2 Curbing a Deadly Economic Drain

4 The Value of IT in Health Care and How to Implement it

6 A Model for Health

8 Helping Health Care Change
As the new dean of the Smith School, I’m excited to have the opportunity to introduce you to some of the Smith School’s fantastic research.

This issue of Research@Smith focuses on the important contributions the Smith School has made to health care research, policy and practice. Much of this work has been conducted in partnership with a host of corporate partners, such as Johnson & Johnson, IBM, CareFirst BlueCross BlueShield, MITRE and Children’s National Medical Center.

Smith students reap the benefits of having top-notch researchers in the classroom — professors like Ritu Agarwal, who founded the school’s Center for Health Information and Decision Systems (CHIDS). Agarwal is a behavioral scientist who studies the use and adoption of information systems and important IT-enabled phenomena like global software development and IT strategy, particularly in the health care industry. Corporations have found her work useful in developing practical organizational policies related to IT use and adoption, and also in IT marketing strategies. And scholars around the world have used her work to inform their own research, making her one of the most-cited authors in the field.

We also bring business leaders from the health care industry directly into the classroom to interact with students. Chet Burrell, the CEO of CareFirst, recently spoke to a packed house of about 300 undergraduates as part of our CEO@Smith speaker series. The MBA Healthcare Business Association also provides opportunities for students and practitioners to meet.

You can learn more about the Smith School’s research and ongoing partnership opportunities on our website, rhsmith.umd.edu.
Curbing a Deadly Economic Drain
Research by Bruce Golden and Sean Barnes
Social network modeling can control hospital acquired infections.

The Value of IT in Health Care and How to Implement it
Research by Ritu Agarwal and Gordon Gao
The Center for Health Information and Decision Systems studies making IT work in health care.

A Model for Health
Research by Margrét Bjarnadóttir
Research merges prediction modeling with optimization to improve appointment outcomes.

Helping Health Care Change
Research by Kathryn Bartol, Susan Taylor, Michael Faulkender, Bruce Golden and Gordon Gao
Researchers bring business savvy to medicine.

Meet Smith’s New Dean
Smith School appoints Alex Triantis.

CHIDS Transforming Health Care Through Many Partners
Featured Researchers

Executive Profile:
Dr. Michael Yochelson, M.D., MBA ’11
MedStar Health National Rehabilitation Hospital
Computer models of interactions between patients and health care workers could be utilized to control deadly hospital acquired infections, according to recent findings by Smith School researchers Bruce Golden, the France-Merrick Chair in Management Science, and Sean Barnes, assistant professor of operations management.

According to the Department of Health and Human Services (HHS), these transmissions strike one out of every 20 inpatients, drain billions of dollars from the national health care system and cause tens of thousands of deaths annually.

Collaborating with Edward Wasil of American University’s Kogod School of Business, the Smith researchers utilized computer models to simulate patient-health care worker interactions to determine whether this network connectivity is a source for spreading multi-drug resistant organisms (MDROs). The findings correlate a “sparse, social network structure” with low infection transmission rates.

The research has come in advance of HHS’ launch and enforcement of a new initiative in 2015 that penalizes hospitals at an estimated average rate of $208,642 for violating specific requirements for infection control.

In response, the authors have introduced a conceptual framework for hospitals to model their social networks to predict and minimize the spread of bacterial infections that often are resistant to antibiotic treatments.

The authors manipulated and tracked the dynamics of the social network in a mid-Atlantic hospital’s intensive care unit. They focused on interactions between patients and health care workers — primarily nurses — and the multiple competing factors that can affect transmission.

The study demonstrated “a starkly lower” transmission rate in a “sparse network” made up of 45 connections in comparison to a “dense network” of 190 connections. Both networks represented the operations of a 20-patient ICU, but the former unit had 10 nurses whereas the latter unit had two nurses.

“The basic reality is that health care workers frequently cover for one another due to meetings, breaks and sick leave,” said Barnes. “These factors, along with the operating health care-worker-to-patient ratios and patient lengths of stay, can significantly affect transmission in an ICU — but they also can be better controlled.”

The next step is to enable hospitals to adapt this framework, which is based on maximizing staff-to-patient ratio to ensure fewer nurses and physicians come in contact.
with each patient, especially high-risk patients.

“The health care industry’s electronic records movement could soon generate data that captures the structure of patient-health care worker interaction in addition to multiple competing, related factors that can affect MDRO transmission,” said Barnes.

