Institute for Health System Innovation & Policy

INAUGURAL REPORT
THE VISION

A premier interdisciplinary institute transforming health and health care delivery through research and innovation in technology, system design, leadership, digital health, and policy.

FIRST YEAR HIGHLIGHTS

Dr. Jonathan Woodson rejoins BU as Director

Mark Allan, MBA, appointed Executive Director of the IHSIP

Digital Health Initiative launched in partnership with Hariri Institute for Computing and Computational Science & Engineering

Center for Health System Design and Implementation (CHSDI) created

Dr. Brian Jack appointed as Director of the CHSDI

Jayakanth Srinivasan, PhD, appointed Research Associate Professor and Fellow

Dr. Srinivasan awarded Department of Defense grant

Twelve projects involving 32 faculty, representing 9 schools and 15 departments across BU, funded through IHSIP seed grants
The Institute for Health System Innovation and Policy (IHSIP) was established in November of 2016. It is the vision of President Brown and the acknowledgment of the great contribution Boston University has to offer in driving innovation in the health sector by developing a new model for promoting and sustaining interdisciplinary research that is impactful and adds value to society. The IHSIP supports One BU and leverages the deep talent inherent in the constituent schools, colleges and centers that make up Boston University, but provides a platform for making the whole greater than the sum of the parts. Furthermore, The IHSIP’s operational model reflects the complexity of developing comprehensive solution sets to address the myriad of issues that relate to advancing and innovating in the health sector.

The IHSIP acts as an accelerator, integrator, and convener of interdisciplinary health and health care research across five domains: development and transfer of biomedical and health technologies; health systems design and implementation research; executive and strategic health care leadership development; digital health; and health care policy. The IHSIP’s activities are positioned to mutually support collaborative internal faculty research and enhance Boston University’s ability to collaborate with external partners such as industry, government (domestic and international), foundations, and other academic institutions.

Advancing health, improving health care, and creating sustainable health care systems is a challenging problem for our country and many societies throughout the world. The IHSIP was engaged by private and government executives from several nations around the world during our inaugural year to learn how we are thinking about these issues and the potential pathways to solutions. This is a recognition of Boston University’s great international reputation, which the IHSIP expects to extend with thought leadership in the health sector.

The IHSIP is fully engaged across the BU community. I am proud and honored to serve as the first Director of the Institute for Health System Innovation and Policy.

Sincerely,

Jonathan Woodson, MD
Director, Institute for Health System Innovation and Policy
Larz Anderson Professor of Management and Practice, Questrom School of Business
Professor of Surgery, Boston University School of Medicine
Professor of Health Law, Policy and Management, Boston University School of Public Health
Building the IHSIP

Five Domains of Focus:

**Biomedical & Health Technology Development & Transfer**
Science and technology are offering tools for health improvement at a rapidly accelerating pace. These include bio-pharmaceutical innovation, new medical devices, and digital and tele-health platforms. However, this development needs to be effectively managed and its products need to be carefully integrated into the healthcare system in order to actually improve value.

**Health System Design and Implementation**
Healthcare delivery systems are challenging environments in which to innovate due to their great complexity and multiple pressures and stakeholders. Intelligent and realistic innovation, and even redesign, will be essential to meeting the emerging needs of evolving populations. Such design can only be developed from a multi-disciplinary and multi-faceted platform that relies on evidence and deep expertise to inform decisions.

*The Center for Health System Design & Implementation (CHSDI) is the first chartered component center within the IHSIP.*

**Strategic Health Care Leadership**
The emerging challenges of the health sector demand a new level of leadership. Twenty-first century leaders must see beyond the immediate demands and interests of their current roles, and their focused areas of training, to understand the current and needed shifts in the system. Only this will allow them to effectively operate to create value in a complex, ambiguous, and uncertain environment.

**Digital Health**
Use of data and analytics is a critical positive leverage point in a system that can no longer process critical information in traditional ways. New capacities in this arena promise to go beyond improving efficiency to transform how care is provided and how the system is designed and managed.

**Health Care Policy**
Values and intentions alone cannot drive policy. Achieving results that are concrete and measurable is challenging but essential. Deep understanding of the other four domains, and hard evidence based on quantitative research, will provide the basis for intelligent policy that is designed for specific effects.
Driving Innovation in Health Care

The IHSIP focuses on five pivotal, interconnected domains that are central to driving innovation in health care.

