



INNOVATING EDUCATION FOR BETTER HEALTH

## **ANNUAL REPORT**

2019 - 2020

**RESEARCH. INNOVATION. SCHOLARSHIP. EDUCATION.**

MICHIGAN MEDICINE  
UNIVERSITY OF MICHIGAN

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## RISE AT A GLANCE

### INAUGURAL ANNUAL REPORT

Michigan Medicine established **Research. Innovation. Scholarship. Education. (RISE)** in February 2019 as a cornerstone to build a Community of Practice (CoP) for health science education. Our work directly aligns with the **Education Pillar of the University of Michigan Medical School Strategic Plan** to cultivate a learning community that promotes and achieves bold and innovative education for the advancement of science, health, and health care delivery.

Our goals are to:

1. **innovate** education to advance teaching and learning practices
2. **improve** health and science outcomes, and
3. **influence** Michigan Medicine and beyond.

To meet these goals, we developed a **Community of Practice (CoP)**, built upon three elements: development of **People**, convening of the community in purposeful projects and **Activities**, and deliberate cultivation of an innovation **Culture**. This report provides an early snapshot of the strides we have taken to build a strong CoP for health science education innovators.

#### Our Vision:

Education is the foundation of transformative health care and scientific discovery. RISE aspires to create a Michigan Medicine culture where bold, scalable education innovations impact health and science, and thrive through collaboration and access to a broad, diverse network of resources, expertise, and stakeholders. Empowered by this culture, all faculty, staff, and learners embrace curiosity, creativity, critical thinking, initiative, and intelligent risk-taking to support education experimentation and discovery.

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*RISE is providing the expertise and, more importantly, the community of practice to nurture true innovation in health sciences education.*

*It has already resulted in a burst of new ideas to enhance physician performance and further improve upon the remarkable patient care available here at Michigan Medicine.*

—DAVID HEALY, MD

ASSISTANT DEAN FOR CONTINUING  
EDUCATION AND LIFELONG LEARNING,  
MICHIGAN MEDICINE

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## THE RISE TEAM

*Our Core Team develops, supports, and facilitates innovative ideas within the Community of Practice.*



**RAJESH MANGRULKAR, MD**  
*Executive Director*

Dr. Rajesh Mangrulkar's work lies in organizational leadership and innovative technologies, and their interface with transforming medical education at scale. Currently, as associate dean of Michigan Medicine and RISE executive director, he leads the curriculum, student research, learning community, and admissions units for medical student education.



**PAULA ROSS, PhD**  
*Administrative Director*

Dr. Paula Ross oversees RISE's operations and innovation project development. Dr. Ross previously served as Director, Advancing Scholarship at Michigan Medicine, where she led efforts to develop and disseminate the school's education research and promote an infrastructure to produce high-quality scholarship education.



**NIKKI BIBLER ZAIDI, PhD**  
*Evaluation and Assessment Director*

Dr. Nikki Bibler Zaidi oversees the RISE unit evaluation and assessment. Prior to this role, Dr. Zaidi served as Associate Director, Advancing Scholarship at Michigan Medicine where she worked with Dr. Ross. She holds a Ph.D. in quantitative research methods with a focus in evaluation and assessment.



**HELEN KANG MORGAN, MD**  
*Faculty Director (2019-2020)*

Dr. Helen Kang Morgan is a Clinical Associate Professor of Obstetrics and Gynecology and Learning Health Sciences. She is Director of the Residency Preparatory Courses and Comprehensive Clinical Assessment at the University of Michigan Medical School. Her interests include transitions in medical education, innovation in education, and learner well-being and diversity in medicine.



**JUN YANG, MS**  
*Statistician*

Jun Yang is a statistician in the Office of Medical Student and Education at Michigan Medicine. She holds a MA in mathematics and has extensive knowledge in complex data management and advanced statistical analysis. Ms. Yang has over a decade of experience as a member of curriculum evaluation and assessment team.



