



Icahn School  
of Medicine at  
**Mount  
Sinai**

# Icahn School of Medicine at Mount Sinai

**DENNIS S. CHARNEY, M.D.**

**Dean**

October 1, 2020



Icahn School  
of Medicine at  
**Mount  
Sinai**

# A Year Like None Other

We are in a world dealing simultaneously with major challenges - a pandemic, the economic disruption it has caused, reactions to recent tragedies and decades of inequities, all resulting in a shock to our system like we have not seen before.

At Sinai, all effort was directed towards dealing with the surge of COVID patients and ensuring the safety of faculty, staff, trainees and students. Out-patient visits and non emergency surgery postponed, education activities including Graduation went virtual, non-COVID research halted and hundreds of employees redeployed to help with the response to the unprecedented number of patients.

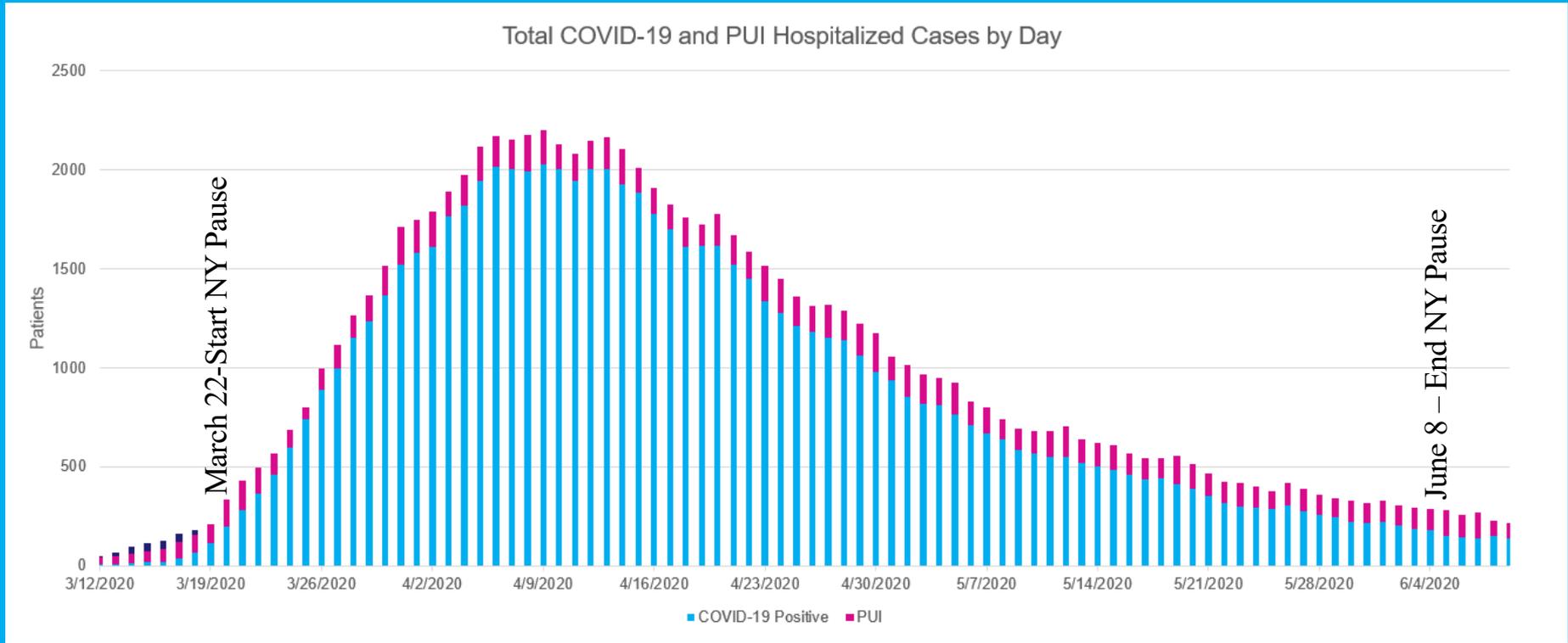
Additionally, the pandemic has shone a light on the disparities between different communities. There is a grassroots cry for social justice after evidence of violence against Blacks emerged. Sinai will be a national leader in addressing structural racism.

**This is an important pivotal point in the country's history.**

# A Year Like None Other



# Mount Sinai Health System Hospitalizations COVID-19



# Mount Sinai-“Epicenter of the Epicenter”

- Faculty, Students, Trainees and Staff at the School faced a tsunami of sick patients
  - Over 8,000 COVID patients treated in 3 months at MSHS hospitals
- Through observations and investigations the doctors and researchers redefined COVID-19 as a new disease that attacks the endothelial cells that line the body’s blood vessels.
- How the disease plays out in each individual depends largely on the state of their immune system and whether they have co-morbidities, such as obesity, hypertension, or heart disease, which affect blood flow within the body
- The Icahn School of Medicine’s scientists worked alongside clinicians and others to understand this new disease and share their insights in real time. In the best demonstration of translational medicine, by bringing the bench-side knowledge directly to the clinicians and vice versa, Sinai was able to change the course of therapeutics for this disease and make significant advances in patient care and improve outcomes.

# Sinai-“Epicenter of the Epicenter”





60  
MINUTES



# Sinai's Response to the Pandemic

## Research:

- All non-COVID-19 research halted
- Wet Labs shut down
- Patient-Oriented Clinical research halted
- Computational Faculty and Staff work from home as possible

## Education:

- In-person classes cancelled
- All lectures virtual
- Clinical rotations cancelled
- Dorm rooms vacated when possible

## Clinical:

- Out-patient visits cancelled
- Only emergency cases handled
- All elective procedures cancelled

**BUT, all COVID-19 related investigations and basic science & clinical research ramped up**

**Collaborations between scientists and clinicians provided major new insights into this new disease**

# We're ALL in This Together

## The Mount Sinai Family came together to meet the challenge:

- Faculty and Staff at all levels redeployed to assist with patient care and administration

**1,834**

total non-faculty  
employees were  
redeployed

**933**

employees redeployed  
into a different job  
title/function

**51%**

of redeployed staff  
moved into a different  
job title/function

- Clinical Faculty from outpatient clinics assisted with inpatient care at all levels
- Over **700** student volunteers from Medical, Graduate and Nursing Schools
- Residents and Fellows assisted with patient care in COVID units and ICU.
- Post-docs and Technicians from the Basic Science labs assisted in Microbiology and Pathology labs to meet increased demand for COVID-19 basic research and sample testing
- Administrative staff helped with everything from stocking supplies to helping with non-patient tasks

