV device) simply for convenience. This reflected findings from the Michigan Hospital Medicine Safety Consortium (HMS) that up to a quarter of patients who receive IVs may not need them, and may also develop clots or infections as a result. HMS is a U-M-coordinated Collaborative Quality Initiative led by IHPI members that includes 51 Michigan hospitals and is supported by Blue Cross Blue Shield of Michigan.

In my area of focus, surgery, the issue that keeps me up at night is **the variation in quality, safety and performance** between hospitals.

—Justin Dimick, M.D., M.P.H., whose research is focused on ways to measure and improve the quality of surgical care and patient outcomes

performed in a hospital. With every IV comes the risk of an infection or blood clot, and up to a quarter of patients who receive IVs may not need them. So the choice is far from a harmless one. IHPI members involved in a statewide hospital safety collaborative are bringing research into daily practice, helping physicians make more informed decisions about IV selection and use, as well as other potentially overused and sometimes risky hospital defaults such as the use of peripherally-inserted central catheters (PICC lines) and antibiotics. Their findings have implications for how medicine is practiced here and around the world.

Urinary catheters are also commonly used – one in five hospital patients receives the most common indwelling urinary catheter, the Foley catheter – and every day of catheterization increases the risk of both infectious and non-infectious

complications. IHPI research suggests that far fewer should receive them, and that those who do could have them removed sooner. Guidelines drafted by this IHPI team suggest that Foley catheters be used only when there is no other way to assess a patient’s urine or fluid status. Adopting their criteria could significantly reduce both hospital complications and hospital costs.

Overuse of antibiotics has led to the rise of antimicrobial resistance and clostridium difficile (c-diff). Beginning in 2017, hospitals will be required to enact antibiotic stewardship programs in response. IHPI members involved in the Michigan Hospital Medicine Safety Consortium (HMS) are going one step further to combat antibiotic overuse in pneumonia and urinary tract infections in hospitalized patients through a pilot initiative in collaboration with 10 hospitals.

What role should the hospital and the doctor play in ensuring the best possible outcome from a planned surgical procedure?

Where a surgical procedure is performed and who performs it can have an effect on its outcome. Using bariatric (weight loss) surgery as their research platform, IHPI members want to quantify the impact of these variables, and find out what can be done to reduce surgical risks. Evidence indicates that the risk of complications including blood clots is lower when a bariatric procedure is performed by a high-volume surgeon in a high-volume hospital. Further study by IHPI members revealed that doctors with low skill scores had nearly three times more surgical complications than high-skill surgeons. As a result of these findings, three top U.S. hospitals including Michigan Medicine have agreed to set minimum volume standards for surgeons performing common procedures including bariatric staple surgery, mitral valve repair and hip or knee replacement.

What role should the patient play?

When it comes to major surgical procedures, doctors and hospital staff aren’t the only ones who determine success – patients have an equally important part to play. Research conducted by U-M surgeons shows that patients who make even modest positive lifestyle changes prior to their scheduled procedures show

impressive gains in how well they bounce back. In 2012, Michigan Medicine instituted a six- to eight-week 'boot camp' program to educate, guide and motivate patients to make changes prior to surgery, including quitting smoking, losing weight, increasing physical activity and reducing stress.

Initial data from this 'prehabilitation' approach are impressive; participating patients showed a 30 percent reduction in complications and marked improvements in recovery time. With additional data analysis support from IHPI, the team has received a \$6.4 million grant to roll the program out in 40 Michigan hospitals, reaching more than 12,000 patients.

"As a young surgeon, it was heartbreaking to tell a patient that he was too sick to be a candidate for transplant. That experience motivated me to better understand surgical risk and who will or won't do well after surgery. That led me to health services research, and to finding ways to help patients prepare themselves for surgery—physically and mentally—to improve outcomes."

—**Michael Englesbe, M.D.**, who directs the Michigan Surgical & Health Optimization Program

How well are we preparing tomorrow's doctors to prevent errors and counteract unpredictability in the hospital environment?

One IHPI-led research team is looking at the role unpredictability plays in physician training. The team, which includes investigators from both the Medical School and the Center for Healthcare Engineering and Patient Safety (CHEPS), is focusing on the training of residents in transplant surgery. Taking a systems approach, they are examining diagnostics and



training protocols in order to build processes and simulation tools that anticipate and counteract human error in both teaching and practice.

Recently, this and related IHPI projects were recognized with a grant from the Agency for Healthcare Research and Quality (AHRQ) to fund the M-Safety Lab, a unique pairing of medical and engineering practitioners charged with finding new ways to improve communication and reduce hospital-acquired complications.