**LAURIE KOIVUPALO**  
*Administrative Assistant*

Laurie Koivupalo is the Administrative Assistant for both RISE and the Program in Health, Religion, and Spirituality Leadership at Michigan Medicine. Prior to these roles, she served the Michigan Medicine community as part of the Department of Pharmacology and Medical Scientist Training Program.

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## THE RISE PHILOSOPHY

### FRAMING HEALTH SCIENCE EDUCATION INNOVATION

The RISE team recognizes the construction of a stimulating pedagogical environment that embraces different ways of thinking as a fundamental part of the process of cultivating innovation and excellence in **health science education (HSE)**. This environment must remain flexible and open to experimentation and risk-taking; present opportunities for discovery to learn from both failed and successful attempts; and explore new perspectives of key stakeholders to promote possibilities that do not already exist.

INNOVATION IS  
AN ITERATIVE  
AND NON-LINEAR  
PROCESS

HIGH FAILURE  
RATES SUGGEST  
GREAT AMBITION

DISCOVERY IS  
AS IMPORTANT  
AS DELIVERY

### A GUIDING FRAMEWORK FOR HEALTH SCIENCE EDUCATION

We developed the **RISE HSE Innovation Framework** to illustrate the importance that educational innovations translate findings into real outcomes. The domains included are those that drive education innovation.



Specifically, education innovation involves **impact** by adjusting, modifying, or transforming a science, health, and/or healthcare delivery process; **scalability** that it extends into a single, multiple or nationwide organization; and **translation** from a simulated setting into applied settings to advance patient care or science practices to improve health or science outcomes.

**“Innovation requires a movement, a culture, and a means. RISE will provide a platform for all three; connecting people with different perspectives, skills, and ideas towards a new community of educational practice.”**

—RAJESH MANGRULKAR, MD  
**EXECUTIVE DIRECTOR, RISE**

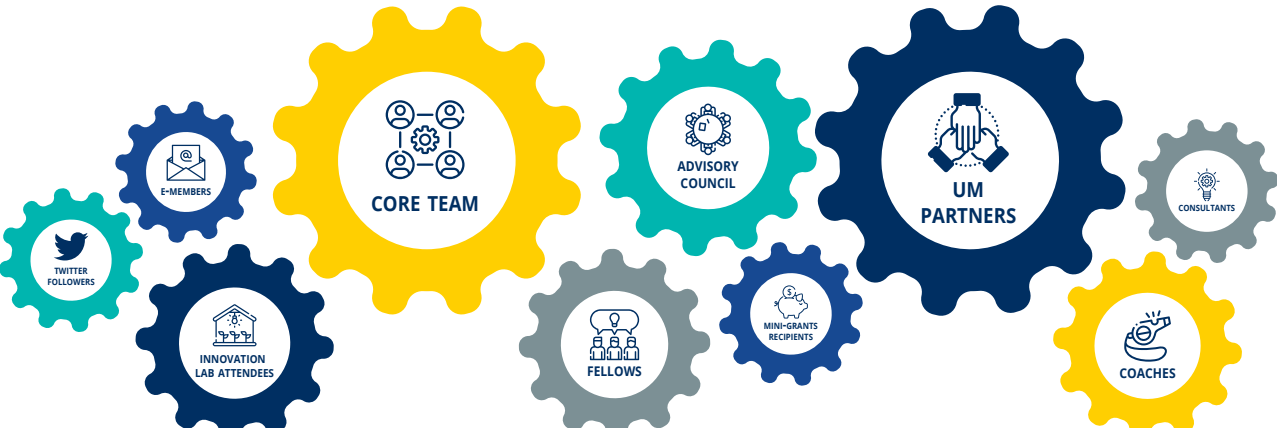
## HEALTH SCIENCE EDUCATION INNOVATION COMPETENCIES

We also developed **HSE innovation competencies** thorough a review of the literature and refined them in collaboration with our **RISE Advisory Council** members. These seven competencies were deemed most essential to personal and professional development in health sciences education innovation. We have used them to inform curricular planning, guide RISE funding decisions, and launch an Innovation 360 assessment that tracks longitudinal competency development among our community.