# Students and Trainees Step Up During COVID-19 Surge



## The New York Times

**Early graduation sends medical students to virus front-lines  
(Dr. David Muller)**



**Mount Sinai medical students  
give free masks to those in need  
(Icahn Students: Parth Trivedi,  
Aishwarya Raja)**



## gothamist

**Med Students Find Ways To Support Medical Workers  
As NYC Hospitals Fill With Patients (Icahn Students:  
Michael Duncan, Shravani Pathak, Stephanie Schonholz)**



## THE NEW YORKER

**Med students graduate early to  
join the battle against COVID-19  
(Icahn Student Yara Sifri)**

- **Students Volunteer Workforce** (Medical, Graduate and Nursing students participated)
  - 721 volunteer positions.
    - 15,263 hours of service
  - 7 Task Forces
    - PPE, Pharmacy, Administrative Services, Hospital Operations, Labs/Research, Telehealth, Morale

# Major COVID-19 Research

*Translational research by **scientists at Icahn and clinicians across the MSHS** who combined their expertise to understand this disease and improve outcomes for our patients:*

- **Lung disease in COVID-19 patients**

Using CT scans of patients from China, Mount Sinai Physicians were the First in U.S. to identify specific patterns in the lungs as markers of the disease as it progresses, resulting in quicker diagnosis and early intervention.

- **Blood Test to Detect Antibodies to COVID-19**

This test detects the presence or absence of antibodies to SARS-CoV-2, the virus that causes COVID-19.

- It received Emergency Use Authorization from US FDA.

- **Convalescent Plasma**

COVID-19 patients who got plasma transfusions from those who had recovered from the coronavirus infection had better survival rates compared with a control group. FDA has now authorized its use to treat COVID-19.

- **Anti-coagulation**

Mount Sinai researchers were among the first to show that anticoagulation therapy was associated with improved survival among hospitalized COVID-19 patients.

- **Researchers discover immune predictors of COVID-19 cases that fare the worst**

Mount Sinai scientists have identified two markers of inflammation that reliably predict the severity of COVID-19 cases and likelihood of survival, providing a foundation for a diagnostic platform and therapeutic targets

# COVID-19 – Engineering in Medicine

*Early in the pandemic severe shortages of ventilators and PPE were predicted. Teams of clinicians, engineers as well as external vendors worked together to develop novel solutions that were granted Emergency Use Authorization. Some have now been approved for medical use.*



## Los Angeles Times

Mount Sinai turns hundreds of machines for sleep apnea into hospital ventilators, shares instructions worldwide (Dr. Charles Powell and team)



Dr. Matthew Levin & his team at The MSH used parts bought at Home Depot to convert a ventilator meant for one to aid two patients.



JPL engineers teamed up with Dr. Mathew Levin & his team to make a ventilator prototype. FDA approved it and 8 manufacturers were awarded contract to mass produce “VITAL” .

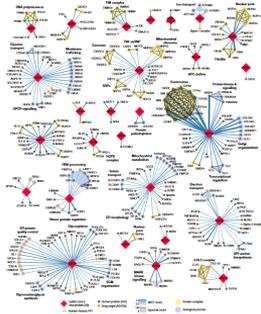


Unique System for Using UVC Light to Sterilize Masks in Bulk Developed at RPI with Sinai clinicians. New device for making masks reusable in fight against COVID-19 being tested at Mount Sinai

# COVID-19 Research Papers in Major Journals

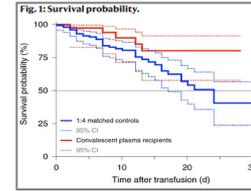
## nature

A SARS-CoV-2 protein interaction map reveals targets for drug-repurposing (Dr. Adolfo Garcia-Sastre & Team)



## nature medicine

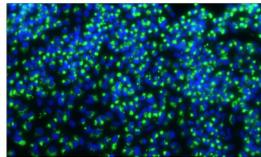
A serological assay to detect SARS-CoV-2 seroconversion in human (Dr. Florian Krammer and Department of Microbiology Team)



Patients hospitalized with COVID-19 who received convalescent plasma demonstrated improved survival and were more likely than matched control patients to remain the same or have improvements in their supplemental oxygen requirements. (Dr. Nicole Bouvier & Team)



A Human Pluripotent Stem Cell-based Platform to Study SARS-CoV-2 Tropism and Model Virus Infection in Human Cells and Organoids (Dr. Benjamin TenOver)



## nature reviews immunology

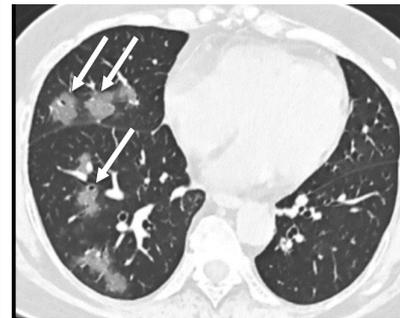
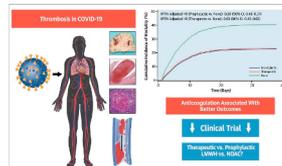
Pathological inflammation in patients with COVID-19: a key role for monocytes and macrophages (Dr. Miriam Merad)




Pulmonary Vascular Dilatation Detected by Automated Transcranial Doppler in COVID-19 Pneumonia (Dr. Hooman Poor and Dr. Alexandra Reynolds)



Blood Thinners may Improve Survival among Hospitalized COVID-19 Patients (Dr. Valentin Fuster, Dr. Anu Lala, Dr. Girish Nadkarni, Dr. Erwin Bottinger)



## Radiology

Pattern of ground-glass and consolidative pulmonary opacities, often with a bilateral and peripheral lung distribution, is emerging as the chest CT hallmark of COVID-19 infection. (Drs. Fayad, Mei et al)

# Understanding COVID-19

- Several new Centers and Institutes have been created with the goal of understanding this new virus as well as treating patients affected by it.
- **COVID Informatics Center**  
The Mount Sinai Covid Informatics Center (MSCIC) aims to translate and unify all clinical data in the Mount Sinai Health System (MSHS) into actionable information and insights to combat the current threat of Covid-19 and ensure we are battle-ready for future crises.
- **Center for Post-Covid Care**  
This multi-disciplinary team will work together to treat the long-term effects of this new virus that affects many different systems in the body.