- Impact Driven
- Research
- Education
- Thought Leadership
- Health System Design & Implementation
- Strategic Health Care Leadership
- Digital Health
- Biomedical & Health Technology Development & Transfer
- Health Care Policy
IHSIP Programs & Activities 2016-17

Programs

The IHSIP’s core activities included the development of the following platforms and projects:

The Center for Health System Design & Implementation (CHSDI)
The first chartered component center within the IHSIP focuses on health system optimization through research in diverse disciplines such as health services research, organizational behavior, systems design tools, enterprise management, systems controls, and modeling. The center is deeply committed to use of data analysis and research methodology to drive innovation.

The Digital Health Initiative
The IHSIP and the Hariri Institute for Computing and Computational Sciences & Engineering jointly created the Digital Health Initiative (DHI) to support digital health research at BU. Digital health leverages a range of technologies to enhance health care delivery and precision medicine.

The DHI sponsored its first symposium in February featuring prominent guest speakers from BU faculty, IBM Watson Health, and McKinsey & Company. Faculty from nearly every school at BU attended. An RFP announcement garnered an enthusiastic response from the BU research community, which led to the funding of 11 interdisciplinary projects.

Federal Health Systems Research
The Army Research Institute awarded Professor Srinivasan and his colleagues a nearly $1M grant to study how leaders can improve health and discipline in their organizations.

Education

The IHSIP is committed to promoting and developing new curricula to enhance the competency and capabilities of health care professionals of today and tomorrow.

Emerging Health Care Leaders
Co-sponsored with the BU School of Medicine, Henry M. Goldman School of Dental Medicine, Questrom School of Business, and the BU School of Public Health. This course responds to the need to develop enhanced leadership and management skills in medical professions targeted to become key academic leaders in health related disciplines.

Driving Innovation in the Health Sector (HM848)
A new course developed by Mark Allan for MBA students to examine compelling opportunities for innovation (products and services) in the health sector.

Operations Management in Healthcare (PM832)
Re-engineered and taught by Professor Srinivasan at the School of Public Health to a mix of MPH and MBA students. The course goes beyond just the core concepts of operations management and introduces the student to implementation science to drive change.

Quality Improvement Science for Medical Residents
Professor Srinivasan collaborated with the internal medicine faculty to teach Quality Improvement to 2nd year medical residents.
Collaboration

As a convener, accelerator, and facilitator of interdisciplinary research, the IHSIP looks for collaborators to bring experts together from diverse academic disciplines. The IHSIP has developed the following collaborations:

The Rafik B. Hariri Institute for Computing & Computational Science & Engineering

The Hariri Institute, led by Professor Azer Bestavros, is a university-wide research institute that propels transformative computational and data-driven research and training initiatives across the landscape of academic disciplines. The IHSIP and Hariri Institute jointly created the Digital Health Initiative.

The Center for Military & Post Deployment Health

BU School of Medicine’s Center for Military and Post Deployment Health works to improve health outcomes for active-duty military, veterans, and their families. This center, led by Dr. Anna Hohler, provides clinical care and conducts research related to some of the most pressing military health issues, such as traumatic brain injury.

The Center for the Urban Child & Healthy Family

Led by Dr. Megan Bair-Merritt, this center develops innovative care delivery strategies for vulnerable children and their families. The Center for the Urban Child and Healthy Family is based in Boston Medical Center (BMC) Pediatrics.

The Mobile and Electronic Health Affinity Research Collaborative

The ME-Health ARC, based in the Evans Center for Interdisciplinary Biomedical Research, is working to advance state-of-the-art research and training in mobile and electronic health to improve the health of underserved populations across the lifespan. Drs. Belinda Borrelli, Lisa Quintiliani, and Julie Keysor lead the ME-Health ARC.

Frederick S. Pardee School of Global Studies

Global Health Engagement (GHE) is expanding, but it has not consistently been developed as an important anchor of U.S. foreign policy as other countries have done. In March 2017, IHSIP partnered with Pardee and SPH to conduct a forum on the issue of GHE as an important foundation of foreign policy with discussion on how different nation-states and non-state entities have used health engagement to exert influence around the world.
IHSIP 2017 RESEARCH AWARDS

Antimicrobial Resistance

*Understanding and Diagnosing AMR*

*Misinformation on Social Media: A Systematic Proposal to Inform and Guide Intervention Strategies*, Professors Dylan Walker (Information Systems, Questrom), Jacob Groshek (Emerging Media Studies, COM), and Arunima Krishna (Public Relations, COM).