"The biggest issue I saw when I began my career is still the most important one – routinely providing care that represents the best scientific evidence."
—**Sanjay Saint, M.D.**, whose pioneering efforts toward reducing catheter-associated urinary tract infections, one of the most common and costly hospital infections in the world, have translated into improved outcomes nationally and internationally

How does hospital care intensity affect outcomes?

The rate that patients die from major complications (also known as the failure-to-rescue rate) is an indicator of how well a hospital recognizes and manages post-surgery complications; a low rate suggests that patients are less likely to die. An IHPI research team reviewed Medicare data to uncover the connection between

high hospital care intensity (HCI), a measure of the aggressiveness of an institution's approach to treatment, and the length of hospital stays and rates of dying from major complications.

The team's analysis indicated that patients who had surgery at high HCI institutions had longer hospital stays and more major complications, but were somewhat less likely to die of a major complication than those treated at low HCI facilities.


Overall, care intensity, which has been implicated in rising healthcare costs, explained little about differences in post-operative outcomes, which has important implications for understanding how resources and effort are related to patient benefit.

"The biggest driver of how well patients do after surgery is our ability to rescue them when a serious complication arises. Improving outcomes for surgical patients by addressing that concept drives my clinical practice and my interest in health services research. It has become my life's work."

—**Amir Ghaferi, M.D., M.S.**, whose research explores the mechanisms underlying variations in surgical mortality ●



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ihpi.umich.edu/pii/safer-hospital-stays



Young people face a different set of health challenges than those faced later in life. Many IHPI members are devoting efforts toward devising better ways to protect young people from harm by identifying risk factors and preventing acute illnesses and injuries.

OUT OF HARM'S WAY

PROTECTING OUR YOUTH



Promoting dental care for the very young

Dental problems, most of which are highly preventable, are a leading cause of chronic diseases in young children.

That's why child health experts recommend that oral health care begin by age one, or when a child's first teeth emerge. Yet according to The National Poll on Children's Health, conducted by IHPI members within the U-M C.S. Mott Children's Hospital, only 23 percent of one-year-olds and 44 percent of two-year-olds have seen a dentist. The Mott researchers recommend that well-child visits include a discussion about oral health and a check of the child's baby teeth by a pediatrician or other provider.

U-M researchers are also conducting a detailed evaluation of the Healthy Kids Dental program (a Michigan Medicaid demonstration project) to determine how low-income children access dental care in the state.

"We need to improve the way oral health issues are addressed during well-child visits so that parents fully understand the need for good oral healthcare."

—Sarah Clark, M.P.H., who co-directs the National Poll on Children's Health

Advocating for the appropriate use of child safety restraints

Motor vehicle collisions are a leading cause of death among children in the U.S., but many of these deaths and injuries are preventable with appropriate use of child passenger restraints. The American Academy of Pediatrics (AAP) has established guidelines for the type of restraints that are appropriate for children as they grow until they are big enough for an adult seat belt. Although these recommendations have informed legislation in many states, state laws vary widely, and many children are prematurely transitioned to less-protective restraints such as adult seat belts, increasing their chances of serious injury or death in a collision.