# Center for Stress, Resilience and Personal Growth

## “We Take Care of Our Own”

A first-of-its-kind initiative in North America that is designed to address the psychosocial impact of COVID-19 on the mental health and lives of frontline health care providers at Mount Sinai and will serve as a model for institutions and communities around the globe

It is a hub for enhancing resilience and mental health - serving all Mount Sinai Health System faculty, staff and students. Our multi-tiered approach includes the following:

- Wellness Hub - a self-screening and resilience-promoting mobile app that is confidential and was developed entirely at Mount Sinai
- Resilience training and coaching
- Confidential support by our clinical staff 7 days a week
- Bridging employees to support resources
- Provision of behavioral health care for up to 14 sessions, at no cost to employees
- Community engagement through an Accelerator model with stakeholders from different disciplines across Mount Sinai Health System

# Getting Back to Normal – Safely

- Universal Mask Mandate
- Symptom Checks
- Social Distancing
- Limited numbers in-person meetings
- Enhanced cleaning & disinfecting
- Quarantine Policies

## BUT

- Polls\* showed that 66% of Americans have postponed or canceled health care visits due to the COVID-19 crisis and were reluctant to seek care
- A major campaign to bring patients back launched



**PROVIDING WORLD-CLASS CARE, WHEN THE WORLD NEEDS IT MOST.**

Proud to be on the Best Hospitals Honor Roll for the fifth year in a row.



**BEST HOSPITALS HONOR ROLL 2020-21**



**DON'T PUT YOUR HEALTH CARE ON HOLD.**

Taking care of yourself and your health is important, and at Mount Sinai Morningside you can confidently get care now. Mount Sinai Morningside is open for all medical care including heart, cancer, bariatric, and primary care. We are following strict safety protocols to ensure you get the world-class care you need.

Mount Sinai Morningside is here for you.  
Schedule an appointment today.  
[mountsinai.org/morningside](https://mountsinai.org/morningside)



**Is it safe to get care?**

**to access health care by phone, online, or in person.**



\* Harris Poll fielded 8/7-8/9/2020 among a nationally representative sample of 1,995 US adults.

# Two Crises: A Pandemic and Social Injustice

COVID-19 has disproportionately affected minority communities.

| Rate ratios compared to White, Non-Hispanic Persons | American Indian or Alaska Native, Non-Hispanic persons | Asian, Non-Hispanic persons | Black or African American, Non-Hispanic persons | Hispanic or Latino persons |
|---|--|-----------------------------|---|----------------------------|
| CASES <sup>1</sup>                                  | 2.8x higher  | 1.1x higher                 | 2.6x higher                                     | 2.8x higher                |
| HOSPITALIZATION <sup>2</sup>                        | 5.3x higher  | 1.3x higher                 | 4.7x higher                                     | 4.6x higher                |
| DEATH <sup>3</sup>                                  | 1.4x higher  | No Increase                 | 2.1x higher                                     | 1.1x higher                |

Race and ethnicity are risk markers for other underlying conditions that impact health — including socioeconomic status, access to health care, and increased exposure to the virus due to occupation (e.g., frontline, essential, and critical infrastructure workers).



Source: <https://www.cdc.gov/coronavirus/2019-ncov/covid-data/investigations-discovery/hospitalization-death-by-race-ethnicity.html>

**Systemic racism is intersecting with the COVID-19 pandemic-highlighting challenges in Black communities, like:**

- Access to healthcare
- Co-morbidities resulting in poorer outcomes
- Housing and environmental conditions

**Additional stressors that impact physical and mental health**

- Police brutality
- Concerns for personal and family's safety
- Limited education & employment opportunities
- Economic Insecurity

# Addressing the Impact of Systemic Racism

In addition to health issues, the inability of Black and Hispanic families to advance due to lack of opportunities must be addressed in order to close the education, achievement and wealth gap.

**Sinai has been a leader** in addressing educational disparities since 1975 with its CEYE program to expose high school students to science. Additionally, Patricia S. Levinson Center for Multicultural and Community Affairs has had a number of programs for over 20 years.

Recognizing that more focus is needed on this subject, the School has taken several new steps to combat the impact of systemic racism in all our missions-Education, Research and Clinical.

- **MSHS Task Force to Address Racism**

The Task Force is charged to develop a road map to provide concrete and tangible strategies to become an anti-racist healthcare and learning institution that intentionally addresses structural racism and creates greater diversity, inclusion, and equity.

- **Mount Sinai Laureates Program**

This is an initiative to recruit and retain URM faculty in the basic sciences. The program will support and mentor awardees for 5 years to become independent investigators. Two BioMedical Laureates will be selected each year, one in basic science, the other in translational or clinical science.

- **Institute for Health Equity Research**

Understand the effects of health issues, including COVID-19, affecting at-risk communities including those that are non-white, low-income, immigrant, uninsured, and LGBTQ+ across all ages, genders and abilities.

# Medical Education: Racism and Bias Initiative

## These efforts were initiated by the Dean for Medical Education:

- *Chats for Change*: 40 sessions this past year; 100-300 attendees per session
- Launched a national monthly *Chats for Change* series
- Monthly *Guiding Coalition* meetings with faculty, students, staff and leadership to implement, track and course-correct towards ant-racist transformational change
- RBI integrated into student experience and curriculum; redesigned structural competencies in social determinants of health



Icahn School  
of Medicine at  
**Mount  
Sinai**

# Research Accomplishments

- **AAMC Rank**

- 99<sup>th</sup> percentile among US private medical schools in research dollars per investigator. (ISMMS=\$632,258 vs Mean=\$329,057 or 1.9x Mean)
  - 93<sup>rd</sup> percentile among US private medical schools in Modified Direct research dollars per NASF (NASF – Net Assignable Square Feet)
  - Grant growth was at 8.25% vs Mean of 3.99% (>2x Mean) among US private medical schools

- **Research Quality**

- Total NIH funding currently at \$413.1m
  - \$74M received for COVID-related research from all sources
  - Ranked #14<sup>th</sup> in NIH funding
- Miriam Merad inducted in the National Academy of Sciences
- Brian Brown received NIH Director's Transformative Research Award

# New Appointments

## Dean

**Kelly Cassano, DO**  
Dean for Clinical Affairs

**Judy H. Cho, MD**  
Dean of Translational Genetics

**Thomas Fuchs, PhD**  
Dean for Artificial Intelligence  
and Human Health  
Director, Hasso-Plattner Institute  
for Digital Health at Mount Sinai

**Mark Lebwohl, MD**  
Dean for Clinical Therapeutics

**Kristin Myers, MPH**  
Dean for Information  
Technology

**Jonathan Ripp, MD, MPH**  
Dean for Well-Being and Resilience

## Senior Associate Dean/ Associate Dean

**Lauren Piccarolo, MD, MPH**  
Senior Associate Dean  
for Well-Being and Resilience

**Michelle Sainte Willis**  
Senior Associate Dean  
for Academic Administration

**Adriana K. Malone, MD**  
Senior Associate Dean  
for Graduate Medical Education

**Daniel I. Steinberg, MD**  
Associate Dean  
for Quality & Patient Safety,  
Graduate Medical Education

## Chair/Institute Director

**Brendan Carr, MD, MA, MS**  
System Chair of Emergency Medicine

**Emma Guttman-Yassky, MD, PhD**  
Chair of Dermatology

**Carol Horowitz, MD, MPH**  
Director, Institute for Health Equity Research

**Lynne Richardson, MD**  
Co-Director, Institute for Health Equity Research

**Rachel Vreeman, MD, MS**  
Chair of Global Health and Health System design  
Director, Arnhold Institute for Global Health