- **VISIONING**
- **INTELLIGENT RISK-TAKING**
- **INTELLECTUAL CURIOSITY**
- **CREATIVITY**
- **CRITICAL THINKING**
- **TEAMWORK**
- **INITIATIVE**

# THE RISE COMMUNITY

Since February 2019, we have been building an inclusive Community of Practice of diverse education innovators throughout Michigan Medicine—and beyond.



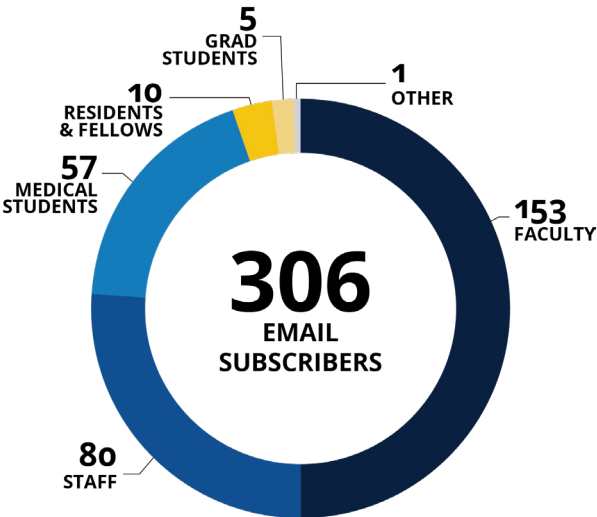
The **RISE Advisory Council (RAC)** is comprised of faculty, staff and learners across the continuum of health science education (undergraduate, graduate, continuing, and biomedical sciences) as well as individuals from across the University of Michigan (College of Engineering, School of Information, Center for Academic Innovation, etc.). Council members have played a critical role in making recommendations regarding new ideas and implementation strategies within the initiative; helping to select our funded innovators; providing support, guidance, critical review, and evaluation of innovation projects; and assisting in developing and reviewing initiative outcome measures.

We welcomed four **fellows** John C. Burkhardt, MD, PhD, Marcus Sherman, BS, Shoba Subramanian, PhD, and Marty Tam, MD, and two **mini-grant recipients** Jenni Lane, MA and Emily Johnson, who currently are launching innovative ideas to help meet challenges facing health sciences education and health care.

We honored eleven **COVID-19 Education Innovation Awardees** in recognition of education innovation ideas that answered a call to challenge the existing education structures and develop meaningful alternatives to traditional health sciences education. Awardees continue to be part of our Community through specialty clusters, which are set to begin in July 2020.

Our 306 email subscribers signed-up to receive regular communications through our website’s “connect with RISE” feature. Thirty-five of these subscribers volunteered to serve as consultants and share their experience and expertise with our funded innovators. Our email subscribers receive our monthly newsletter with updates on RISE progress and invitations to participate in RISE activities.

RISE COMMUNITY COMPOSITION	
ADVISORY COUNCIL MEMBERS	29
CONSULTANTS	35
FELLOWS	4
MINI-GRANT RECIPIENTS	2
COVID-19 GRANT RECIPIENTS	11
E-MAIL LIST SUBSCRIBERS	306

