

HSI Newsletter: December 2024

In this issue, we report on the [MIT policy' hackathon's health equity challenge](#), an HSI Employee Population Health meeting focused on increasing employee engagement in and making the business case for [corporate wellness programs](#), and the first seminar of our new series, "[Scale Up](#)", which features operational, financial and strategic perspectives on building and scaling a healthcare venture. This first seminar, "Fuel Up", spoke to entrepreneurs on how to get their new company off the ground.

On February 10, 2025, we will be hosting the second of that series, "Ramp Up". Our panel of speakers will focus on how to build a sustainable business model. More details to follow.

In [News Notes](#), we are excited to announce three HSI researchers won the 2024 Pierskalla Best Paper Award for their work on personalized interventions for behavioral health. Finally, under [Events](#), we share registration information for the 2025 MIT Sloan Healthcare and Bioinnovations Conference and the Sloan Healthcare Innovations Prize Competition.

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

NEWS

MIT Policy Hackathon, co-sponsored by HSI, Addressed Health Equity



Participants in the MIT Policy Hackathon, organized and run by students from [MIT's Institute for Data, Systems, and Society](#) and [MIT's Technology and Policy Program](#), are asked to address relevant societal challenges using both data and policy analyses. Over a weekend in October 2024, students from multiple programs at

MIT and other local universities took on the real-world problems posed by the hackathon's government and industry partners. Participants could choose from among four challenges; there was one each in health, climate, housing, and criminal justice. They then formed teams, devised a solution, and wrote a presentation and a policy paper over a day and a half. The final day was reserved for presentations and Q&A in front of a panel of judges who are familiar with the industry.

As a sponsor of the event, HSI was asked to recommend judges for the health challenge; HSI was specifically asked for people with health industry experience who are not academics. Director Anne Quaadgras asked the Director of Communications (Sloan MBA '99), and Joanne Brownstein (Sloan MBA '08), who had presented to HSI earlier this year, to participate. The four-person judging panel for the health challenge was composed of these two, a post-doc who was familiar with the challenge topic, and the Duke University professor who posed the challenge.

The Health Challenge

[Dr. A. Ian Wong](#), Professor of Medicine, Duke University, was the outside collaborator for the health team. Dr. Wong spoke about his research into pulse oximetry and provided some data to the four teams addressing the health equity topic. He first described the subject of the challenge, pulse oximeters. Pulse oximetry may not have been well known before COVID, but most everybody who has been to a clinic or ED in the past few years has had the white clip attached to their finger to measure the level of oxygen in their blood. If the reading is within a specific range, crucial treatment protocols are put into effect. Generally, a pulse oximeter is a non-invasive way to measure a critical medical level.

The equity issue is that these devices do not reflect accurate readings for everybody. Melanin in someone's skin interferes with the device's light absorption and reflection properties, resulting in readings that overestimate the amount of oxygen. The end result may well be that the oximeter



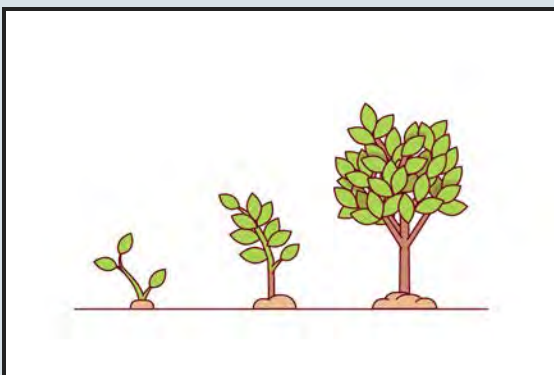
reports a normal reading when, in fact, the patient's level is low and treatment is

badly needed.

Dr. Wong challenged the hackathon teams to come up with a solution to this problem and provided materials, including data on the FDA's current metric for measuring oximeter accuracy, Accuracy Root Mean Square (ARMS). Of the four teams, the judges elected two finalists. Having a judging panel composed of people with diverse backgrounds made the wide-ranging judging conversations lively. Academically-inclined judges understood the science and statistical robustness behind the proposals in detail, while the others raised several concerns regarding whether the proposed solutions would have the intended benefit in the clinical environment.