# New Appointments

## Other

### **Gary Butts, MD**

EVP for Diversity,  
Equity and Inclusion, MSHS

### **Bruce J. Darrow, MD, PhD**

Deputy Chief Information  
Officer, MSHS

### **Joseph Finkelstein, MD, PhD**

Director, Center for BioMedical  
and Population Health Informatics

### **Paul Lawrence, MFA**

Deputy Chief Information Officer

### **Deborah Marin, MD**

Director, Center for Stress,  
Resilience and Personal Growth

### **Rachel L. Miller, MD**

Chief of Clinical Immunology

### **Talia H. Swartz, MD, PhD**

Co-Director, MSTP Program

# Medical Education – Accepted Students

|   | MD               | MD-PhD           | Flex Med         |
|---|------------------|------------------|------------------|
|   | Matriculate 2020 | Matriculate 2020 | Matriculate 2022 |
| Number of Matriculating Students        | 140              | 12               | 40               |
| Women                                   | 50%              | 50%              | 53%              |
| Underrepresented in<br>Medicine/Science | 20%              | 25%              | 35%              |
| Number of Undergraduate Schools         | 67               | 10               | 24               |
| Median MCAT                             | 517              | 518              | N/A              |
| Median GPA                              | 3.86             | 3.88             | 3.91             |
| Number of Undergraduate Schools         | 67               | 10               | 24               |

# Medical Education – 2021 Initiatives

## **Pandemic recovery and return to normal:**

- First and second year students learning remotely for the entirety of first semester.
- Most are living off-campus in an effort to limit the density of occupancy in Residence Hall.
- Third and fourth year students have been seeing patients in-person since June.
- 50 of Icahn's fourth year students were offered early assurance of acceptance into Mount Sinai residency programs.
- 2020 admissions recruitment season for the medical school will be entirely remote.
- 2021 entering class size will be reduced from 140 to 120 in order to better teach and support the students with the resources they need to be successful
- Planning for spring semester:
  - Contingent on whether there is a COVID surge in Fall/Winter
    - In-person, All remote or Hybrid
    - How to bring all students onto campus, safely

# Graduate Medical Education

## Doximity Ranking 2020-21

| Program Name               | Site   | 2020 US Reputation Rank |
|----------------------------|--------|-------------------------|
| Dermatology                | MSH    | 4                       |
| Phys Med/Rehab             | MSH    | 9                       |
| Otolaryngology             | MSH    | 12                      |
| Radiology Nuclear Medicine | MSH    | 12                      |
| Psychiatry                 | MSH    | 15                      |
| Obstetrics-Gynecology      | MSH    | 18                      |
| Ophthalmology              | NYEEMS | 20                      |
| Neurology                  | MSH    | 21                      |
| Radiology Diagnostic       | MSH    | 21                      |
| Internal Medicine          | MSH    | 22                      |
| Emergency Medicine         | MSH    | 24                      |
| Anesthesiology             | MSH    | 24                      |
| Radiology Diagnostic       | MSMW   | 25                      |

# Graduate Medical Education

- Remains the largest sponsor of Graduate Medical Education in the United states with 2,546 residents and fellows in 240 programs
- New ACGME accredited programs for 2020
  - Laboratory Genetics and Genomics
  - Pediatric Hospital Medicine
  - Pediatric Pulmonary Medicine
- ISMMS Medical Corp during COVID Surge – **39** members 4/21/2020 – 6/22/2020
  - **24** ISMMS Early Graduates
  - **15** non-ISMMS matched to MSHS programs
- Early Assurance
  - 49 senior ISMMS medical students into MSHS Residency Programs
  - MSHS Senior Residents into MSHS Fellowship Programs

# Graduate Medical Education – 2021 Initiatives

## Post-Pandemic Return:

- All GME programs have resumed regular instruction and clinical training.
- Plan to resume in-person conferences as permitted by room size and IP policies
- Careful focus on procedure logs to assure senior most trainees have made up for the period of pandemic surge
- Monitor for signs of PTSD
  
- Progressive leave policies for residents and fellows that will offer more flexibility, reduce stress and increase autonomy in making life decisions with regard to family and parental leave consistent with new ABMS initiative.
- Focus on healthcare disparities
  
- New GME Programs
  - Adult congenital hear disease
  - Child neurology
  - Neurotology
  - Pediatric hematology/oncology
  - Clinical biochemical genetics

# Graduate School – Class of 2020

| PhD Class of 2020 Matriculants  |      | Masters Students Class of 2020 Matriculants                               |    |
|---------------------------------|------|---|----|
| Size of Class                   | 53   | Master of Science in Biomedical Sciences                                  | 47 |
| Women                           | 79%  | Master in Public Health (plus 1 Certificate)                              | 38 |
| Underrepresented in Science     | 15%  | Master in Health Administration   | 35 |
| Number of Undergraduate Schools | 51   | Master of Science in Clinical Research<br>(plus 6 PhD and 6 Certificates) | 21 |
| Median GPA                      | 3.81 | Master of Science in Genetics Counseling                                  | 12 |
| Number of Undergraduate Schools | 51   | Master of Science in Healthcare Delivery Leadership                       | 8  |
|                                 |      | Master of Science in Biomedical Data Science                              | 8  |

# Graduate School Notable Accomplishments

- **Recruited the largest PhD class** in Biomedical Sciences and Neuroscience.
- **Launched two new Master's programs:** Master in Health Administration and Master of Science in Epidemiology.
- **Recruited the largest number of new Master's students** the School has ever enrolled.
- **Standardized accreditation requirements** across multidisciplinary training areas (MTA) of the PhD program in Biomedical Sciences and clarified the role and responsibilities of MTA directors.
- **Launched new student-led cross-disciplinary Journal of Science and Medicine** in partnership with Levy Library.
- **Established a Graduate School Advisory Group on Racism and Bias** to create a more equitable learning environment for our trainees.
- **Responded to the challenges of COVID-19** by implementing innovative solutions to distance learning, admission practices, and trainee support services.
- **Developed a new faculty and teaching assistant training program** on digital learning.
- **Developed online tools to improve *graduate* student training experience and academic progress**, including an institutional *Graduate Student Tracking System* and user guides to view academic *milestones*.