“Such a working model would provide near-immediate feedback for infection control practitioners who historically rely on empirical studies and infrequent clinical trials to evaluate intervention strategies,” Barnes said. “You may not be able to change the amount of patient-sharing, but you can structure it in such a way as to prevent additional transmission.”

Barnes said the findings, in the meantime, should prompt managers to closely monitor nurse-patient interaction and strategize for fewer staff to come into contact with high-risk patients. A simple measure would be to employ more nurses. But a more feasible approach is to devise paired or revolving sharing strategies for nurses covering for one another — strategies that minimize each worker’s patient connections.

Researchers at the Center for Health Information and Decision Systems (CHIDS) are delving into the importance of information technology (IT) in health care, and just how new IT can be successfully implemented. Two recent studies examine these areas.

**IT and Quality Disclosures**

Quality is something consumers are very concerned about when it comes to health care. But they are often at a loss when it comes to comparing quality among hospitals and doctors because of a lack of information. Information technology can change that, according to Ritu Agarwal and Guodong “Gordon” Gao of CHIDS. Their research (conducted with Corey Angst, Smith PhD now at the University of Notre Dame) is the first to demonstrate the value of IT in the domain of quality reporting. They found that hospitals with better IT infrastructure are more likely to disclose quality information.

“Consumers need quality information to make wise choices,” said Gao, associate professor and CHIDS co-director. “Unfortunately in health care, it’s very hard to get that information. In recent years, there has been an increasing emphasis from government and practitioners to improve the transparency of quality of providers.”

Making that quality information available to consumers and easily digestible is a big part of the recently enacted Affordable Care Act, said Agarwal, CHIDS founder and co-director, professor and the Robert H. Smith Dean’s Chair of Information Systems. The researchers’ findings provide support for the federal subsidies for health IT adoption in the HITECH Act of 2009. The researchers looked at voluntary hospital disclosures, which are often run by associations or nonprofits and are more comprehensive and up-to-date than mandatory disclosures.

“‘IT can play a pivotal role in reducing the costs for collecting, distributing and sharing information for hospitals.’”
— Ritu Agarwal

CHIDS Founder and Co-director, Professor and Robert H. Smith Dean’s Chair of Information Systems

“‘In health care, there are some laws that require disclosure, but overall the general culture has not been toward collecting a lot of information to be able to report on quality,’ says Agarwal. “One of the key takeaways from this research is that IT can play a pivotal role in reducing the costs for collecting, distributing and sharing information for hospitals.”

Hospitals want to disclose their quality information to stay competitive in the marketplace, and having good IT systems in place makes it much easier and cheaper for them to collect the necessary data. As everything moves to digital records, it should be much easier to push for quality transparency, says Gao. And as hospitals reveal more about their quality and can do so at a lower cost, they should be able to improve performance and increase competition to attract more patients.
"Information technology and voluntary quality disclosure by hospitals," is accepted for publication in the journal *Decision Support Systems*.

**Routinize Health IT**

In a second study, Agarwal and Gao researched how to successfully introduce technology in the complex health care setting, where doctors have long followed set routines in the way they practice medicine—in some cases, for centuries. The researchers’ goal was to figure out how doctors can successfully incorporate new technology into their work routines. This study has important applications for the management of IT in health care.

“This was really the first study to take an in-depth look at how clinical routines are affected by technology and what to do to overcome the barriers and challenges to make the adoption successful,” Agarwal said.

Smith School doctoral student Jie Mein Goh (now faculty at IE Business School in Spain) spent a year shadowing doctors at a hospital before and after new technology was introduced. She followed doctors on their daily rounds to observe their routines firsthand.

“We are trying to open the black box of IT adaptation in health care,” says Gao. “Many times when you introduce new technology—especially IT—into a hospital setting, there is strong resistance from physicians because they feel they already have their way of conducting their work and they don’t like to be disrupted. This often results in a lot of resistance and even abandonments of health IT initiatives.”

The researchers found that the framing of a new IT initiative to doctors plays a big role in determining successful implementation. For example, doctors might shun new IT if they feel it didn’t deliver on promises to improve patient safety and hospital efficiency. Agarwal and Gao suggest hospital administrators should carefully develop messaging and framing around new IT to help physicians successfully incorporate it into their routines. The study also finds the importance of modifying and customizing IT to meet the specific needs of a hospital and its doctors in order for it become part of the daily routine.

“Work routines and technology must be allowed to change in response to each other in an iterative fashion until the technology and the routine become inseparable and integral,” says Agarwal. “This aspect of health IT implementation has largely been overlooked.”