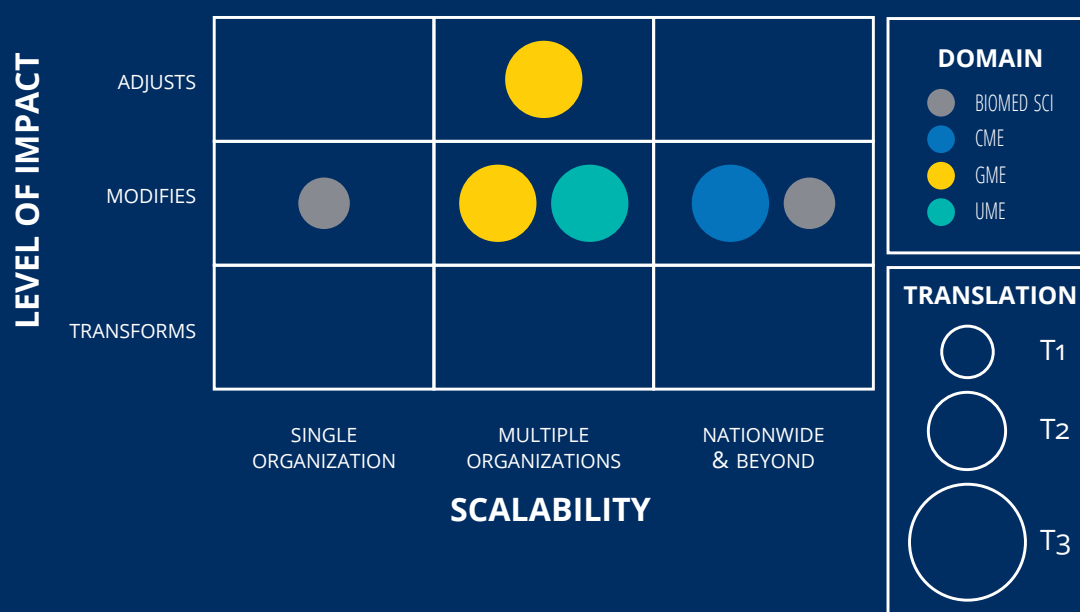




## FUNDED EDUCATION INNOVATION IDEAS

We have funded a diverse portfolio of education innovation ideas. These ideas span across the continuum of medical education as well as their potential to translate into health care outcomes.

The figure below represents our first cohort of funded innovators (fellows and mini-grant recipients) and depicts how their ideas represent impact, scalability, and translation in various domains of health science education.



**DOMAIN** — AREA OF HEALTH SCIENCE EDUCATION ADDRESSED

**TRANSLATION** — (T1<sup>\*</sup>) EXPLORES AN EDUCATIONAL INTERVENTION WITHIN AN EXPERIMENTAL SETTING TO IMPROVE KNOWLEDGE, SKILLS, OR OTHER ATTRIBUTES, (T2<sup>\*</sup>) TRANSFERS THE EDUCATIONAL INTERVENTION INTO AN APPLIED SETTING TO ADVANCE PATIENT CARE OR SCIENCE PRACTICES, AND (T3<sup>\*</sup>) IMPROVES REAL-WORLD HEALTH OR SCIENCE OUTCOMES

**LEVEL OF IMPACT** — ADJUSTS, MODIFIES, OR TRANSFORMS RESOURCES OR PROCESSES WITHIN SCIENCE, HEALTH, AND/OR HEALTHCARE DELIVERY

**SCALABILITY** — POTENTIAL TO BE SCALED BROADLY BY A SINGLE INSTITUTION, MULTIPLE ORGANIZATIONS/INSTITUTIONS, NATIONWIDE (AND BEYOND), AND/OR ACROSS HEALTH SCIENCE DOMAINS



Photo, top

Community of Practice members discuss implementation science frameworks and key process at the March 2, 2019 RISE Innovation Lab.

Photo, bottom

Attendees of the RISE Innovation Lab engage in thought-provoking conversation, October 7, 2019.



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## EVENTS & ACTIVITIES

“

**Community of Practice (CoP):**

*"[A] group of people who share a concern or a passion for something they do, and learn how to do it better as they interact regularly."*

—ETIENNE WEGNER  
COMMUNITIES OF PRACTICE  
LEARNING, MEANING, AND  
IDENTITY

We held events that engaged our Community in this initiative, with the ultimate goal of influencing and impacting health science education and building the innovation **Community of Practice (CoP)**. These activities encouraged active collaborations, utilized creative information-sharing modalities, and fostered bi-directional communication between RISE and the community.

We held six **RISE Innovation Lab (RIL)** sessions between October 2019 and March 2020 with an average of 22 attendees per session. The RIL provided our community with a place to cultivate ideas and gain exposure to key innovation concepts (e.g., Design Thinking, Translational Education, Implementation Science, etc.). Regular RIL attendance fostered the development of our innovation competencies through a self-paced, self-directed, and self-assessed curricular approach.