# Graduate School – 2021 Initiatives

- Developing a new PhD concentration in "AI for medicine"
- Transitioning the Summer Undergraduate Research Program (SURP) to a URiSM-focused program
- Implementing a new paradigm for admission and interview practices in light of COVID-19
- Building pipelines via new early admission programs and partnerships
- Implementing best practices in on-line education, and incorporating the most effective methodologies as we transition back to in-person instruction
- Enhancing the training of faculty in mentoring and education practices resulting from the challenges (and opportunities) of Covid-19

# Office of Well-Being and Resilience (OWBR)

- Established a System-wide COVID-19 Well-Being Response Task Force.
- Created ZOOM mental health and psychosocial support groups for departments and teams.
- Created a “Resource Navigation Hotline” to support employees access services.
- Assisted in the creation of well-being respite spaces and refreshment stations .
- Research to study psychological impacts of pandemic on healthcare workforce and medical students
  - 5 peer-reviewed journal articles, 2 in press
  - 10 invited presentations
- 1<sup>st</sup> Annual CHARM (Collaborative for healing and Renewal in Medicine) Course at Mount Sinai.
- Six presentations to professional organizations.
- New partnerships with system-wide groups that impact well-being including:
  - MSHS Task Force to Address Racism - *with Gary Butts, MD*
  - Center for Stress Resilience and Personal Growth – *with Deborah Marin, MD*
  - Office of Faculty Development – *new leadership under Jonathan Ripp, MD, MPH*
- Development of a model that informs and prioritizes wellness interventions for medical school students.
- On-going mental health support, information, community building activities, peer support and wellness events to the Icahn School.

# Office of Academic Development and Enrichment

## Accomplishments during 2019-2020:

### Mentorship

- *Mentoring and Professional Well-Being* – 10<sup>th</sup> Annual Faculty Development Symposium
- *Mentoring the Mentor Program* – Training workshops for senior faculty
- *Enhanced Community of Mentorship* – Group meetings to share best practices with leaders

### Collaborations

- *Sinai Showcase Lecture Series* – celebrating remarkable achievements of Mount Sinai's own distinguished faculty
- *Faculty Idea Prize*– supporting innovative research ideas developed through junior faculty collaborations.
- *A Conversation for Change* – with ODI, discussed challenges and solutions for Black female faculty in academic medicine

### Leadership

- *National Center For Faculty Development and Diversity* – Institutional membership with free resources, workshops, and community
- *Speak with Impact: Panels That Work* – Workshop during COVID to practice public speaking techniques for panels and presentations
- *CV for Promotion Overview and FAQ* – Workshop on getting the curriculum vitae ready for promotion

**Thank you Lakshmi Devi and Liz Howell  
for your decade of service!**

# Office of Faculty Development

## A new direction for 2020-2021:

### Faculty Support

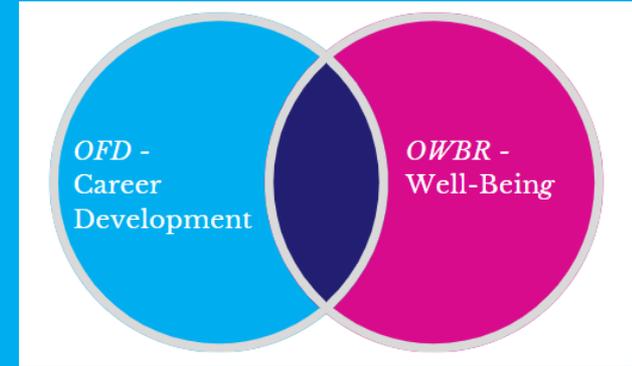
- Strengthen career development and advancement programs for new and junior faculty
- Enhance collaborations throughout the health system by creating networking opportunities
- Enrich the onboarding process for all faculty new to Mount Sinai
- Enhance and develop programming for all faculty

### Mentorship

- Renew focus on mentorship for all tracks and member hospitals
- Development of resources, guides, and trainings for mentors and mentees

### Leadership

- Design new leadership training programs in collaboration with partners
- Collate internal and external resources and trainings for leaders
- Create programs for current leaders and rising stars



\*Workshops, events, and programming created by the OADE will continue under the new OFD

**Leadership Change – New Team**  
**Jonathan Ripp, MD, MPH, Dean**  
*Lauren Peccorale, MD, MPH*  
Senior Associate Dean  
*TBD, Associate Dean*  
*Corinne Johnson, MPH,*  
Program Coordinator

# Office of Diversity and Inclusion (ODI)

- In June 2020, Dr. Butts and ODI was asked to lead the **MSHS Task Force to Address Racism**. The Task Force is charged to develop a road map to provide concrete and tangible strategies to become an anti-racist healthcare and learning institution that intentionally addresses structural racism and creates greater diversity, inclusion, and equity.
- In June 2020, ODI established the the **United in Solidarity** website to serve as a resource hub to support, connect, and inform the Mount Sinai Health System community about the Black Lives Matter movement and promote our efforts to instill an anti-racist culture.
- All MSHS hospitals were acknowledged by HEI (Health Equity Index) for **excellence in LGBT patient care** in 2020.
- The Faculty Diversity Council and GME Diversity Council continue to focus on recruitment, retention and advancement of women and URIM faculty and house-staff.
- ODI worked with Dr. Eric Nestler and the Basic Science Leaders Group to develop the **Mount Sinai Laureates Program**, an initiative to recruit and retain URM faculty in the basic sciences.
- Through ODI's Diversity Leaders Group, as of September 2020, **8 departments** have established Vice Chairs for Diversity and over **20 departments**, institutes and centers have established or are in process of launching a diversity committee. This is an important expansion of core organizational structure to advance DEI strategies system-wide.

# Office of Diversity and Inclusion (ODI)

## Ongoing ODI initiatives:

- **ODI/CMCA NERA** (North East Regional Alliance) MedPREP program entered its **12<sup>th</sup> year** in 2020 and delivered a virtual summer program engaging 150 URISM and disadvantaged college students
- **ODI CEYE** had a total of **325** youth participating in the **2019-2020 AY** cycle and delivered a virtual summer program
- **ODI CHSA**
  - The disparities and data analytics team has been developing best practices in data collection methodology on various patient-related sociodemographic variables
- **ODI DIH**
  - Will be launching the **DIH Pipeline Program: Tackling Health Disparities with Innovation and Creativity** in the Fall and open to Mount Sinai affiliates and members of the broader NYC community with an interest in addressing Social Determinants of Health. The 5-week pipeline program is meant to support any aspiring founders and social entrepreneurs who want to develop their interests into tangible ideas

# Office of Gender Equity in Science & Medicine

## Office of Gender Equity in Science & Medicine



*AIM: Enhance our systems, policies and climate so all faculty & trainees are valued and have the opportunity to succeed regardless of gender.*

### Recruitment & Retention:

- 1<sup>st</sup> year of Distinguished Scholar Awards commences
- Implementation of Dean's Search Committee Policies that include guidance on
  1. Committee composition
  2. Protocols for job posting
  3. Uniform interview process
  4. Requirement for members to go through implicit bias training
- More women on APT Committee

# Office of Gender Equity in Science & Medicine

## Gender Bias & Mistreatment:

- Launching tool and workshops to address microaggressions
- Screening and discussion of “Picture a Scientist” with FBI, OWC, ODI, OADE.