“Many times when you introduce new technology—especially IT—into a hospital setting, there is strong resistance from physicians because they feel they already have their way of conducting their work and they don’t like to be disrupted.”

— Gordon Gao
Associate Professor and CHIDS Co-director
When patients fail to show up for their scheduled medical appointments, not only are they potentially hurting themselves, they are negatively impacting the health care system. For individuals, skipping appointments can lead to worsening medical conditions, an increased risk of death, and more frequent hospitalizations and emergency room visits. For the health care system, cancellations and no-shows can result in increasing costs, capacity issues, rescheduling costs, decreases in revenue from empty time slots, and patient and staff dissatisfaction.

So what can be done to make sure patients show up? And which patients should be contacted? That’s the problem Margrét Bjarnadóttir, assistant professor of management science and statistics, addressed in her research, “Optimal Intervention Programs in Health Care Systems.” Bjarnadóttir’s work weighs the costs and benefits of different options for reducing patient no-shows in the context of prediction models.

Bjarnadóttir says there has been a lot of work in the last decade to create models for predicting health care incidents, such as readmission of hospital patients or survival probabilities of cancer patients. “But prediction models don’t answer a very critical question: Now what?,” she says. “It’s fine to build a prediction model, but you need to do something with the prediction model outcomes.”

In health care, deciding what to do has always been about weighing the costs and benefits of different options. But traditionally, those options have been in the context of entire populations, says Bjarnadóttir. Her research considers the individual characteristics of people through prediction models based on patient characteristics to improve operational decisions.

“We took the prediction models and put them to work,” she said. “One extreme is to do nothing and just deal with the no-shows and cancellation costs. The other extreme is to apply the intervention or prevention to the entire population. But then you’re incurring costs from contacting people who don’t really need reminders or assistance. The right balance is probably somewhere in the middle. The question is how do we find the sweet spot? How do we find the correct cohort of patients to maximize the overall benefit of the system? That’s what we did.”

Bjarnadóttir took the case study of appointment adherence using data from a cancer clinic. Bjarnadóttir and her co-researchers used 104 variables to build their models for predicting which patients would cancel or not show up for appointments, covering such things as types of treatment, severity of disease, and the day and time of the visit. The researchers looked at two intervention options: Having a skilled nurse call people to remind them of their appointments, and using an automated text reminder system.

“You don’t just have to choose one,” she said. “If you have a portfolio of options, you should have the option to mix your interventions, in our case call some patients while texting others, choosing an appropriate option for each segment of the population.”
The researchers found the optimal strategy was to use a mix of telephone reminders for 56.6 percent of the population and text messages for 34.1 percent. Surprisingly, the researchers found that the remainder of the people needed no intervention at all and would show up with a very high probability.

“That is something we are looking into in more detail — figuring out who those people are by analyzing their characteristics,” Bjarnadóttir said. “That’s something the industry can really learn from.”

Bjarnadóttir said this research could be applied to numerous other health care scenarios to determine the most effective interventions for the right patients at the right times for a more efficient health care system. She said this research stream could also be extended to fields beyond health care, such as marketing — “anywhere where your action has complicated cost structures associated with it.”

Bjarnadóttir’s research has been invited for a revision for publication in the Journal of Manufacturing and Service Operations. It received a second place award for best paper from the POMS College of Healthcare Operations Management.
HELPING HEALTH CARE CHANGE

Do more, and do better—but at a lower cost. This challenge is forcing health care professionals to become business savvy, amplified by the recently enacted Affordable Care Act. Robert H. Smith School of Business professors are conducting research and training professionals to develop a new breed of health care worker. These doctors, nurses, and administrators approach patients as customers and possess greater financial, IT, and strategic management acumen to deliver patient-centered, cost-efficient care through finely tuned organizational structures. Here’s a look at recent Smith projects:

Leadership Researchers, MBAs Impact Maryland Hospital

Smith’s Center for Leadership, Innovation and Change (CLIC) researchers recently trained MedStar Southern Maryland Hospital managers to deliver a higher level of cost-efficient, patient-centered care. CLIC co-directors Kay Bartol, the Robert H. Smith Professor of Leadership and Innovation, and Susan Taylor, the Smith Chair of Human Resource Management and Organizational Change, led the year-long project.

