



Icahn  
School of  
Medicine at  
Mount  
Sinai

## 2023 WHITE COAT REMARKS DENNIS S. CHARNEY, MD

# ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI

Class of 2027, family and friends, faculty, and members of the Boards of Trustees, welcome to the annual White Coat Ceremony of the Icahn School of Medicine at Mount Sinai.

As I stand before you, I have the ability to use smart technology devices to monitor my health, second by second:

- A smartwatch tracking my heartbeat,
- A wireless cuff measuring my blood pressure,
- And, a smartphone that is accessing data from multiple devices.

Fifty years ago, I was in your shoes as a first year medical student, I was in the Class of 1977! Time flies! Then, we could only dream of such real-time health monitoring. There were no personalized high-tech devices—no iPhones, iPads, or iPods. There were no Apple computers. In fact, the company, Apple Computer, didn't even exist.

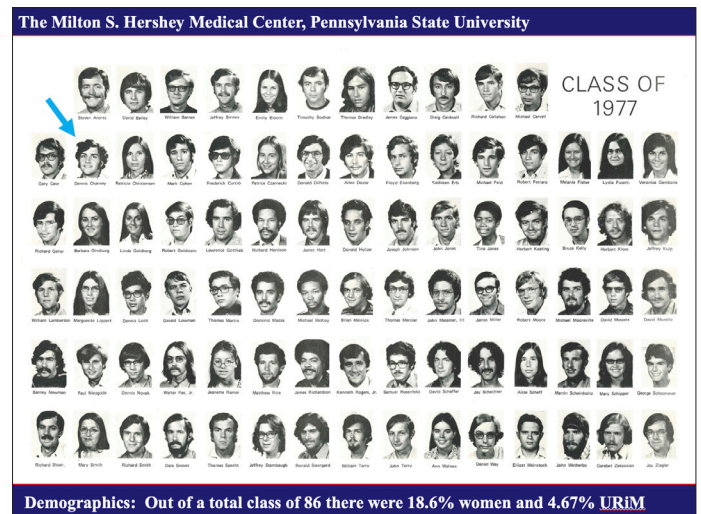
It was the dawn of personal technology. Xerox introduced the first desktop-style computer, called the Alto in 1973. But it would be another decade before personal computers could be found in most offices. In 1973, Motorola demonstrated a clunky prototype of the very first cell phone. It weighed 2-1/2 pounds. Not for another two decades would mobile phones become ubiquitous.

Back then, medicine lacked so many of the tools we rely upon today.

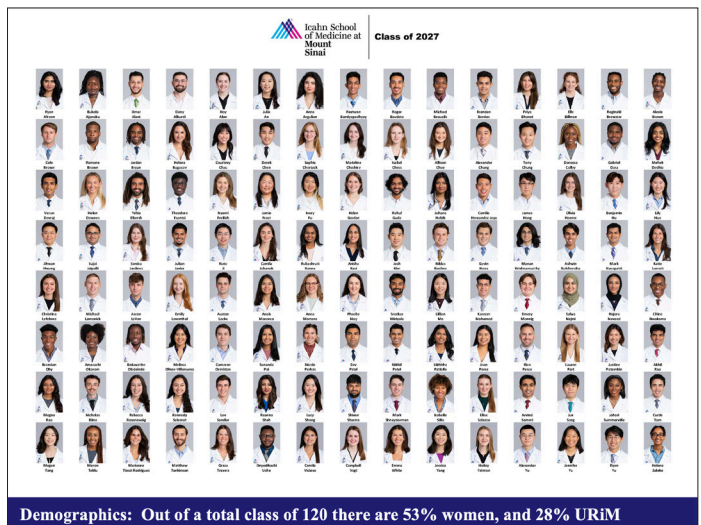
- There was no MRI or PET Scan imaging!
- No DNA sequencing, no genomic analysis!
- No drugs for high cholesterol!
- No new treatments for major depression!
- No monoclonal antibody therapies for cancer and other diseases!

So, you may wonder, how did we heal patients? We did, but not with today's modern technology.

The world was a different place in 1973.