## Mentorship, Leadership, Sponsorship:

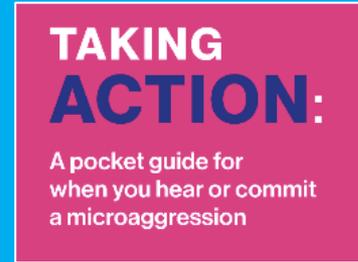
- Women’s History Month showcase in celebration of coaches, mentors, sponsors and other champions in collaboration with OADE.

## Family Friendly:

- New, voluntary unpaid furlough plan

## Other Work:

- Planning of facilitated discussions on how we can improve culture and climate
- Hiring of Associate Deans for training & development, and assessment, monitoring & evaluation.



# Institute for Health Equity Research

## Institute for Health Equity Research

Led by: Carol R. Horowitz, MD, MPH (Director) & Lynne D. Richardson, MD, FACEP (Co-Director)

Steering Committee

Admin Team

## TRANS-DISCIPLINARY

External Taskforce

Internal Advisors

External Scientific  
Advisors

Internal Partners

**AIMS:** Rigorously study and address clinical, biological, environmental, social, and structural determinants of health disparities. Translate discoveries into sustainable, scalable initiatives, programs and policies to achieve equity.

DATA &  
DISPARITIES  
RESEARCH

ENGAGEMENT  
(Equitable Collabs)

CARE DELIVERY &  
IMPLEMENTATION  
SCIENCE

TRAINING &  
EDUCATION

## 4 PILLARS

## Institute for Health Equity Research CURRENT PROJECTS



### Community-engaged work on COVID-19 impacts

Community-based survey in 11 languages (Speak Up On Covid)

Addressing community trauma & well-being in Black communities through peer-led initiatives



### Consultation service to help ISMMS researchers, across disciplines, leverage equity lens



### Disparities dashboard to identify & eliminate inequities in healthcare quality and access



### Center for Scientific Diversity: Train a diverse, culturally competent research workforce



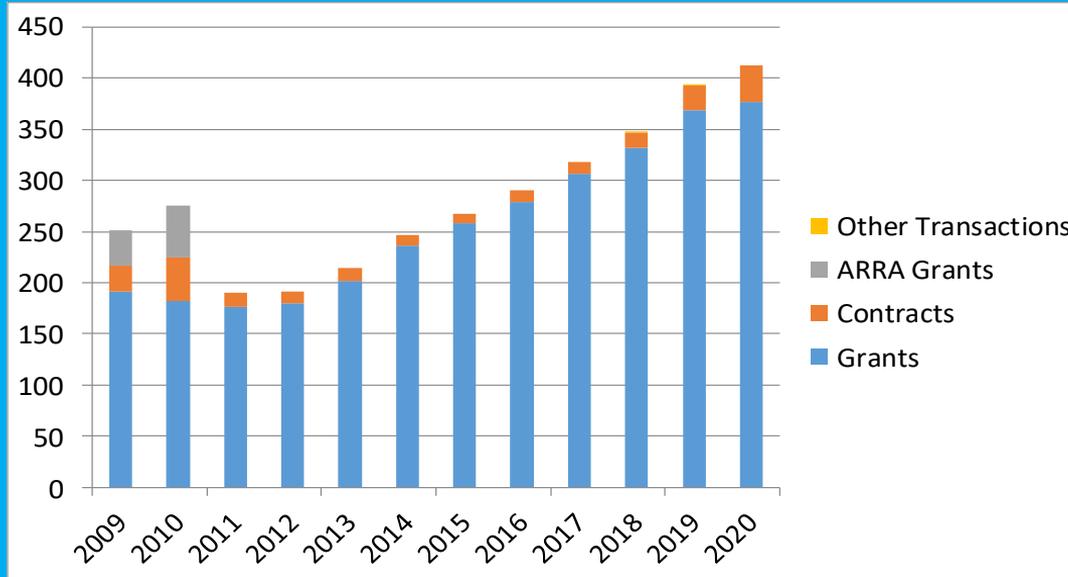
### Specific Studies:

Interaction of race, ancestry, genomics and air pollution on chronic kidney disease

Addressing food security to improve chronic disease outcomes

Studying Telehealth disparities in primary care using big data

# NIH Funding 2009-2020 (in \$M)



## Department NIH Funding Rank-2019:

[Source: Blue Ridge 2019 Data]

### Basic:

- Genetics # 3
- Microbiology # 2
- Neurosciences # 3
- Cell Biology # 6
- Pharmacology # 9

### Clinical:

- Emergency Medicine # 5
- Neurology # 12
- Psychiatry # 4
- Rehab Medicine # 3

# Research Update – Impact of COVID

- **NY-Pause**
  - March 20 ramped down to essential research only, skeleton crews, but 100% effort on COVID-19
  - May 18, reopening to 25% normal density
  - June 8, reopening to 50% normal density
  - June 29, return to 100% effort
- **Maintained more** research activity than any other school in the Northeast with essentially zero COVID-19 cases in the research labs.
- Sinai's research animal census went down to 80% of normal levels, whereas many other schools went down to 20% of normal levels.
- Thanks to CCMS staff and all of our trainees and other researchers for handling things so effectively and safely.

# Research– 2021 Initiatives

- Cardiovascular Research Center elevated to Institute and is now Cardiovascular Research Institute (CVRI)
- Further growth of programs with new leadership
  - CVRI – building cardiovascular research.
  - Genetics & Genomics.
  - Artificial Intelligence in Healthcare
- Development of West Campus: a new innovation hub.
  - ~75,000 sf (~3 floors of Icahn)
  - Close proximity to MSW
  - New space focused on innovation and discovery

# Mount Sinai Innovation Partners (MSIP)

## 2019 MSIP Metrics:

- **779** Faculty Engagement Licenses & Options 61
- **190** (providing \$33M in funding) Research Contracts
- **153** Technology Disclosures
- **316** (Includes filed provisionals, PCT, US, European, and other foreign national phase applications and filings) New Patent Applications
- **1,176** Material Transfer Agreements
- **376** Confidentiality Disclosures