They used psychology- and personality-based assessments to identify individual management styles and maximize team building. Managers learned to be innovative in providing better patient service, and a patient satisfaction component involved training by customer service experts from Ritz Carlton and Southwest Airlines. Other workshops covered interpersonal relationships and negotiation, and the training extended to a Smith MBA consulting project. The MBAs worked with unit managers to strengthen recruiting, hiring, and staff training. They produced an employee toolkit that covered issues related to employment law, the Family and Medical Leave Act, and maintaining personnel files. “The students showed tremendous ability to hone in on the issues and pull together the resources needed for this task,” said Reba McVay, the hospital’s vice president for cardiovascular services.

Ryan Finucane, MBA ’13, said he and his Smith project teammates “appreciated the opportunity to create a ‘human capital’-focused solution that delivers tangible and needed results to the hospital staff and their charges.”

The consulting fit with the hospital’s focus on quality care and customer service. “Staff must be skilled clinicians, kind, caring and willing to go the extra mile for their patients and family members,” McVay said.

Overall, CLIC’s training was “especially timely by clarifying and focusing on our paramount goal for consistent quality patient care, and it recognized the cultural
changes our organization would undergo as part of our [MedStar Health-Southern Maryland Hospital] merger,” said Paul Zeller, the hospital’s vice president for human resources and development.

Next up, CLIC is developing team-building and diversity training for Nexus Health, a nonprofit company that specializes in acute and long-term care services in Maryland and the District of Columbia. The center also is working with the University of Maryland Medical Center (UMMC) to develop new leadership and teamwork approaches to improving clinical outcomes following surgery.

“We’re the Center for ‘Leadership,’ ‘Innovation’ and ‘Change,’ and I can’t think of a field other than health care where these three concepts are more vital,” said CLIC Executive Director Pat Stocker. “The industry is undergoing such rapid change and won’t be able to meet its obligations without being innovative.”

Finance for Nurse Leaders

Hospitals and doctors are feeling the financial squeeze with mounting health care spending and the strains of an aging population. Nurse managers with financial savvy can help relieve the pressure. Thanks to a recent Smith School executive education program, nurse managers at the University of Maryland Medical Center (UMMC) learned analytic and financial strategies to improve processes and reduce costs.

Mike Faulkender, associate professor of finance, shared his expertise with 35 nurse managers in the seven-day session. Faulkender drew from his research in corporate finance and risk management. “The program gave these leaders an understanding of their department’s financial role in the overall financial health of the hospital system and the importance to the system of finding innovative ways to curb cost growth.”

The program explored tradeoffs between investing in technology and allocating human resources to achieve health and financial objectives, “and some of the discussion centered on whom — among doctors, physician assistants, or registered nurses — should provide care for different ailments,” Faulkender said.

UMMC CFO Keith Persinger said one of the takeaways for the participants was an understanding of the real cost of registered nurse turnover. “High turnover of RNs is extraordinarily expensive in terms of such factors as training and overtime pay,” he said.

“The industry is undergoing such rapid change and won’t be able to meet its obligations without being innovative.”

— Pat Stocker, Executive Director, Center for Leadership Innovation and Change

Continued on page 10
extraordinarily expensive in terms of such factors as training and overtime pay,” he said.

Faulkender also covered IT utilization as a means to reduce the duration of hospital stays without sacrificing patient outcomes. He also addressed balancing the dual objectives of providing quality care and teaching and research.

Persinger said the program contributed to UMMC’s commitment to keeping its patient-care leaders informed with the most current business knowledge. “Investing in these key leaders simply makes sense as we work diligently to navigate through lower hospital reimbursements and changing health care fundamentals.”

**Insight for Hospital Efficiency**

Bruce Golden, Smith’s France-Merrick Chair in Management Science, is widely respected for his consulting work and strategic operations research. Recently, his investigations have focused on ways for hospitals to operate more efficiently.

A recent study, with Smith colleague Sean Barnes (Page 2), proposes social network modeling to control hospital-acquired infections. The work complements other recent studies involving hospital operations that compromise patient outcomes.

**WORTH THE WAIT**

In a working paper, Golden and Gordon Gao, an associate professor in Smith’s Department of Decision, Operations and Technologies, show patients who arrive in the emergency room in the middle of the night receive quicker access to surgery and the ICU, but fare worse than daytime arrivals. The findings call for managers to be aware of, and strategize according to, the key factors in play: Senior surgeons work during the day, and the generalists working overnight are reluctant to call in specialists. Additionally, surgeons often work the night shift just a few times a month, and therefore would be tired from not being used to working such hours.