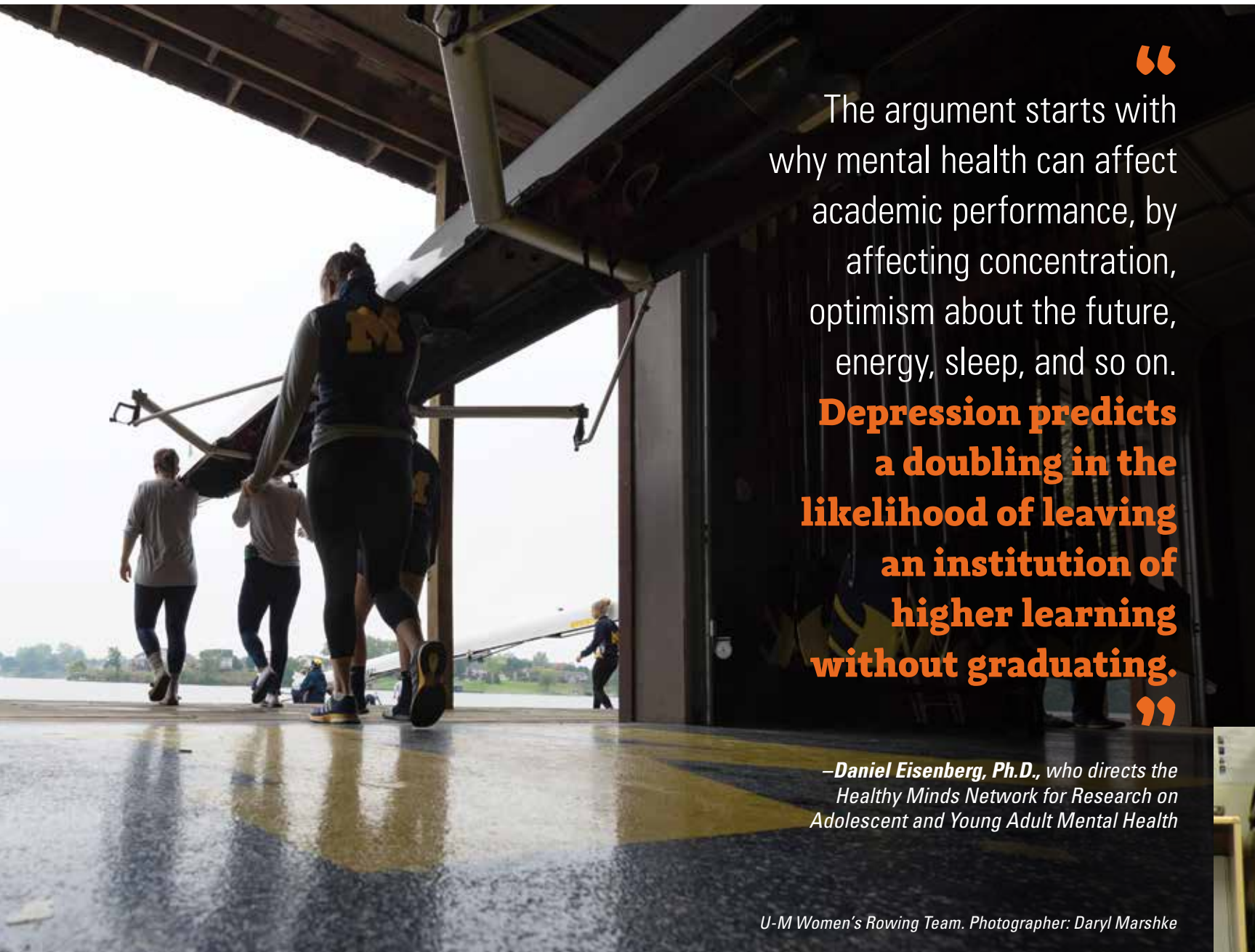
Among the findings of U-M researchers:

- Parents living in states requiring child safety seats were more likely to use them.
- A significant percentage of emergency room physicians felt they had an important role to play in educating parents on child passenger safety but indicated they would give families advice that fell short of best practice recommendations.

These and additional research results are being used by IHPI members to educate the media and state legislators to enact better strategies for increasing appropriate restraint use to reduce injury.

"If our research is able to inform interventions that we can deliver to parents and also inform policy so that the legislation across the country is consistent and in keeping with national best practices, that has huge potential in terms of population health for injury prevention."

—Michelle Macy, M.D., M.S., who is working on programs to use opportunities in the emergency department to talk with parents about safe child restraint use



“
The argument starts with why mental health can affect academic performance, by affecting concentration, optimism about the future, energy, sleep, and so on.
Depression predicts a doubling in the likelihood of leaving an institution of higher learning without graduating.
”

—**Daniel Eisenberg, Ph.D.**, who directs the Healthy Minds Network for Research on Adolescent and Young Adult Mental Health

U-M Women's Rowing Team. Photographer: Daryl Marshke

Addressing the mental health of student athletes

Research has shown that one in three college-aged students experiences significant symptoms of depression, anxiety or other mental health conditions, yet only about 30 percent of them reach out for help. The numbers are even more startling for student athletes: only about 10 percent of those experiencing issues will seek out assistance.

To improve those outcomes, a team including IHPI members from the U-M School of Public Health, Depression Center, and the Athletic Department designed a pilot program for student athletes at the University of

Michigan to raise awareness and discussion about mental health issues. The program, called “Athletes Connected,” was developed to help athletes seek help for themselves or others for depression and other mental health concerns. More than 90 percent of U-M’s 900+ student athletes participated, and 96 percent of participants said they were likely to put what they learned to work.

The project, which includes compelling educational videos featuring U-M athletes, was initially supported by a research grant from the National Collegiate Athletic Association (NCAA), and is now being enhanced with support from donors.