# Mount Sinai Innovation Partners (MSIP)

## COVID Efforts:

- Entered into 37 licenses for COVID related technologies
- Founded Kantaro Biosciences, a Mount Sinai venture, to develop and commercialize Covid-19 antibody diagnostic tests and research kits
- Entered into a multi-year collaboration with Harbour BioMed to develop novel humanized antibodies against SARS-CoV-2
- Executed 210 Material Transfer Agreements for Mount Sinai Covid-19-related technologies and research efforts
- Created an ELISA assay to detect SARS-CoV-2 reactive antibodies in human milk

# Mount Sinai Innovation Partners (MSIP)

## Notable Commercial Achievements:

- RenalytixAI – Startup co-founded by Mount Sinai and commercializing diagnostic and prognostic tools for kidney disease raised \$85M in a NASDAQ listing
- Givlaari – A drug based on Mount Sinai intellectual property for the treatment of acute hepatic porphyria received FDA approval
- Trellus Health – Mount Sinai spun out a novel digital health platform to increase resilience and improve care management for patients with chronic diseases, initially focused on Inflammatory Bowel Disease (IBD). Initially funded through the i3 Accelerator Program, Trellus has raised \$5M in seed funding.
- Licensed a novel intra-operative neuromonitoring endotracheal tube to better prevent nerve damage during surgery to a European medical device company.
- Generated \$62.5M dollars through the sale of royalties

# Mount Sinai Innovation Partners (MSIP)

## Notable Commercial Achievements:

- Onegevity Health – Acquired the global licensing rights to Mount Sinai’s Lab100, a clinic and research lab using AI powered precision and personal diagnostics to empower decision making for patients and clinicians
- PPS licenses – Mount Sinai entered two exclusive licenses to develop pentosan polysulfate sodium (PPS) for the treatment of MPS, a group of 11 lysosomal storage disorders
- Harbour BioMed collaboration – Mount Sinai and Harbour BioMed are collaborating to develop novel, fully human antibodies to various diseases using Harbour’s H2L2 Harbour Mice
- Nines – A first-of-its-kind AI-enabled, teleradiology practice leveraging Mount Sinai intellectual property and co-founded by Mount Sinai launched to deliver high-quality, priority-driven patient care decisions

# Mount Sinai Doctors Faculty Practice Covid-19 Timeline

## January - February

- Started working with Infection Prevention and Emergency Ops to prep for Covid-19
- Developed Screening Protocols for all locations

## March - June

- Decrease ambulatory operation except for urgent needs
- Ramp up Telehealth
- Redeployed 2,000+ faculty and staff to support inpatient surge

### Supporting the Practices

- Created *Ambulatory Guidelines for Return to Practice*, with information regarding Infection Control, Staff Resources, Patient Communication, Cleaning Protocols, Scheduling, etc.
- Continuously updated operational and clinical screening tools to guide providers, schedulers and front end staff

### Employee Communication

- Distributed frequent Covid Ambulatory Planning and Telehealth updates from Kelly Cassano, DO and Anne Dickerson to 1,000+ ambulatory leaders and providers
- Held Ambulatory Town Halls to keep all providers and staff informed of changing protocols

### Patient Communication

- Sent over 60 Covid-19 specific communications to patients via email, text and MyChart
- Developed Communications Toolkit for practices with standard, up-to-date messaging for signage, texts MyChart messages and phone calls

## July - September

- Developed protocols to allow return to in person safely
- 80%+ prior levels

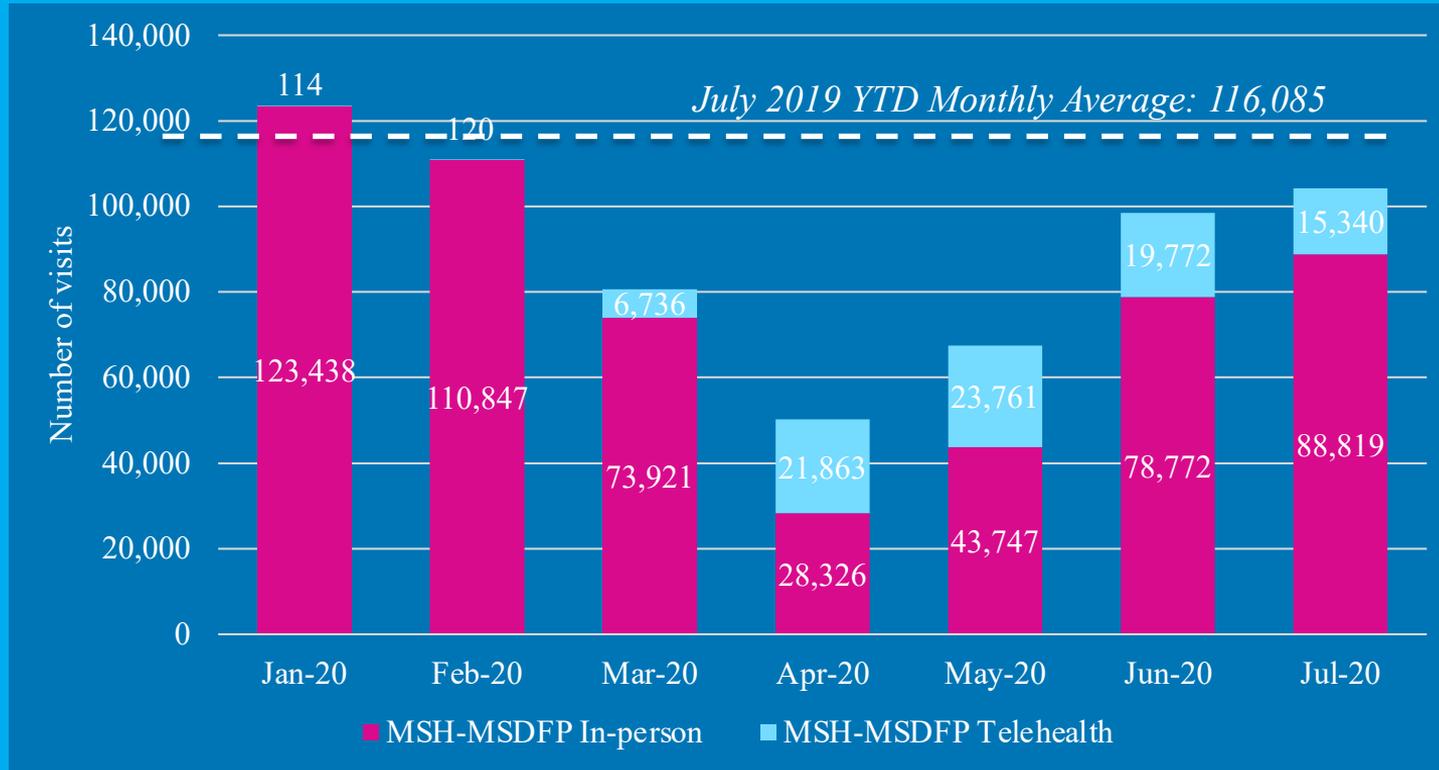
### Telehealth

- **103% increase** in video visits volume
- **62% increase** in active video visit providers (*providers who have completed at least 1 video visit*)
- Added Telehealth booking capabilities to online scheduling platforms (MyChart, Zocdoc)

