THE CENTER FOR HEALTH INFORMATION AND DECISION SYSTEMS

J. L. ADAMS

CHIDS

TRANSFORMING HEALTHCARE IS OUR MISSION.

UNIVERSITY OF MARYLAND
ROBERT H. SMITH SCHOOL OF BUSINESS
FROM THE DIRECTORS

Established at the Robert H. Smith School of Business in 2005, the Center for Health Information and Decision Systems (CHIDS) is an independent research and development resource that provides knowledge and insight into the complex domain of information and decision systems in healthcare. The center has an extensive portfolio of research projects and an outstanding cadre of human capital comprised of faculty, student fellows and business professionals.

CHIDS’ faculty provide research and scientific expertise, formulating and leading projects with impactful findings that influence a broad range of stakeholders. Collaboration with many non-profit organizations supplements interactions with academic and industry partners. As CHIDS’ leaders, we are encouraged and motivated by the significant potential that information and decision technologies offer for fundamental and breakthrough advances in the practice and delivery of healthcare.

As you learn more about CHIDS and the robust activity at the center, we invite you to become part of the team and share our passion for healthcare transformation.

Sincerely,

Ritu Agarwal
Co-Director, Center for Health Information and Decision Systems

Guodong (Gordon) Gao
Co-Director, Center for Health Information and Decision Systems

Gordon Gao
Gordon Gao is co-director of CHIDS and associate professor at the University of Maryland’s Robert H. Smith School of Business. He has extensive research experience on information technology’s role in improving care delivery, quality transparency and consumer empowerment. Gao’s research has been profiled and featured in popular media including the Washington Post, NPR news and Reuters. He is the recipient of the prestigious NSF CAREER Award.

Ritu Agarwal
Ritu Agarwal is the founder and co-director of CHIDS, professor and Robert H. Smith Dean’s Chair of Information Systems at the Smith School. She has published more than 90 papers on information technology management topics in leading research journals, and has worked extensively with Fortune 500 companies. Agarwal has been a keynote speaker at national and international conferences and has advised a number of governmental and non-governmental organizations on the digital transformation of healthcare.

Kenyon Crowley
Deputy Director Kenyon Crowley is the first point of contact for all partnership inquiries. Contact him at kcrowley@rhsmith.umd.edu or 301.405.9593.

Faye Baker
Program Manager Faye Baker is the first point of contact for all general inquiries. Contact her at fbaker@rhsmith.umd.edu or 301.405.2206.
WITH A MISSION TO TRANSFORM HEALTHCARE, CHIDS IS A TRUSTED PARTNER AND RESOURCE AT A TIME WHEN INVESTMENT IN HEALTHCARE TRANSFORMATION IS AT THE FOREFRONT OF THE NATIONAL AGENDA.

ABOUT CHIDS

CHIDS is an academic research center at the Robert H. Smith School of Business that works in collaboration with industry and federal, state and local government affiliates. We research, analyze and recommend solutions to challenges surrounding the introduction and integration of information and decision technologies into the healthcare system.

Our research seeks to understand how digital solutions can be more effectively deployed to address outcomes such as patient safety, healthcare quality, efficiency in healthcare delivery and a reduction in health disparities. We offer a world-class research staff and renowned scholars in the economic, social, behavioral and managerial aspects of technology implementation, adoption, assimilation and return on investment. CHIDS serves as a focal point for thought leadership around the topic of health information and decision systems.

CHIDS is uniquely positioned to bring the major players in healthcare together to tackle the myriad challenges facing this industry. Our Stakeholder Ecosystem consists of:

- Academic and research institutions
- Commercial businesses
- Government agencies
- Not-for-profit organizations
- Health providers
- Patients and caregivers

These collaborators are essential partners in improving the practice and delivery of healthcare through the application of information and decision technologies.

OUR STAKEHOLDERS

Policy-makers
- Inform the formulation of policy.

Providers
- Inform the practice of healthcare.

Business
- Provide key inputs for investment decisions.

Academia
- Create archival knowledge. Train future leaders.

NPOs
- Support advocacy and change.

Patients
- Empower consumers. Improve health outcomes.
Our healthcare system faces a striking information deficit that is crippling its ability to function effectively. Poor care quality, preventable errors and high costs are some of the many challenges we face.