Photo, above

RISE Evaluation and Assessment Director Nikki Bibler Zaidi leads RISE Innovation Lab participants in a discussion of how to design a theory of change, February 10, 2019.

## BRAINSTORMING SESSIONS

We held five brainstorming sessions, one in partnership with **Fast Forward Medical Innovation (FFMI)**, to facilitate the creation of innovative ideas centered around calls for innovation proposals (e.g. RISE Fellowship and Mini-Grants, AMA, Michigan Medicine—GME Innovation Fund.)

## VIRTUAL TALKING CIRCLES

In the era of COVID-19, we stayed connected through our bi-weekly RISE Virtual Talking Circles (VTCs). We have held five VTCs since April 2020 with an average of 20 participants per session.

## REASONS PARTICIPANTS ATTENDED THE RISE INNOVATION LABS

REASONS FOR ATTENDANCE	OVERALL N	(AVG. %)*
To enhance my knowledge or skills	90	93%
To engage with other members of the innovation community	87	90%
To advance my own innovation idea(s)	70	70%
To identify potential innovation collaborators	69	71%
Other	21	24%

\*Reported percentages are based on responses across all sessions, totaling 96 total survey responses.

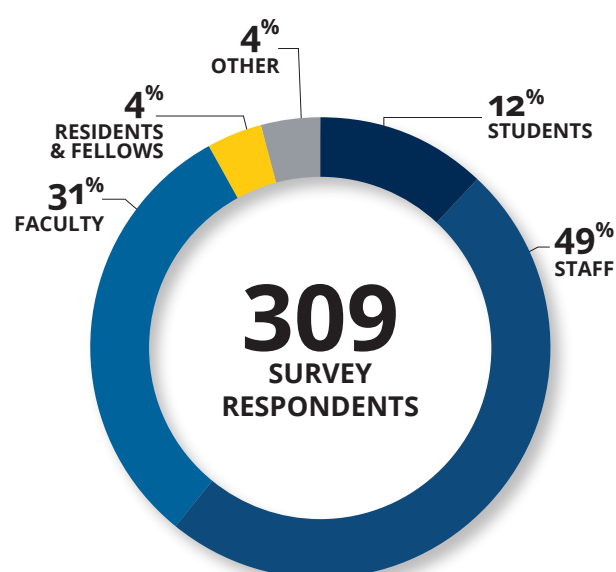
## A CULTURE OF INNOVATION

### HEALTH SCIENCE EDUCATION INNOVATION CULTURE SURVEY

RISE launched the first **Health Science Education Innovation Culture Survey** in February 2019. We invited the entire Michigan Medicine community to participate in a twenty-one-item survey regarding innovation in health science education. We received over 300 responses from February—June 2019.

The survey results suggest that we have the potential to lead the type of innovation in health science education that will make a difference in healthcare and healthcare delivery.

#### WHY DOES MICHIGAN MEDICINE NEED INNOVATION IN HSE?



#### WHO CONTRIBUTED TO THE SURVEY?

We used these results to shape many of our activities toward those that would:

- provide additional resources (technological and financial),
- create an environment that promotes creativity,
- increase awareness of opportunities to engage in innovation activities,
- ensure all community members envision themselves as equal contributors,
- promote behaviors that inspire innovation (e.g., intelligent risk-taking), and
- foster a work environment that deconstructs barriers.

This bi-annual survey will examine longitudinal trends that suggest changes in our innovation culture at Michigan Medicine. The next survey administration is scheduled for February 2021.