To learn about the teams' proposals, the winning solution, Dr. Wong's oximeter research, *and* the FDA's recent statement about oximeter inaccuracy, please see [the continuation of this article](#) on our website.

Scale-Up Health Seminar Series Starts with "Fuel Up: Moving from start-up to growth"



On November 4, 2024, HSI hosted the first of a new seminar series, "Scale Up Health," whose aim is to bring together industry experts to share how they have successfully scaled healthcare start-ups with strategic and financial investors. This series is moderated by Sloan Alum

and HSI Advisory Board Member, [Rebecca Schechter](#) and Sloan Alum [Eric Berger](#) MBA '11.

For the first session, "Fuel Up," the panelists ([Deepthi Bathina](#), Founder and CEO, RhythmX AI; [Ellen Herlacher](#), Partner, LRV Health; and [Vijay Patel](#), Managing Partner, CVS Health Ventures) explored challenges and strategies for transitioning from the start-up to the growth stage.

During the session Eric guided a lively discussion that drew in several of the audience to voice their own questions and challenges. A review of the seminar brings to light several key take-aways for entrepreneurs to keep in mind as they move on from the start-up stage.

- An entrepreneur must be able to answer the Five Magic Questions
 1. Why would someone buy what you are offering? Are you first or second priority?
 2. Why would they buy it now? Are you what is needed right at this time?
 3. What price? Is the offering priced appropriately?
 4. Why us? How is the company different from other options?
 5. Who else? Who is the competition?
- Always question what trade-offs you are making. Every choice has a cost.
- Healthcare innovation success is proportional to the trust you inspire in customers. It is also very important to build trust with the company's Advisory Board.
- Customers do not want "one trick" solutions that only address one issue.
- To scale in healthcare, entrepreneurs must know how to contract with payers and providers.

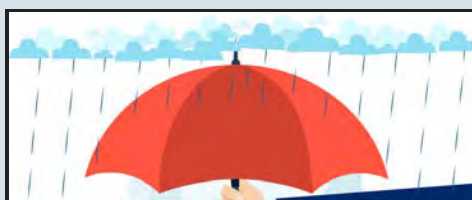
The second seminar in this series will be on February 10 from 11:30am – 1pm and may be attended either in person or virtually. This time the topic is Ramp Up: key factors and best practices for successful scaling in healthcare. One speaker is Gayle Bok, Partner, AI and Digital Innovation Fund at Mass General Brigham. Bok leads Mass General Brigham's \$30M [AI and Digital Innovation Venture Fund \(AIDIF\)](#), investing in commercial-stage digital health companies, working with the Mass General Brigham system. Two years ago, Bok led an HSI seminar, [Investing in Digital Healthcare Solutions from a Corporate Venture Perspective](#).

The HSI Lab Meeting Focuses on Corporate Wellness Programs and Employee Engagement

Last October, the MIT Sloan HSI Lab on Employee Population Health held a convening with its researchers and collaborating organizations to dig into the challenges of designing employee wellness programs that work. That is, programs with high employee participation rate and a measurable benefit accrued to the company.

Corporate Wellness Industry Overview

The day started off with an overview of the corporate wellness industry. In sum, there are billions of dollars at stake and the market is expected to increase.



Currently, the United States accounts for 40% of the global \$42 billion industry, which is expected to grow to more than \$100 billion by 2033. The industry can be divided into three market segments:



- Wellness and workplace screening programs
- Disease screening and management
- Mental health support programs

Screening accounts for about half of the market; the other two segments share the remaining half about equally. Given the potential revenue, companies are eager to enter the industry and employers are interested in offering some of these benefits that employees value.

Workshop Themes

A few themes emerged across panels, speakers, presentations and discussions.