- Up to 63% of adverse events that occur in hospitals are preventable.
- A majority — 77% — of care providers are dissatisfied with the design of their electronic health record systems.
- Approximately 80% of errors are initiated by miscommunication, misinformation in medical records, misfiled or missing charts, and inadequate reminder systems.
- The Institute of Medicine estimates that preventable failures on the part of the U.S. healthcare system have resulted in as many as 98,000 patient deaths per year.
- It’s estimated that the U.S. health system squanders $750 billion a year — roughly 30 cents of every medical dollar — through unneeded care, unnecessary paperwork, fraud and other waste.
- 1 in 7 primary care visits is negatively affected by missing medical information.

Many of these problems can be resolved through better system design, use of evidence-based care and management, application of best practices in information technology adoption and use, and presenting consumable information to patients and providers at the right time and in the right format.

RESEARCH AT CHIDS

Our research portfolio spans four key themes integral to the transformation of healthcare. We have faculty expertise, project experience and deep domain knowledge in each of these areas:

- **HEALTHCARE ANALYTICS**
  Creates actionable knowledge from healthcare data, generating data-driven health services insights, modeling systems and applying operations management techniques

- **IMPACT, DESIGN AND COMPARATIVE EFFECTIVENESS OF HEALTH INFORMATION SYSTEMS**
  Maximizes the adoption, meaningful use and value of health information systems

- **CONSUMERS, QUALITY AND TRANSPARENCY, AND SOCIAL MEDIA**
  Helps consumers understand their healthcare choices, better engage with the healthcare delivery process and facilitate self-management of health and wellness

- **NEW MODELS OF HEALTH SERVICES DELIVERY**
  Examines how innovative organizations connect across the healthcare ecosystem to manage patient populations, transitions of care and achieve financial sustainability

CHIDS is determining how a range of digital technologies and processes can be more effectively deployed to improve patient safety, care experience, healthcare quality and delivery efficiency, and also reduce disparities in health outcomes.
CHIDS’ PROJECTS, PROGRAMS AND INITIATIVES

Healthcare Analytics

- Health Informatics Research Initiative (HIRI): Improving informatics knowledge and use in the military health system
- Cost-effectiveness model that considers the role of social networks in disease progression
- Cost-effectiveness of screening for high-risk plaque and the reduction of acute myocardial infarction
- Systems engineering and integration in intensive care units

Impact, Design and Comparative Effectiveness of Health Information Systems

- Model EHR format for children
- Personal health records and secure messaging for military personnel
- Economic impact of unnecessary CT scans
- Understanding development methods from other industries to improve the design of consumer health IT
- mHealth lab results management application for cardiologists

Consumers, Quality and Transparency, and Social Media

- Investigating physician online rating systems
- The complex privacy calculus for personal health information (PHI)
- Early findings on personal health records and individual use
- Social media strategy for healthcare finance and delivery
- Mobile-social engagement for chronic disease management
- Determinants of online quality disclosure by California hospitals

New Models of Health Services Delivery

- HIE Challenge Grant: facilitating effective care transitions using health information exchange (HIE)
- Evaluation of the DC regional health information organization (DC RHIO)
- Design of effective business models for HIEs
Innovative workshops, programs and events, such as the Workshop on Health IT and Economics (WHITE), the Innovate 4 Healthcare Challenge, and the Health Insurance Marketplace (HIM) Leadership Program, provide a forum for making connections and keeping "best practices" in healthcare front and center.

**The Workshop on Health IT and Economics (WHITE)**

Despite IT's potential to transform healthcare delivery, significant challenges remain regarding design, implementation, utilization and evaluation. These issues are being actively explored in fields as diverse as medical informatics, computer science, public health, business and economics. Each field brings unique perspectives and insights. Collectively, these disciplinary approaches are complementary.

CHIDS founded WHITE in 2010 with a mission to build a multidisciplinary health IT and economics research community, and to stimulate new ideas with both policy and business implications. Synergies generated from integration across individual disciplines have deepened community members understanding of health IT design and its resultant impact. This forum provides a lively venue to facilitate interaction and collaboration among academia, government, and industry. Each year WHITE attracts participants from more than 40 institutions.

**PARTNERS:** Academy Health, Agency for Healthcare Research and Quality (AHRQ) and Optimal Solutions Group

---

**The Innovate 4 Healthcare Challenge**

The Innovate 4 Healthcare Challenge is a national collegiate competition designed to harness the creativity of the best and brightest student talent from across the country in pursuit of solutions to transform the practice and delivery of healthcare. The challenge seeks to surface and conceptualize breakthrough ideas that are demonstrably effective in producing value and are simultaneously aligned with partners’ strategic goals. Our first challenge, produced in partnership with Johnson and Johnson and supported by the Office of the National Coordinator for Health Information Technology (ONC), delivered more than two dozen proposals merging technology, process and business model innovation aimed at helping patients and providers become more engaged with them.