Rethinking classrooms to boost physical activity

Childhood obesity has more than doubled in the past 30 years, and physical inactivity is a major contributing factor. IHPI members at the Childhood Disparities Research Laboratory within the U-M School of Kinesiology are studying how and where children live, learn and play can shape their health behaviors. One of their signature programs, InPACT (Interrupting Prolonged sitting with Activity), is pairing established research methods with creative approaches to determine how elementary classrooms could be redesigned to increase movement and decrease sedentary behaviors while improving cognitive and intellectual growth. InPACT is being pilot tested in three elementary schools across the state.

"I am interested in understanding both the causes and the consequences of obesity. Most researchers in our area focus primarily on physical activity, exercise, and nutrition, but we also try to use a more holistic approach by focusing on the factors that shape these behaviors, such as children's physical, social, and cultural environment,"

—Rebecca Hasson, Ph.D., who directs the Childhood Disparities Research Laboratory ●



Discover more at ihpi.umich.edu/pii/protecting-our-youth



Photograph courtesy of the Childhood Disparities Research Laboratory.

Understanding concussion risk in student athletes



Recent media attention on brain injuries in professional sports has raised public concern about the risks faced by young athletes, and how best to prevent, diagnose and treat concussion.

Using innovative tools including helmet sensors that measure impact magnitude, IHPI members working in the U-M School of Kinesiology's Neurotrauma Research Laboratory are learning more about the immediate and cumulative effects of concussion. Their findings challenge many of the common assumptions about head injuries. While it is usually assumed that the harder the hit, the worse the outcome, their data show that the magnitude of impact doesn't predict the severity of concussion. Also, contrary to popular belief, enduring a number of minor blows to the head does not appear to increase the likelihood of a concussion resulting from a lesser impact. Rather, every child, and every brain, will react differently, and one significant hit is all it takes.

In 2014, U-M was selected by the National Collegiate Athletic Association (NCAA) and the U.S Department of Defense (DoD) to lead the \$30 million Concussion Assessment, Research and Education (CARE) Consortium's longitudinal clinical study core, a prospective, multi-institution clinical research protocol to examine the natural history of concussion among NCAA athletes.



HACKING YOUR HEALTH: THE ROLE OF PATIENTS & TECHNOLOGY IN THE HEALTHCARE REVOLUTION



Joyce Lee, M.D., M.P.H.,
is leading the development
of an app to help kids
manage diabetes.
Photographer: Daryl Marshke

Despite advances in medical science and technology, many patients in today's healthcare system lack access to information about their illness, how to avoid complications, or how to communicate with their providers, while the electronic records systems that store our health information can seem frustratingly fragmented. The consequences of communication gaps can be seen throughout the system, too often leading to diminished quality of care.

Using technology to empower patients to reach their health goals proactively, with less reliance on the traditional model of recurrent face-to-face physician appointments, may offer one of the best options for helping patients as well as our stressed out healthcare system. IHPI members are proving that a variety of accessible information tools can help patients, caregivers and providers connect and stay on track. Meanwhile, IHPI members are also studying policy options around optimizing our nation's health information technology infrastructure to help ensure those systems can exchange information in a more meaningful way that results in safe and timely patient care.

"I believe that technology holds the key to many of our access issues."

—Amy Cohn, Ph.D., an engineer whose research on healthcare focuses on robust and integrated planning for large-scale systems

Going mobile, social, & global—to conduct research in Type 1 diabetes

In many ways, our healthcare system is still in the analog age, with its paper charts, fax machines, and a culture of "doctor knows best."

IHPI members are creating the vision for a new era of medicine powered by mobile technology, social media, and engaged and empowered patients.

For example, they are harnessing the creativity and real world experience of an online community of more than 19,000 patients and caregivers with type 1 diabetes from around the globe using a do-it-yourself mobile technology for monitoring blood sugars called Nightscout.

Patients and caregivers designed the system without the assistance of healthcare providers or industry. Instead, they used open source code, leveraged the widespread availability of mobile phones and wearables, and used a private Facebook group to collaborate and disseminate the technology.

They are working with colleagues from the School of Information to study the role of technology and identify innovations in diabetes management, using both qualitative and quantitative analysis of social media data. Supported by a grant from the Patient Centered Outcomes Research Institute, they are also working with the patient/caregiver community to develop a patient-driven research collaborative innovation network that uses the tools of mobile technology and social media for accelerating the speed and scale of diabetes research.