That's me as a first year student with my class at Pennsylvania State College of Medicine. Of 82 students, we had just 12 women and only 4 people of color.



This is another way the world has changed for the better—your class is more than 50% women and 30% people of color.

And—let me say for the record—in spite of the recent Supreme Court decision on college admissions, future classes here at Icahn Mount Sinai will continue to be highly diverse. Icahn Mount Sinai will not stand down from our strong commitment to diversity, equity, and inclusion. And we will do this legally, under the law.

Over the past 50 years, there have been tremendous advancements in medicine. Many of these innovations have happened right here at Mount Sinai—in oncology, cardiology, gastroenterology, virology, psychiatry, and so many other fields.

Mount Sinai has generated major advances in chemotherapy and immunotherapy to fight cancer. We have invented treatments for Crohn's disease, ulcerative colitis, and serious depression. We have developed new imaging techniques to identify early signs of heart disease. And we have introduced new surgical techniques, including:

- the first minimally-invasive abdominal aortic aneurysm repair,
- the first laser robotic surgery for head and neck cancer,
- the first human tracheal transplant,

And, our scientists have invented new vaccines, including a universal flu vaccine and intranasal COVID vaccine. And we have discovered the first drug combination that can regenerate pancreatic beta cells that produce insulin.

There have been so many great research and clinical achievements at Mount Sinai that I could spend the entire White Coat Ceremony talking about them.

Just imagine how much medicine will change during the next 50 years, when you will be practicing medicine.

Here's one prediction:

"Gene therapies, nanomedicine, and other advanced treatments will become more commonplace, offering cures or long-term management for diseases that are currently challenging to treat effectively."

"Medical treatments will be tailored to an individual's specific

genetic makeup, lifestyle, and environmental factors. Personalized medicine will allow for more targeted and effective treatments with fewer side effects."

I did not make that prediction!

That prediction comes from CHAT GPT!

And, guess what? That's precisely what our Mount Sinai Million Health Discoveries Program is designed to generate. Our plan to complete the genetic sequencing of one million Mount Sinai patients and analyze this vast, diverse treasure trove of genomic information, will usher in the era of completely personalized medicine—where treatment based upon a patient's genetic makeup becomes the norm.

I did ask a few of Icahn Mount Sinai's leaders to predict what will happen over the next 50 years in your career. Here is what they told me:

- Artificial intelligence will enable early detection of multiple diseases, including cancer. Cell-targeted immunotherapy will become so effective that it will be able to eradicate large tumors that today are treatment-resistant. Cancer will become a highly manageable chronic disease....like AIDS is now.
- Genomic sequencing, body scans, and tissue biopsies will yield a forecast of what diseases a patient will get and when—allowing physicians, you, to modify that trajectory with targeted interventions.
- Advances based on genomics will allow gene editing to treat numerous inherited conditions, thereby producing lifelong cures.
- Sadly, I lost a grandchild, Jo Jo, seven years ago, almost to the day, due to a single gene mutation. Gene editing would have saved her life.

Today, these visions are dreams. But they are not unrealistic. Great researchers and clinicians, some of whom will be your teachers, are working to transform these dreams into reality. And, during your careers you will also have the opportunity to make dreams come true.

Einstein said, "The person with big dreams is more powerful than one with all the facts." So dream big and aim high.

At the same time, no matter how much medicine advances,

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no matter how much technology expands our capabilities, as physicians you will always need to demonstrate your humanity. Even when facing intense pressure—both personal and professional—you will need to be a compassionate and caring physician. You must build a bond with your patients, a bond that itself can be healing.

The White Coat you are about to receive represents goodness. It is a coat of honor, a symbol of healing and compassion. Wearing it is a great privilege. The White Coat represents a commitment to health equity and justice for all.

This responsibility is not yours alone. My commitment to you is that the faculty of Icahn Mount Sinai will teach, will support, and will encourage you in your pursuit of greatness in medicine and science. It is our hope that one day, perhaps in 10, 20, 30, 40, or even 50 years from now, when medicine's power to heal has grown exponentially, you will look back and say, "I played a pivotal role in improving the health and well-being of humanity."

Thank you!