# 88% BELIEVE INNOVATION AT MICHIGAN MEDICINE CAN MAKE A DIFFERENCE IN HEALTH

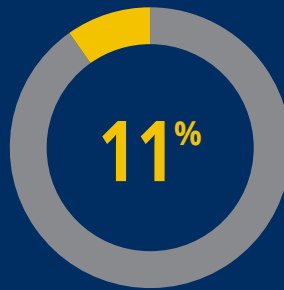


## THE PRESENT

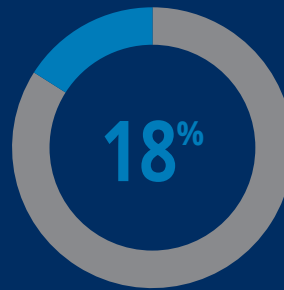
WHAT STEPS DOES MICHIGAN MEDICINE TAKE TO PROMOTE HSE INNOVATION?\*

\*for the center and bottom figures:

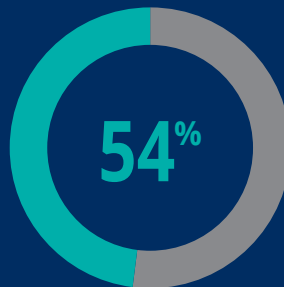
Respondents were asked to select all that applied; percentages represent proportion of total respondents that selected each response.



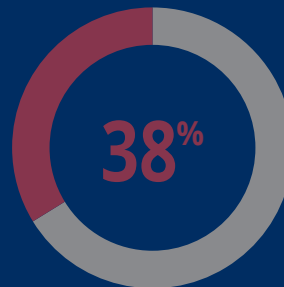
BREAKS DOWN BARRIERS TO INNOVATION



CREATES A SPATIAL ENVIRONMENT WHERE EMPLOYEES ARE ABLE TO WORK CREATIVELY



ENCOURAGES EMPLOYEES TO ATTEND ACTIVITIES OUTSIDE OF WORK TO GAIN ADDITIONAL KNOWLEDGE



PROVIDES TRAINING OPPORTUNITIES THAT SUPPORT THE DEVELOPMENT OF INNOVATION

## THE FUTURE

HOW CAN MICHIGAN MEDICINE SUPPORT HSE INNOVATION?\*



PROMOTE AWARENESS OF OPPORTUNITIES TO ENGAGE

22%



PROVIDE RESOURCES (FINANCIAL, PERSONAL, TECHNOLOGICAL)

21%



CULTIVATE A CULTURE THAT PRIORITIZES INNOVATION

27%



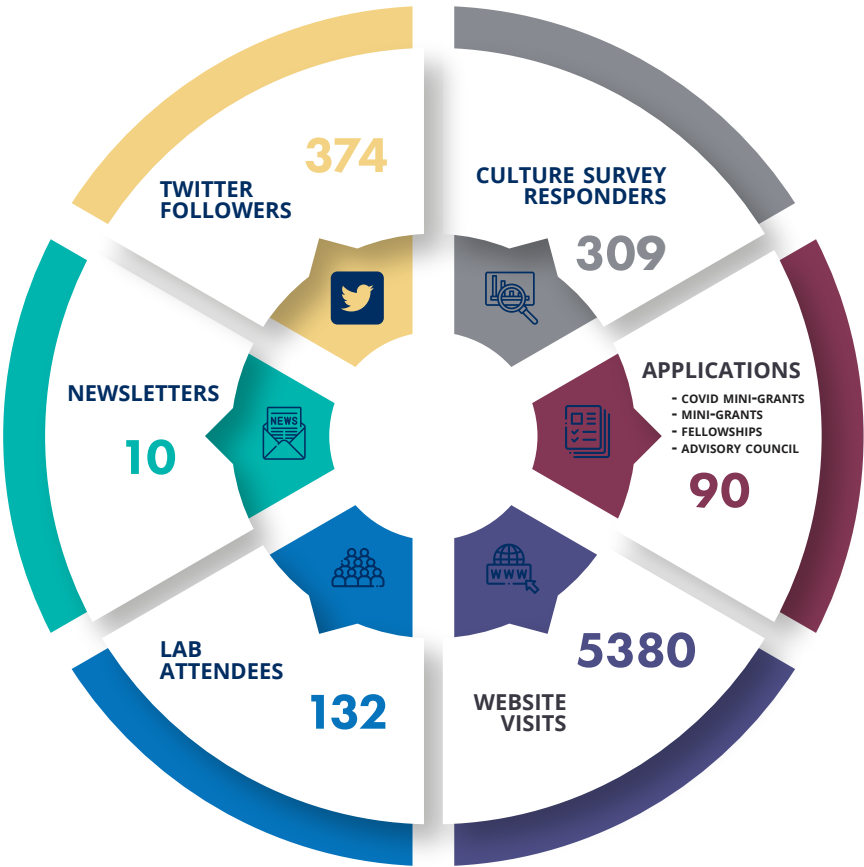
PROTECT TIME TO ALLOW FOR MEANINGFUL ENGAGEMENT