Tech support for patients and caregivers

Two IHPI interventions have demonstrated that making the right connections by phone or email can help patients with chronic conditions like diabetes—and those who care about them—stay on track. In one program, weekly automated check-in calls to patients' cell phones allow their caregivers to stay up-to-date and their providers to intervene to prevent potential crises. Results demonstrated that involving a friend or relative—even those separated by long distances—resulted in better adherence and better health. A second intervention combined education delivered to patients through weekly automated phone calls with tips and support provided to family caregivers via email. Like the first program, this approach was shown to improve patient adherence to treatment. In addition, caregivers who received email support reported less strain and depression than those who did not.

"My first experience in health services research was during the AIDS epidemic. I saw huge racial, ethnic and gender disparities in length and quality of life for patients with HIV/AIDS. I came away thinking that even if we can't cure all chronic diseases, we can make strides in improving patients' lives just by getting everyone, regardless of their circumstances, the services and support they need to stay well."

—John Piette, Ph.D., M.S., who has studied "telehealth" for more than a decade, creating interventions to help underserved, low-literacy populations better manage their health and the health of loved ones

“It is time for healthcare stakeholders to embrace not only new technologies (mobile technology and social media) but **a new participatory culture, which welcomes patients as partners** for achieving innovation and transformation inside the healthcare ecosystem.”

—Joyce Lee, M.D., M.P.H.

Sexual rehabilitation after prostate cancer treatment

Regaining and maintaining a satisfying sex life is an important contributor to quality of life after prostate cancer. IHPI members and collaborators at UCLA Medical Center, Emory University, Johns Hopkins University and New York's Memorial Sloan Kettering Cancer Center recently secured grant funding for a web-based intervention to provide sexual rehabilitation to prostate cancer patients and their partners. U-M is the coordinating center for the trial; if successful, the intervention is expected to be widely available in 2018.

Choosing the right bariatric procedure—there's an app for that

Obesity is among today's most prevalent and intractable public health challenges. Bariatric surgery, arguably the only treatment proven to produce long-term weight loss in morbidly obese patients, has also been shown to resolve obesity-related co-morbidities, improve quality of life and increase survival.

Despite the fact that bariatric surgery is considered a 'highly preference-sensitive medical issue,' only limited decision aides are available to help patients compare the benefits and risks of the four bariatric surgery options, and none can be customized to the individual patient. That is, until now. An IHPI team has developed a smart phone application that combines data from a large clinical registry with information supplied by an individual patient. Patients receive a real-time, continuously updated, customized picture of the risks and benefits of each surgical option.

Bridging the information gap

During the 2014–15 Ebola outbreak, essential information about patients' international travel histories was gathered in physician offices and hospitals, but in many cases those data were not reflected in electronic health records (EHRs). The communication gaps of the Ebola crisis were a cautionary tale for IHPI members interested in strengthening the dialog between doctors and nurses in the era of electronic records. An ongoing study is looking at the many ways physicians and nurses use not only EHRs, but pagers, phones and tablets to find ways to improve provider-to-provider communications.

"We are struggling to engage patients through health information technology and better access to their data.

Despite the fact that IT is deeply interwoven into the fabric of our lives, for most consumers, health IT has meant very little if anything at all...

The reason is straightforward: most patient portals and personal health records are not making patient data understandable, useful, and engaging."

—Julia Adler-Milstein, Ph.D., whose research tracks the adoption of health IT in the U.S. healthcare system and its impact on the cost and quality of care ●



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Healthier
futures for
individuals and
communities,
**driven by
innovation**



We know the times at hand are fraught with immense challenges to our nation's health and prosperity, challenges that sometimes seem to grow only more daunting, complex, and entrenched with time. Yet **we at IHPI are fueled by clear-eyed optimism and the belief that our work can surmount these challenges.**

Through our institute's collaborative community, where intellectual energy and passion for improving public health and wellbeing converge, we are witnessing how our innovations in healthcare practice and policy are transforming health and healthcare delivery.

Our members are driven to produce research that matters. We ask timely and critical questions that are responsive to the needs of our nation's healthcare system and the people it serves. We foster enduring and productive partnerships, engaging individuals and communities in developing actionable solutions based on patient-centered care priorities, and help ensure that healthcare services are equitable, efficient, safe, effective, affordable, and cost-effective.

With the record of excellence in health services research and health policy established by our faculty and their teams, as well as the great tradition of excellence at the University of Michigan upon which our institute is built, we are now poised to launch new strategic research and training initiatives that address specific policy priorities across a number of areas.

We are innovators, and our collaborative innovations in evaluating how healthcare works and how it can be improved are leading the way in influencing policy and advancing healthcare and population health. These are critical moments in healthcare, and IHPI invites you to be a part of this exciting work. ●

The Institute for Healthcare Policy and Innovation
is committed to improving the quality, safety,
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