Technology: Technology in and of itself is not a problem solver. Neither is talking up the benefits of AI/ML and new algorithms. Rather, discernment is required to use technology appropriately. Technology should foster the trust, actions and behaviors that lead to better health outcomes. There may be a place for a technology or program that does not lead to better health; it could be a recruitment tool. However, such a program is unlikely to foster retention.

Personalization: Every session brought up the importance of personalization. One of the industry panelists said, “don’t think of employees as a monolith.” Two companies that gave presentations both focus on ensuring that their programs are tailored to specific employees as much as possible. One adapts lessons learned from the consumer goods industry, in which companies have many more interactions with customers than healthcare does. HSI researchers are collaborating on several research projects with a virtual mental health software provider to discover how to best match supporters and users based on specific characteristics.

Trust: Trust is required on two specific vectors. A user needs to trust both the content of a program as well as the intent of the program’s developer. The information provided needs to be correct and the user needs to trust that their information is safe. Personalization and trust help a program to level-set so it meets users where they are. Users need to be given achievable and actionable goals in order to stay engaged.

Human Interaction: Successful programs don’t solely rely on technology for personalization. Repeatedly, speakers spoke about the necessity of human

interaction together are more likely to inspire trust in the program. This gives the user a chance to develop more of a relationship with the platform, or as one person noted, “a trusted dialog”.

Engagement requires trust. Despite best efforts, however, engagement remains one of the most confounding elements of a successful wellness program. Wellness program providers struggle with both enrollment and retention. Some have found that financial incentives work, but there are also cases where incentives have failed to move potential users.

Making the Business Case

It isn't hard to make an anecdotal case for why wellness programs are a good company benefit. However, the picture becomes murky when trying to make the business case. Many programs struggle with employee engagement, in both enrollment and retention. Further, there is scant scientific evidence of these programs' clinical effectiveness and positive return on investment.

Fortunately, rigorous analytics and appropriate interpretation are specialties of HSI researchers. Several research teams collaborating with HSI Lab member companies are applying their skills to the most pressing questions. Providers of these services want to be able to prove that their offerings move the needle on health outcomes. Their potential customers, employers, want their employees to participate and capture the cost savings that may be associated with these programs.

NEWS NOTES

Three HSI Researchers Win Best Paper Award from the Health Applications Society

[Vivek Farias](#), [Erez Yoeli](#), and [Jónas Oddur Jónasson](#) have won the 2024 Pierskalla Best Paper Award from the Health Applications Society of INFORMS (Institute for Operations Research and the Management Sciences). This award recognizes research excellence in the field of healthcare management science.

Jónas's, Vivek's, and Erez's winning paper, "[Policy Optimization for Personalized Interventions in Behavioral Health](#)," was co-authored with Jackie Baek (MIT PhD '22

EVENTS

Announcing the 24th annual MIT Sloan Healthcare and BioInnovations Conference and the Sloan Healthcare Innovations Prize competition

The MIT Sloan Healthcare & BioInnovations Conference is an annual event that brings together industry, academic, investment, and policy leaders from around the healthcare ecosystem to discuss key issues in the healthcare industry. The 2025 conference theme, "From Innovation to Impact: The Changing Face of Healthcare," explores groundbreaking developments across the healthcare landscape.

Early Bird Tickets for SHBC are Available Now! Reserve your spot: <https://www.sloan-hbc.mit.edu/home-2025>

[Apply for the 2025 Sloan Healthcare Innovation Prize](#)

Do you have an innovative solution to a problem in healthcare or biotech? We are now accepting applications to the Sloan Healthcare Innovation Prize Competition. Pitch your early-stage healthcare idea to top healthcare VCs and industry leaders for a chance to win up to \$30,000.

Apply here before January 10, 2025: <https://forms.gle/jZoQp5e1Dax7z2bM9>

Save the Date

On February 10, 2025, we will be hosting the second seminar in our series on scaling healthcare ventures. The topic will be on creating a sustainable business model. More details to follow.

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