**PARTNERS:** Johnson & Johnson and the Office of the National Coordinator for Health Information Technology (ONC)

---

**The Health Insurance Marketplace (HIM) Leadership Program**

The HIM Leadership Program is a combined research initiative and unique peer-to-peer based executive education program for state officials and health insurance exchange boards focused on developing, operating and maximizing the value of health benefits exchanges. The program covers critical governance, risk, economic, design and operational issues. Sessions are led by Smith School faculty and other top private sector leaders and integrate business case style discussion with current real-life challenges states face today, drawing upon lessons learned from previous efforts.

**PARTNERS:** Accenture, CNSI, GetInsured.com and Maximus

---

**Past and Present Event Sponsors:**

- [AcademyHealth](http://www.rsmith.umd.edu/chids)
- [Westat](http://www.rsmith.umd.edu/chids)
- [Optimal Solutions Group LLC](http://www.rsmith.umd.edu/chids)
- [Accenture](http://www.rsmith.umd.edu/chids)
- [CNSI](http://www.rsmith.umd.edu/chids)
- [GetInsured.com](http://www.rsmith.umd.edu/chids)
- [Maximus](http://www.rsmith.umd.edu/chids)
Our collaborations with private corporations, government agencies, not-for-profit organizations and academic institutions help us to collectively achieve our vision for improving the practice and delivery of healthcare through the application of information and decision technologies.
Our Partnerships

Partnerships are very important to us. We rely on these relationships to conduct mutually beneficial research and knowledge generation activities. Our ongoing collaboration and engagement make the following possible:

**Event Sponsorships**

CHiDS welcomes sponsorships for large events and research seminars, as well as custom events.

**Gifts**

Give an unrestricted, tax-deductible gift in support of students and faculty working to accelerate healthcare transformation.

---

**Benefits of Partnership Include:**

- An opportunity to help shape our research agenda
- Participation in key conferences and events
- Priority access to researchers (PhD, MBA and Undergraduate) participating in CHiDS projects
- Early insights from research papers and publications
- Recruiting assistance with Smith’s Undergraduate and MBA programs
- Access to Decision, Operations and Information Technologies (DO&IT) world-class faculty

---

**Meet the CHiDS Team**

CHiDS leadership works with a number of affiliated faculty, including collaborating investigators from several schools and colleges at our flagship College Park campus, and at the University of Maryland, Baltimore. Beyond the University of Maryland, faculty collaborations exist with more than 15 universities globally. In addition, CHiDS research scholars and fellows contribute to the scholarship and outreach of the center.

**Leadership**

Co-Director: Ritu Agarwal, PhD
Co-Director: Gordon Gao, PhD
Deputy Director: Kenyon Crowley, MBA, MS, CPHIMS
Program Manager: Faye Baker

**Affiliated Faculty**

Sean Barnes, PhD
Margéét Bjarnadóttir, PhD
Barney Corvin, PhD
Raul Cruz-Castro, PhD
Robert Gold, PhD
Bruce Golden, PhD
Brad Greenwood, PhD
Jeffrey Herrmann, PhD
Jeffrey McCullough, PhD
Timothy Meiler, DDS, PhD
Sunil Mithas, PhD
Karoline Mortensen, PhD
Catherine Piasant, PhD
Kislaya Prasad, PhD
Magaly Rodriguez de Bittner, PharmD
Nanette Steinle, MD

**Senior Fellows**

Anuj Desai, MBA
Anjali Katharia, MPH
C. Desiree Ponti

**Research Fellows**

JM Goh, PhD
Jiban Khuntia, PhD
Chad Konchak, MBA
Dongyun Lee
Emily McPherson, MS
Jorge Meija
Ashwarya Shukla
Tianshu Sun
Capt. Vickie Wolcott

**Executive Fellow**

Col (R) Jesus Zarate
OUR MISSION

CHIDS is dedicated to improving the practice and delivery of healthcare by offering researched solutions that introduce and integrate information and decision technologies into the healthcare system. We conduct studies and provide thought leadership on effectively deploying digital technologies to help insure patient safety, healthcare quality, efficiency in healthcare delivery and a reduction in healthcare disparities.