

## We Now Turn to The Class of 2019 to Guide Us Towards an Age of Insight and Discovery

Dennis S. Charney, MD, Anne and Joel Ehrenkranz Dean of the Icahn School of Medicine at Mount Sinai and President for Academic Affairs of the Mount Sinai Health System, delivered the following remarks at the 18th Annual White Coat Ceremony on September 17, 2015, in Stern Auditorium.

The White Coat Ceremony marks the beginning of the academic year and welcomes first-year students into the medical profession. As students are helped into their white coats by faculty, they are reminded of the significance of their profession and their responsibility to balance scientific knowledge with compassion.

Class of 2019, Family and Friends, Faculty, and members of the Mount Sinai Boards of Trustees,

WELCOME to the 2015 White Coat Ceremony for the Class of 2019.

The donning of the universally recognized — and globally respected — white coat has been an enduring symbol of the medical profession's commitment to biomedical research and patient care for over 100 years.

At Mount Sinai, it is not only symbolic of starting the journey from medical student to physician, but also of a bonding process, a mentorship experience, a relationship that will last not just four years of medical school, but a lifetime.

Today's Ceremony is also an opportunity to reflect on our past, present and the future.

This is the most transformative moment in the history of the Icahn School of Medicine at Mount Sinai and the Mount Sinai Health System.

Literally, by any measure of educational, research, and clinical excellence, our School of Medicine is one of the most innovative and outstanding schools of medicine in the world.

We teach tomorrow's medicine today, our researchers tackle the most difficult and important medical problems leading to new treatments for the most serious diseases; and our physicians in the hospital in this very building perform miracles every day.

At Mount Sinai, we set the bar high, very high — as our recent ad in the *NY Times* points out — "We offer degrees in changing the world."

Is the Class of 2019 ready for the challenge?

I am sure YOU ARE!

Your class has the credentials that place you among the Best and Brightest medical students in the nation. Impressive academic performance from top undergraduate colleges and universities is a given. But that alone does not qualify for a place in an Icahn School of Medicine at Mount Sinai class. The Class of 2019 includes varsity athletes, campus leaders, entrepreneurs, activists, military veterans, PhDs, published researchers, and global health innovators, and more....

The pace of biomedical discovery and change in healthcare delivery has never been more rapid.

I entered medical school in 1973. The following is an abbreviated list of what did not exist. . . .

There was no:

- MRI
- PET Scanning

- Antiviral Drugs
- Vaccine for Hepatitis A, B, C, and HPV
- Liver Transplants
- Intravascular Stents for Coronary Artery Disease
- Statins for High Cholesterol
- SSRIs for Major Depression
- Monoclonal Antibody Therapies for Cancer and other diseases
- DNA Sequencing – Sequencing the Human Genome was not even a dream
- No Personal Computers, Smart Phones, or Electronic Health Records!

Class of 2019, despite these wondrous technologies that have emerged during my lifetime, let me be the first to tell you that, despite what you may read in the newspaper, we are NOT living in the future. Let me give you just a few examples of what does not exist TODAY, as you enter medical school.

- Outside of infectious disease and surgery, when the disease is caught in time, there are far too few curative treatments for human illness.
- MRIs enable us to diagnose strokes. But we cannot bring back lost brain tissue.
- PET scans can help diagnose Alzheimer's disease. Yet there are NO good treatments for this terrible illness.
- DNA sequencing and other high-throughput technologies are identifying the genetic underpinnings of an increasing number of illnesses, but so far the available treatments remain inadequate for many of these diseases.

In other words, Class of 2019, there is much work to be done.

It is to your generation, therefore, that we now turn, to guide us towards an age of insight and discovery. Let us imagine what is going to happen during your career in medicine.

- The pace of biomedical discovery will accelerate dramatically — an inverse Moore's Law.
- Disease processes will be characterized with increasing precision from the molecular level to the genomic level and by interactions with medication, nutrients, the microbiome, and the environment.
- This will result in dramatic improvements in outcomes for patients with the most devastating diseases.
- Therapeutic and monitoring devices will become smaller, smarter and more interactive — keeping more people well and producing more "hospitals" in the home.

- Computerized decision support will be taken to a new level. The Electronic Health Record will suggest possible diagnosis, along with tests and treatments based upon evidenced-based guidelines that are only a click away.
- The Moral Mandate to reduce the disparities in health between the rich and poor will intensify.

I am sure this will only be the tip of the iceberg — what lies beyond, no one knows.

However, this I can predict. You, the Class of 2019, over the course of your career, will make fundamental discoveries in the laboratory and in the clinic resulting in more precise, personalized care leading to the cures that we desperately need.

But, to accomplish this. . . .

You will need to be BOLD and CREATIVE

To take RISKS and LEARN from Failure

And HAVE the Intellectual Fortitude to stay the course when your insights are ridiculed and even publicly opposed.

Note these examples,

The pioneering work of Ignaz Semmelweis, a nineteenth century Hungarian physician, on antisepsis and the importance of hand washing was never accepted by the medical establishment during his lifetime. He was dismissed from his academic positions and ultimately died in an asylum.

Rene' Laennec discovered the stethoscope in 1816, but his invention was not well received. In fact, the *Times of London* in 1834 wrote "That it will ever come into general use, notwithstanding its value, is extremely doubtful."

And more recently, nobody believed the work of Barry Marshall and Robin Warren that the bacterium H. Pylori was the cause of most peptic ulcers. . . . Barry Marshall proved his theory by infecting himself

with bacteria and developed ulcers! . . . They won the Nobel Prize in Medicine in 2005!

Class of 2019 — You will become Master Clinicians, Educators, Physician-Scientists and Leaders of Health Care Systems. Many of you will focus on improving public health for underserved communities throughout the world.

Whatever medical path you choose, remember, in the words of the Stanford physician and bestselling author on humanism and medicine, Abraham Varghese, that Medicine, at its heart is a human endeavor, a calling, a ministry of healing.

Make sure that advances in technology that will inevitably become a greater part of medical practice, do not cleave the sacred bond between doctor and patient.

Make sure that you continue to value, and even treasure, the skill of talking to and examining your patients.

The bond between the patient and their physician can be transcendent — one individual coming to another revealing things that no one else may ever hear. That bond signifies to the patient you will always be there. . . .

Hippocrates wrote "some patients recover their health simply through their contentment with the goodness of the physician."

I end with this promise.

We, your teachers, will provide you the knowledge, the mentorship, and the resources to become the next generation of great Mount Sinai Physicians and Scientists — who have always been defined by high character, dedication, compassion, creativity, imagination and commitment to excellence.

In return, I hope you will return the favor. Strive for excellence, always. Now begins the time to transform the idealism that led you here today, into actions that improve the health and well-being of humanity.

Thank you!