MIT MANAGEMENT SLOAN SCHOOL | Health Systems Initiative

HSI Newsletter: September 2025

In this issue, the first of the 2025 - 2026 academic year, we report on new research by Prof. Joe Doyle, in collaboration with industry leaders, at the HSI Lab on Employee Population Health. They are conducting randomized trials to discover which employee wellness interventions truly decrease healthcare spending and increase worker productivity. We also report on Prof. Mert Demirer's research on the effect of rebates on some drug prices for Medicare recipients.

Under News Notes, we have updates on some previous articles and announce a new member of our Advisory Board.

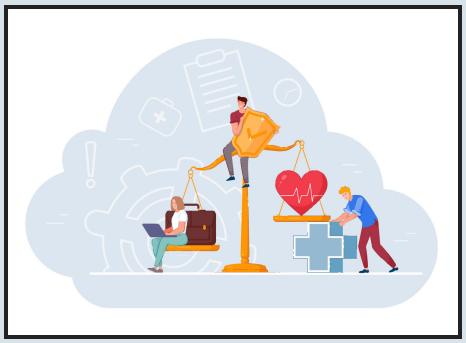
We are pleased to announce our first HSI Lunchtime Seminar of the school year, which will be held on October 15. Sloan alum Dr. Barry Stein, Chief Clinical Innovation Officer & Chief Medical Informatics Officer at Hartford Healthcare, will discuss the organization's use of AI in his talk "Unlocking the Power of AI in Healthcare in a Safe and Responsible Way."

Attend in person or via Zoom. Register HERE.

As always, if you have any questions or suggestions, please contact us at healthsystems@mit.edu.

NEWS

Unlocking the Value of Employee Wellness: HSI Research Points the Way Forward



On July 24, 2025, Professor Joe Doyle, along with HSI industry research collaborators, delivered a webinar called "Unlocking the Value of Employee Wellness" as part of MIT's Industrial Liaison Program's (ILP) Leading Edge Seminar series. His talk focused on how workplace wellness programs can move from good intentions to proven results.

Why Employee Wellness Matters

Companies have long offered programs to help employees stay healthy — fitness classes, nutrition coaching, mental health apps, and chronic disease support. These benefits are now a significant business: the global corporate wellness industry earned $42 billion in 2022 (half of which was in the U.S.) and is expected to grow to approximately $100 billion by 2033.

Employees increasingly expect these programs, and employers hope to gain healthier, more productive workforces and lower healthcare costs. But there's a catch: despite all this investment, solid evidence proving what truly works is surprisingly scarce.

HSI's Approach: Science Over Guesswork

Doyle leads MIT's HSI Lab on Employee Population Health, which partners with large companies that pay their own healthcare costs. Together they run carefully designed studies — not just surveys or anecdotes — to answer a deceptively simple question: Which programs actually help employees and save money?

The Lab uses three tools:

- Behavioral science to understand what motivates people.
- Randomized trials that test programs in real workplaces.
- Advanced analytics to see which efforts pay off.

One clear finding: even excellent programs fail if enough people don't sign up. In one experiment, the Lab tested whether changing the invitation made a difference. Instead of saying "Would you like to join?" they told employees, "You're already enrolled—get started today." This small change tripled participation among men and doubled it among women.

Partner Insights: Digital Health in Action

Two HSI research partners shared their experiences during the webinar.

Well.co utilizes artificial intelligence to deliver personalized concierge health services on a large scale. By combining medical records, wearable device data, and personal input, their platform provides tailored recommendations. The results: higher participation, lower healthcare costs (about six percent less than similar groups), and strong employee satisfaction scores.

Amwell SilverCloud offers digital mental health programs, primarily online cognitive behavioral therapy, used by more than 1.7 million people worldwide. In Ireland's National Health Service, SilverCloud achieved a 67% activation rate and helped half of users with depression or anxiety reach recovery levels. These programs also improved employees' performance at work.

Both companies stand out because they gather real data and measure what's working rather than relying on assumptions.

Turning Complex Data into Clear Answers

MIT Sloan PhD student Brian Liu explained how the HSI Lab works with SilverCloud to predict who benefits most from digital mental health tools. Liu designed powerful machine-learning models to identify patterns, then simplified these models so that employers and program designers can understand the key drivers of success. This helps companies target the right programs to the right people.