24%

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# RISE CONNECTION & ENGAGEMENT

Communication is a key component to engaging our Community in this initiative and towards building an innovation culture within Michigan Medicine. The goals of our ongoing, targeted communications campaign are to share innovative ideas and results, publicly reinforce innovative behaviors, solicit feedback and input on the initiatives, foster cross-discipline collaborations, and inform the community of our progress. We have also capitalized on social media to communicate our vision, activities, and achievements to the public.





## RISE VIDEO SERIES

Our **#IAmAnInnovator video series** hosted on the Michigan Medicine YouTube channel provided a platform for HSE innovators to share their innovative ideas and promote their discoveries.

The series also provided a unique opportunity for our innovation community to learn about education innovations currently happening within Michigan Medicine.



**Michigan Medicine**

82.8K subscribers • 2,947 videos



**Gurjit Sandhu, PhD**

Associate Professor, Education Research Scientist

**Entrustment in Surgical Medical Education - OptTrust**

Michigan Medicine • 380 views



**Sonal Owens, MD**

Associate Professor, Pediatrics-Cardiology

**Cardiac Anatomical Virtual Reality**

Michigan Medicine • 346 views



**David A. Zopf, MD**

Assistant Professor, Otolaryngology-Head and Neck Surgery

**The Impact of High Fidelity, 3D-Printed Surgical Simulated Models on Education and Patient Care**

Michigan Medicine • 273 views



**Brian C. George, MD, MAED**

Assistant Professor of Surgery and Learning Health Sciences

**Surgical Trainee Competency and Early Career Patient Safety**

Michigan Medicine • 191 views



**Meg Wolff, MD, MHPE**

Associate Professor of Emergency Medicine and Pediatrics

**A Learner-Centered Coaching Handbook**

Michigan Medicine • 118 views

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# RISE OUTREACH & KNOWLEDGE SHARING

## VIA DISSEMINATION...

The RISE core team and funded innovators are disseminating key innovation findings to the broader community. We are raising awareness and educating others about education innovation as well as actively inviting feedback on this movement from our current and future stakeholders.