Digital Health Initiative

*Overdose Prevention Mobile App Prototype*, PI Abby Rudolph from the Department of Epidemiology (SPH).

*Enabling Data Science for Medicine*, PI Gerald Denis (Medicine, MED), in collaboration with Naomi Ko (Medicine, MED).


*Mobile App for TBI Assessment*, PI Anna Hohler from the Department of Neurology (MED), in collaboration with Monica Parker-James (Medicine, MED).

*Optimizing Discharge Decisions to Reduce Surgery Re-Admissions*, PI Ioannis Paschalidis from the Department of Electrical & Computer Engineering (ENG), in collaboration with George Kasotakis (Surgery, MED).

*Automatic Assessment of Room Clutter for Improved Hoarding Disorder Assessment, Treatment, and Prevention*, PI Janusz Konrad from the Department of Electrical & Computer Engineering (ENG), in collaboration with Jordana Muroff (Clinical Practice, SSW).

*Leveraging Smartphone Sensing Technology to Identify Social Isolation in Mental Illness*, PI Daniel Fulford from the Department of Occupational Therapy (SAR), in collaboration with Richard West (Computer Science, CAS) and Yuting Zhang (Computer Science, MET).


*Fitness Improvement and Tracking Tool (FITT)*, PI Deepak Kumar from the Department of Physical Therapy & Athletic Training (SAR), in collaboration with Belinda Borrelli (Health Policy & Health Services Research, SDM) and Tuhina Neogi (Medicine, MED).

*Development of Infrastructure Platform for e-Cognitive Studies*, PI Honghuang Lin from the Department of Medicine (MED), in collaboration with Rhoda Au (Neurology, MED).

*Mapping of Posttraumatic Stress Disorder*, PI Michael Otto from the Department of Psychological & Brain Sciences (CAS).
OUR LEADERSHIP & FACULTY

Jonathan Woodson, MD, MSS  
Director, IHSIP

Dr. Woodson returned to Boston University following six years of government service as Assistant Secretary of Defense for Health Affairs, where he was the principal advisor to the Secretary of Defense. He administered the $50+ billion Military Health System and led it through the most significant changes in 50 years.

Mark Allan, MBA, MSW  
Executive Director, IHSIP

Mark returned to BU after serving as founding Executive Director of the Max Institute for Healthcare Management at the Indian School of Business. Mark has a long history of executive positions in the healthcare industry, including building and leading the BMC HealthNet Plan, as well as senior academic and consulting roles.

Brian Jack, MD  
Director, Center for Health System Design and Implementation

Dr. Jack is Chair of the Department of Family Medicine at BU School of Medicine, has authored over 100 peer-reviewed articles or book chapters, and is a nationally and internationally recognized expert and leader in primary care innovation. His research team has developed the “Reengineered Discharge” (Project RED)--adapted by the National Quality Forum as a national “Safe Practice,” and used in all states and in over 10 countries. He has received numerous awards and recognitions, and in 2013 was elected to the Institute of Medicine of the National Academies of Science.

Jack McCarthy, DBA  
Associate Director of Leadership, IHSIP

Dr. McCarthy is an Associate Professor of Organizational Behavior in the Questrom School of Business at Boston University and serves as the Director of the Hubert H. Humphrey Fellowship Program. His expertise and research interests are in leadership, creativity, organizational change, and global sustainability.

Jayakanth “JK” Srinivasan, PhD  
Research Associate Professor and IHSIP Fellow

Prior to joining BU, Dr. Srinivasan was a senior researcher and educator at the MIT Sloan School of Management where he led a research team to transform behavioral health services in the Army. JK is an expert on systems analysis and health system transformation, with a focus on system redesign, modeling and analytics, performance management, and change implementation.
Looking Ahead

The Institute for Health System Innovation and Policy has had a busy first year and will be expanding activities in line with the IHSIP strategic plan. To build a set of sustainable programs the IHSIP will embark on a capital fundraising campaign and aggressively pursue external grant support for specific projects.

The daily news headlines and intense debate over health care reform taking place in our nation’s capital speaks to the relevance of the IHSIP and the opportunity for Boston University to be an academic leader, add value, and have impact in the health sector.
Interested in collaborating?

CONTACT THE IHSIP:

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