**BED SHORTAGES AND HOSPITAL READMISSIONS**

A set of studies in *Health Care Management Science* co-authored with former Smith associate professor Wolfgang Jank (now at University of South Florida) find revenue-driven surgery and poor planning send some surgical patients home too early. Golden suggests that surgeons use checklists before discharging patients and that hospitals increase the flexibility of where patients go post-surgery. Allowing them to be moved to units with empty beds, for example, could curb premature discharges.

**RESIDENCIES BOOST EMERGENCY CARE**

Recently published in *IIE Transactions on Healthcare Systems Engineering*, findings from Golden and his co-authors refute a common hypothesis that physicians-in-residence hinder emergency care in academic hospitals. To the contrary, residents improve patient treatment efficiency. In high-severity cases, they help to decrease waiting times, decrease treatment times and increase throughput. While Golden acknowledges efficiency might not be of highest priority in patient assignments, he recommends residents see as many high-severity patients as possible to complement the mission of an emergency department residency program.

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**SMITH SCHOOL APPOINTS NEW DEAN, ALEX TRIANTIS**

Alex Triantis has been appointed dean of the Robert H. Smith School of Business at the University of Maryland. Dean Triantis has been part of the Smith family since 1995, first as a professor of finance, then as chair of the finance department and co-founder of the Center for Financial Policy, and now as the eighth dean of the Smith School of Business.

Dean Triantis has been an integral part of our educational and outreach mission over the past 18 years. A popular teacher, he has received many awards for teaching excellence. As a highly regarded expert in the area of financial strategy and corporate finance and valuation, he publishes regularly in top journals and has consulted for industry and government clients such as Dupont, Ernst & Young, Lockheed Martin, Marriott International, Morgan Stanley, the U.S. Dept. of Energy, and the World Bank.
The Smith School's Center for Health, Information and Decision Systems (CHIDS) is collaborating with various agencies and private firms to advance health care. CHIDS researchers are working to come up with information technology solutions for government and the health care industry that will improve patient care, promote healthy lifestyles and make more efficient use of resources.

Founded by Ritu Agarwal, the dean’s chair of information systems, and co-directed by Gordon Gao, associate professor of information systems, CHIDS has helped Maryland and other states set up health insurance exchanges to launch the reforms set forth in the Affordable Care Act. In 2012, the center hosted teams of senior executives and health care exchange board members for intensive teaching and debate of best practices for building and running the recently launched Maryland Health Insurance Exchange.

The center also supports initiatives from CNSI, the Robert Wood Johnson Foundation, UMD’s School of Public Health and Baltimore School of Medicine; the Department of Health and Human Services and the Primary Care Coalition in Montgomery County; the Baltimore Veteran’s Administration; the Agency for Healthcare Research and Quality; the Centers for Medicaid and Medicare Services; the Argyoa Foundation; and the FDA.

These initiatives include:

▶ Exploring the effectiveness of software that analyzes big data to detect fraud, waste and abuse, and assess risk.
▶ Developing and validating an evidence-based public health IT maturity index for guiding technology-driven strategies to integrate public health and clinical care programs.
▶ Developing and testing a mobile social engagement platform to improve the management of Type 2 diabetes among older adults.
▶ Developing an electronic health record format for children.
▶ Advancing rural health care in India by assessing the effectiveness of mobile devices for logging and transmitting health assessments in remote villages
▶ Evaluating the FDA’s Public-Private Partnerships Program (CHIDS has developed a framework and new information management processes to manage program and promote innovation).

Read about other collaborative projects at: rhsmith.umd.edu/CHIDS.

FEATURED RESEARCHERS

Ritu Agarwal, professor and the Robert H. Smith Dean’s Chair of Information Systems, received her PhD from Syracuse University. Her current research is focused on the use of IT in health care settings, technology-enabled strategic transformations in various industrial sectors, and consumer behavior in technology-mediated settings.

Sean Barnes, assistant professor of operations management, received his PhD from the University of Maryland. His current research interests are modeling the transmission of infectious diseases, healthcare operations management, simulation, and complex systems.

Kathryn Bartol, Robert H. Smith Professor of Management and Organization, received her PhD from Michigan State University. Her research interests include leadership, knowledge-sharing and creativity, virtual teams and virtual work relationships, information technology and organizations, and rewards and retention.

Margrét Bjarnadóttir, assistant professor of management science and statistics, received her PhD from MIT. Her work spans applications ranging from analyzing nation-wide cross-ownership patterns and systemic risk in finance to drug surveillance and practice patterns in health care.