Looking Ahead

Professor Doyle closed with an invitation to employers: share your de-identified data, test new ideas, and let our rigorous research guide your wellness investments. Upcoming projects will explore innovative financial incentives, supporting employees' participation during work hours, and improving follow-up messages after annual health assessments.

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Recent Research Reveals the Impact of Drug Rebates on Formulary Design in Medicare Part D

Drug prices for patients enrolled in Medicare Part D are determined by private negotiations and undisclosed rebates between insurance companies (or their

intermediaries, Pharmacy Benefit Managers) and drug manufacturers. These rebates are essentially discounts off the list price of a drug. A key feature is that these discounts are "formulary-contingent," meaning manufacturers pay larger rebates if their drug is placed on a more favorable tier of the insurance plan's list of covered medications, its formulary. Placing a drug on a "preferred" tier means lower out-of-pocket costs for patients and higher demand for the drug.

HSI faculty researcher, Prof. Mert Demirer collaborated with Prof. Alexander L. Olssen from Wharton to study these confidential rebates, uncovering their effects on health plan design, patient costs, and overall well-being. The researchers focused on prices of branded statins (cholesterol-lowering drugs, such as Crestor and Lipitor) in 2010. Statins were a significant part of Part D prescriptions, and the market included both branded and generic options, making it an ideal case study.

Instead of trying to model the complex negotiations, the researchers built a model of how patients choose plans and statins, and how insurers, wanting to maximize profits, choose their formularies. By observing which formulary choices insurers actually made, they could infer the range of rebates that would make those choices profitable for the insurers. This method, known as "moment inequalities," allowed them to estimate the rebates without knowing the exact negotiation process.

Key Findings on Rebates and Their Impact:

1. Rebate amounts are significant:
   - The study estimates that the average per-unit rebate for placing branded statins on the preferred tier was around 37.3% for Crestor and 36.2% for Lipitor.
   - These are considerably higher than the average branded drug rebates across all Part D drugs in 2010 (estimated at 13.8%).

2. And they have a significant impact on formularies:
   - Rebates have a large effect on formulary design. For example, increasing Lipitor rebates from 35% to 50% would lead to an 18 percentage point increase in large plans placing Lipitor on the preferred tier.
   - Sometimes, increasing a rebate for one drug can negatively affect another drug. If Crestor rebates increased, some plans would move Lipitor to a less preferred tier, potentially harming Lipitor users.

3. They also have a significant impact on Beneficiary Costs and Well-being:

◦ Reducing or Eliminating Rebates: If rebates were prohibited entirely, the share of plans covering both Crestor and Lipitor on the preferred tier would fall drastically by 66 percentage points. This would lead to a significant increase in out-of-pocket costs for branded statins (over 50% increase) and a 5.21% decrease in consumer surplus. The researchers used consumer surplus, the difference between what someone would be willing to pay for a good and what they actually pay, as a measure of consumer well-being. So, as the out-of-pocket costs to the consumers increase, consumer well-being decreases. People would also use branded statins less (Crestor down 25%, Lipitor down 35%).

◦ Increasing Rebates: If rebates were increased enough to match the lower prices paid in Canada (a 48.4% rebate for both), beneficiaries buying branded statins would see their cost-sharing fall by about 7-9%. This would lead to a 1.8% increase in consumer well-being.

4. As well as an impact on Premiums:

◦ Changes in branded statin rebates have a smaller effect on monthly insurance premiums compared to their effect on out-of-pocket costs. For instance, eliminating rebates might increase premiums by about 5.63%, which is much less than the increase in cost-sharing.

Does the Current System Work Well?

The researchers conclude that, for statins, the current private negotiation system in Medicare Part D works well for consumers. The estimated rebates are consistent with the system achieving more than half of the potential consumer well-being in the statin market. This is partly because there are already sufficient choices for branded statins on preferred tiers. However, they caution that this finding may not apply to other drug markets with different competitive structures.

This research highlights that drug rebates are a powerful force in Medicare Part D, significantly influencing which drugs insurers favor, how much patients pay out-of-pocket, and ultimately, consumer well-being and insurer profits. Policy changes to these rebates would have substantial, and sometimes complex, effects on the drug insurance landscape.