### MyChart

- **46% increase** in appointments booked through MyChart
- **21% increase** in MyChart activations
- Increased promotion of eCheckIn for patients in MyChart to reduce time in waiting rooms

# Mount Sinai Doctors Faculty Practice 2020 Monthly Volume (In-Person + Telehealth)



## Key Takeaways

- In July 2020, total ambulatory encounters reached 89.7% compared to July 2019 in-person volume
- In July 2020, in-person visits were at 76.5% of July 2019 YTD average

Data Source: Epic EMR, Non-Epic Network practices; MS Now excluded; Radiology and Radiation Oncology included

# Mount Sinai Doctors Faculty Practice- 2020 Highlights

## Covid-19 Response

- Developed Ambulatory Guidelines to support response and to be used a tool in future emergencies
- Expanded telehealth and rapidly implemented technology to support virtual work and patient processes

## Revenue Growth

- **Expected Revenue** – Annualized 2020 at \$900 million
- **Positive to revised budget** on all campuses and in almost every Clinical Department

## Leadership Changes

- Matthew Rosamond started full-time as SVP and COO in January
- Kelly Cassano, DO promoted to SVP
- Leadership consolidation in Faculty Practice with Anne Dickerson, Richard Nagengast, David Mendelson, Michelle Bekman, Amy Nelson and Alan Adler taking on expanded roles

# Mount Sinai Doctors Faculty Practice New Initiatives for 2021

- In collaboration with System Ambulatory Planners, enact strategic priorities for 2021, focusing on:
  1. Future Integration and Expansion Possibilities
  2. MSO Functions
  3. Clinical Operations
  4. Financial Oversight
- Facilitate practice reopening and ambulatory growth
- Continue space upgrades/modernization of 5 East 98<sup>th</sup> Street Facility
- Expansion of integration into a single system Access Center supporting phone and digital strategies
- Expansion of integration into a single Central Billing Office
- Integration of Telehealth/Home Health into standard clinical operations

# Financial Results

The School's finances are rebounding rapidly from COVID according to the revised budget

## Financial Operating Results (000's):

### Results

|      |                                    |
|------|------------------------------------|
| 2020 | TBD – Positive results by November |
| 2019 | \$(22,000)                         |
| 2018 | \$(14,252)                         |
| 2017 | \$(1,883)*                         |
| 2016 | \$(14,062)                         |
| 2015 | \$(12,894)                         |

\* Includes one-time benefit from School's share of Laboratory business sale

Research and FPA are major contributors to the School's financial success

# Continue to Follow Successful Financial Policies and Goals

- Action Plan follows Financial Policies and Goals:
  - School's financial operating results must be according to budget using only 4.5% endowment spending rate investment income
- Departments must consistently achieve positive financial results:
  - Clinical Departments minimum 2.5% margin
  - Basic Sciences, Research Institutes achieve budget targets
  - Incentive plans encourage revenue and margin growth
    - Principles of Department Compensation Models consistently followed:
    - 100% of compensation tied to performance
    - Compensation must be covered by Teaching, Research and Clinical Revenue
    - Quality, productivity and outcomes goals integrated
    - Performance goals for each physician with regular reviews of actual results
    - Productivity Standards
- Business Plans for all Clinical and Research initiatives
- Continuous monitoring of financial results with timely corrective actions
- Realize Financial Opportunities

# Continuing Challenges to Financial Success – COVID-19

## Challenge

- Financial Impact from COVID
  - \$100M+ impact on FPA revenue
- Original Budget Plan not realistic
- Flex spending down to align with reduced revenue
- Maximize Federal Support:
  - CARES Act
  - FEMA
- Cost effective management of Rebound
  - FPA
  - Research

## Action Plan

- Redeploy faculty & staff to provide COVID patient care
- Shared work program
- Revised 2020 Budget (5month Actual + 7month Forecast)
- 2021 monthly budget
- Flexible Hiring freeze
- Supply cost savings from reduced volume
- CARES Act Funding
- Retention Credit (in progress)
- Work from Home initiatives
- Staff return according to volume
- Zero-based/mission analysis of Faculty & Staff costs

# Continuing Challenges to Financial Success

## Challenge

- Unexpended Grant backlog exceeds \$437M
- Research and Clinical Space Constraints
- Better alignment of Clinical financial incentives
- Member Hospital Finances
- Timing of Campaign Philanthropy vs Strategic Plan Spending
- Grow Royalty/Licensing Income and Startup Companies

## Action Plan

- Monthly monitoring of grant spending with Department follow-up
- Offsite space lease (11<sup>th</sup> Ave Research space)
- New FPA Assessments/Funds Flow Model
- Continue to improve Physician productivity
- Improve payor mix
- Gain better alignment through annual budget process
- MSIP works closely with faculty
- Accelerator fund opportunities
- Royalty monetization

# Financial Improvement Initiatives – 2021

- Zero-Based / Mission analysis of faculty and staff costs.
- Identify Opportunities for Centralization/ Savings of IT & Communication/ Marketing costs
- 2021 Budget Focuses on Monthly Results
  - 4<sup>th</sup> Quarter 2020 positive results must carryover on a monthly basis in 2021.
- Continue to grow research grant portfolio and increase grant spending ( Grant Backlog at record levels )
- New FPA Assessments/ Funds Flow Model aligns incentives, promotes growth
- Enhance Performance Metrics Monitoring
  - Faculty Productivity ( Research & Clinical )
  - Staffing Ratios
  - Administrative cost analysis
  - Revenue Cycle
- New Hires based on business plans/ Rehires based on volume of activity

# Office of Development

FIRST COMPREHENSIVE CAPITAL CAMPAIGN FOR THE HEALTH SYSTEM

**\$2.0B**

2017-2024

**\$134.6M**

2020 CAMPAIGN  
TOTAL RAISED

TOTAL CAMPAIGN RAISED TO DATE

**\$857.7M**

43% GOAL ACHIEVED

# Looking Forward

This pandemic will end. Life will return to normal. The economy will rebound.

Sinai is at the forefront of cutting-edge research and treatment on COVID.

We must imagine a world as it should be and actively engage to achieve it by addressing the disparities in access to opportunities and healthcare.

At Sinai, our innovation and creativity is already showing us the way.

Sinai's exceptional faculty and staff have found novel ways to adapt and continue to excel in all our missions.

# Resilience is in our DNA



Icahn School  
of Medicine at  
**Mount  
Sinai**