Michael Faulkender, associate professor, received his PhD from Northwestern University. His research focuses on empirical corporate finance in the areas of capital structure, risk management, corporate liquidity, and executive compensation.

Guodong (Gordon) Gao, associate professor in the Decision, Operations and Information Technologies Department, received his PhD from the University of Pennsylvania. His research interests include IT’s impact on health care and innovation, and the transparency in service quality.

Bruce Golden, the France-Merrick Chair in Management Science, received his PhD from the Massachusetts Institute of Technology. His research interests include heuristic search, combinatorial optimization, networks, and applied operations research.

Susan Taylor, Smith Chair of Human Resource Management & Organizational Change, received her PhD from Purdue University. Her research examines the nature of change leadership and its effects on employee reactions and team performance and cross-cultural differences in the nature of the organizational innovation process.
Michael Yochelson was 10 when he decided he wanted to be an ophthalmologist. He was stopped short in his fourth year of medical school when his ophthalmology rotation was cancelled at the last minute. It turned out to be serendipity. He selected a last-minute substitute in physical medicine and rehabilitation and was hooked.

Yochelson was especially enthralled with neurological rehabilitation — helping patients after brain injury and stroke. He did his residency in the Navy, where he served nearly 12 years as a staff physician. In 2006, Yochelson joined MedStar National Rehabilitation Hospital as medical director for the brain injury program. He became the hospital’s associate medical director in July 2009. At every step, Yochelson was developing his passion for administrative health care and realizing the need for a business degree.

“There is a whole lot of business in medicine these days,” says Yochelson. “I felt like getting an MBA would make me a better leader.”

Yochelson looked at a lot of executive MBA programs, but landed on Smith’s program for its strong emphases on strategy, general leadership and management. He also really liked that Smith’s executive coaches work closely with students throughout every step of the intensive 19-month program. “Even though what we were discussing in class might not have been health care-related, in the back of my mind, I was always thinking about how I’d implement those things,” says Yochelson.

He found it particularly helpful to learn how to deal with difficult employee situations. He says he got a lot of benefit from working one-on-one with his executive coach on specific issues at his hospital to make changes in real time.

“Medical school is great at teaching medicine, but it’s absolutely horrible at teaching the business of medicine,” says Yochelson. “It does not teach you anything about management, finance, strategy, or anything along those lines. I felt very capable and confident about managing someone’s brain injury treatment, but not necessarily about managing co-workers or associates.”

Shortly after graduating from Smith’s EMBA program in July 2011, Yochelson assumed his current role as vice president of medical affairs and chief medical officer of the hospital, a role that is almost entirely administrative. He works with patients only a half-day per week, as his days are consumed with the business of running a hospital. And with the recently enacted Affordable Care Act and other health care reforms, that business has never been more challenging.

“This is where having gone to Smith and the emphasis on strategy is really critical,” Yochelson says. “We don’t yet know exactly what the future of healthcare is going to hold for us. We’re already in planning mode so that hopefully as we need to shift course, we can do so as nimbly as possible.”

Learn more about the Smith School’s EMBA program online, www.rsmith.umd.edu/emba.
RESEARCH AT SMITH

The Smith School is consistently ranked in the top 10 for research worldwide by publications such as the Financial Times and Bloomberg Business Week. Smith faculty research explores topics that matter to business leaders, policy makers and academics. Their work is highly regarded and widely cited, and their expertise is sought after by major media outlets and top corporations alike. Keep up-to-date with the latest research topics on our website, www.rhsmith.umd.edu.

UNIVERSITY OF MARYLAND

The University of Maryland, College Park, is one of the nation’s top 20 public research universities. In 2007, the University of Maryland received approximately $407 million in sponsored research and outreach activities. The university is located on a 1,250-acre suburban campus, eight miles outside Washington, D.C., and 35 miles from Baltimore.

ROBERT H. SMITH SCHOOL OF BUSINESS

The Robert H. Smith School of Business is an internationally recognized leader in management education and research. One of 12 colleges and schools at the University of Maryland, College Park, the Smith School offers undergraduate, full-time and part-time MBA, executive MBA, online MBA, MS in business, PhD and executive education programs, as well as outreach services to the corporate community. The school offers its degree, custom and certification programs in learning locations in North America and Asia. More information about the Robert H. Smith School of Business can be found at www.rhsmith.umd.edu.
IN THIS ISSUE

- Curbing a Deadly Economic Drain
- The Value of IT in Health Care and How to Implement it
- A Model for Health
- Helping Health Care Change

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