## VIA OUR WEBSITE...

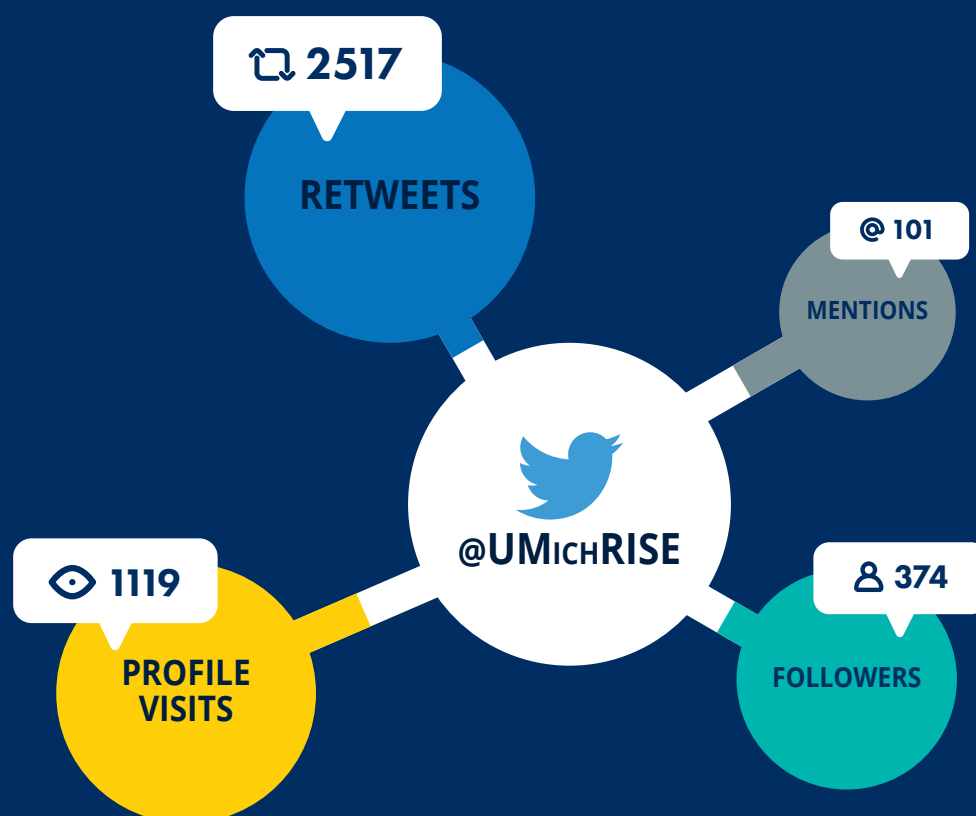
One of our main goals is to share resources. We have created a number of resources to foster HSE innovation development among our Community; these are made available on our website.

63	GUIDING FRAMEWORK FOR ASSESSING HEALTH SCIENCE EDUCATION INNOVATION
53	HEALTH SCIENCE EDUCATION INNOVATION COMPETENCIES
37	DESIGNING A HEALTH SCIENCE EDUCATION INNOVATION THEORY OF CHANGE
34	HEALTH SCIENCE EDUCATION INNOVATION 360
32	HEALTH SCIENCE EDUCATION INNOVATION CULTURE SURVEY
3	INNOVATION EDUCATION EVALUATION STRATEGY OVERVIEW



## VIA TWITTER...

RISE maintains an active presence on Twitter, since launching our account in September 2019. Through social media, we are sharing our work with colleagues across the globe.



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## COMING TO RISE 2020-2021

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RISE will continue to grow our innovator community of practice, invest in more people and ideas in health science education that break through the status quo, and connect them with our expanding network of innovators and enabling units to lead these ideas to fruition. Our ultimate goal remains meaningful impact on health at scale through education to serve learners, educators, and the needs of society. Highlights of new initiatives are described below:

### FUNDED INNOVATORS

Four new fellows have been selected for the 2020-2022 funding period— **Sandra L. Hearn, MD; Hyeon Joo, MS, MHI; Andrew E. Krumm, PhD; and Margaret Wolff, MD, MHPE**. They will join the RISE community as they develop and implement their novel health science education ideas.

### RISE WITH RAJ PODCAST

This coming year, we will also launch a podcast series—***RISE with Raj***—which will feature stories of health science innovation from people both inside and outside of Michigan Medicine who have launched their creative ideas.

### STRATEGIC SYSTEMS-LEVEL INITIATIVE

We will also explore systems-level inhibitors to health science education innovation and develop plans for breaking through some of these key barriers through a set of prioritization activities that will involve our entire RISE community.

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Executive Officers of Michigan Medicine: Marschall S. Runge, M.D., Ph.D., executive vice president for medical affairs, dean, University of Michigan Medical School, CEO, Michigan Medicine; David A. Spahlinger, M.D., president, UMHS, and executive vice dean for clinical affairs, University of Michigan Medical School; Patricia D. Hurn, Ph.D., dean, School of Nursing.

Regents of the University of Michigan: Jordan B. Acker, Michael J. Behm, Mark J. Bernstein, Paul W. Brown, Shauna Ryder Diggs, Denise Ilitch, Ron Weiser, Katherine E. White, Mark S. Schlissel, ex officio.