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NEWS NOTES

Linda Vahdat Joins the HSI Advisory Board

Dr. Linda Vahdat recently joined the HSI Advisory Board. Vahdat, a Sloan alumna, is the Deputy Cancer Center Director, Section Chief Oncology, and Interim Section Chief Hematology at Dartmouth Cancer Center in Lebanon, NH. She emphasizes two areas professionally: providing medical care and training the next generation of physicians and researchers. In her words: "As the major provider of cancer services in northern New England, my role is to expand and streamline the clinical and translational enterprise provided by Dartmouth. In addition, I am committed to training and mentoring future physicians and translational researchers through my appointment at the Geisel School of Medicine.

Hartford HealthCare and MIT to Collaborate on AI in Medicine Research

Hartford HealthCare Center for AI Innovation in Healthcare and MIT have recently formed an agreement to collaborate on advancing healthcare through the use of AI and machine learning. MIT researchers will form teams with clinical experts and work side-by-side. MIT Sloan HSI Prof. Dimitris Bertsimas will direct and advise the teams as they study how AI and ML can be used to predict disease probability sooner, provide more exacting tests, and use massive amounts of data to deliver care that is more personalized.

Irena King, Recent MIT Sloan Graduate, Named to Boston Business Journal 40 Under 40

Irena King graduated from MIT in 2025 with the MIT Healthcare Certificate. Recently, she was named to the Boston Business Journal's 40 Under 40 list, which considers both business achievements and community involvement. We previously wrote about Irena and her startup, Surgicure, in last year's article about the healthcare certificate ceremony; Surgicure was also one of the company hosts for last year's Healthcare Lab.

Most disruptive MBA startups of 2024

Erin Dawicki, Brenda Ong, Michelle Ewy (Sloan Fellows: MBA '24) of LymeAlert; Cynthia Liao (Sloan Fellows: MBA '24) of Vertical Horizons; and Henk van Biljon (MBA '24) of Fount are profiled in Poets & Quant's 6th annual "Most Disruptive MBA Startups".

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EVENTS

MIT Sloan HSI Lunchtime Seminar Series
Unlocking the Power of AI in Healthcare in a Safe and Responsible Way
Wednesday, October 15, 2025
Location: E62-450, and online via Zoom
Time: 11:30 am - 1 pm

Click HERE to register.

The seminar will focus on an approach to unlock the power of AI in Healthcare while mitigating potential risks. To accelerate the shift of the AI frontier in healthcare, a six-pillar framework will be presented:

- encompassing the establishment of an ecosystem of multi-stakeholder partners
- developing a robust portfolio of research and startup partnerships
- implementing a strong governance structure to safeguard against patient harm and maintain compliance with the evolving regulatory landscape
- continuing immersive education across critical functions of the healthcare system
- adoption of a disciplined methodology to integrate and scale AI into clinical practice safely and sustainably
- building a multimodal data liquidity platform

Speaker: Barry Stein, MD, MBA, FSIR, FACR, RPVI, is the Chief Clinical Innovation Officer & Chief Medical Informatics Officer, Vascular & Interventional Radiologist, Hartford HealthCare.

MIT Sloan HSI Lunchtime Seminar Series
Dynamics of the US Healthcare System: Trends, Challenges, and Opportunities
Wednesday, October 29, 2025
Location: E62-450, and online via Zoom
Time: 11:30 am - 1 pm

Click HERE to register.

In this seminar, we will develop a more nuanced understanding of healthcare, including its stakeholders, business dynamics, and infrastructure. We'll also explore how the healthcare consumer interacts with the system and superimpose current health challenges to identify opportunities and develop an approach to strategy.

This seminar is designed for aspiring healthcare entrepreneurs as well as experienced professionals seeking a deeper understanding of the field.

Speaker: Dr. Anthony Dowidowicz is the regional medical director (Southeast Region), Optum. In addition to his medical degree, Anthony received his MBA from the MIT Sloan School of Management, where he spent additional time pursuing advanced research in system dynamics. He is the founder of the MIT Sloan Physicians Group and serves on the Health System Initiative Board.

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