Thank you very much. I’m deeply honored to be here, and congratulations to all of the graduates. Being a graduation speaker is kind of like being the person who sings the Star Spangled Banner at the ballgame: nobody came to hear you, and you’ll only be remembered if you mess it up. If you’re like me, you may not remember every one of the details that you memorized in anatomy or physiology, or genomics or pharmacokinetics. But I bet you’ll remember the food from Gleason’s or the gym at the Falk Center, or the coffee from Starbucks or Dunkin’ Donuts around the corner.

Montefiore means a lot to the city, to the country and to me personally. As Steve said, my father was a cardiologist here for 40 years, and I believe that my father combined the essence of both scientific rigor and social conscience. He didn’t say much, but what he said always had great meaning. And when asked what he thought our basic reason for being here was, he said, “You gotta help the people.”

We all went into healthcare to help people. Whether you’re a clinician or a researcher, this is a big part – I hope the biggest part – of what motivates you. But the road to hell is indeed paved with good intentions. Good intentions aren’t enough, nor is it enough to do the things that make us feel good about ourselves. It’s not even enough to do what we sincerely think is right.

The history of medicine and the history of science are littered with well-intentioned errors, and we have to be frank with ourselves that current practice will be no different. On my first day of medical school, the dean told us that half of everything we learned would be wrong, but since they didn’t know which half it was, we would be tested on all of it. And I’m sorry to say that proportion probably has not changed much in these past few decades.

Good intentions aren’t enough, but there is an essential quality for success in medicine: humility. Darwin wrote that “Ignorance more frequently begets confidence than does knowledge.” Certainty is the Achilles’ heel of science. A dangerous intern is not the intern who knows nothing. It’s the intern who does not know that he knows nothing.

Winston Churchill once said about a political enemy, “He is a very modest man. Indeed, he has a great deal to be modest about.” In science and in medicine, we have a great deal to be modest about. First, we need to be modest about what we know. Thinking back to the time since I graduated from medical school, I’ll choose just three things that are drastically different today than when I sat in your seats.
First, we were taught that to give a beta blocker to a patient with systolic heart failure would be malpractice. I remember a patient I cared for who was very ill. He had terminal heart failure, and the articles were beginning to come out about the role of beta blockers in improving outcomes. But I didn’t feel confident enough to try it on him, and he died.

Now it would be malpractice not to give a beta blocker to a patient with systolic heart failure. Science has advanced.

Over the past decades, hundreds of thousands of women have been subjected to radical mastectomy because of a mistaken concept of how breast cancer functions – not because of ill intentions but because of overconfidence in our scientific knowledge.

And when I was in medical school, the one lecture on pain I received included the dictum that if you give an opiate medication to a patient in pain, they will not get addicted. That’s completely wrong. Opiates are highly addictive medications with a very low therapeutic index. Give a little too much and the patient can die; after a few doses a patient may be addicted for life. Hundreds of thousands of Americans have died from opiate overdose in the past decades, and millions of families have been effected.

In the midst of the world’s first Ebola epidemic, my colleagues and I at the CDC were initially overconfident. We had decades of experience caring for Ebola in Africa without an infection, and we had monitored and assisted with the care of a handful of patients with other viral hemorrhagic fevers in the United States. We thought we knew what would work.

In retrospect, with 20/20 hindsight, it seems obvious, given how many people develop infections in US hospitals, that we should have known better. But I believe our mistake was not our conclusion about what the level of risk was. That was the best information available at the time. Our mistake was being so confident based on such a limited dataset. When two nurses became infected in Dallas we rapidly promulgated much more rigorous standards.

When we look back on past practice, it’s tempting to forget that years ago people were just as smart or smarter than we are today. They worked just as hard or harder as we do today. But looking at the body of knowledge that we use to practice, there is huge dark matter of what we don’t know, of what is not evidence-based. And for that reason we need to feel our way carefully, getting information and moving forward as we learn more.

But in addition to humility about what we know, we’ll be more effective if we’re humble about how we work, including what we say and what our patients understand and do. Communication is never as good as you think it is. The patient I mentioned earlier with heart failure was someone I placed on a cardiac transplantation list, hoping that he would get a heart before he died. As part of the pre-transplant workup they did a drug screen, and he tested positive for cocaine. That may well have contributed to his heart failure. I
had never directly asked him about drug use. If I had, perhaps we would have been able to change the course of his addiction and illness.

As physicians, we prescribe medications and often assume that patients will take them. A third of patients don’t even fill their prescriptions and another third don’t take medications as prescribed. And it’s not just a question of what patients tell us or what patients do; it’s also what doctors talk about. In one revealing article from a few years ago, researchers analyzed what physicians said about themselves when they interacted with patients on the first clinical visit. One out of three initial visits included self-disclosure on the part of the physician.

The title of this article says it all. It is “Physician Self-Disclosure: Enough about You, What About Me?” 85% of physician self-disclosures were not helpful to the patient; 11% were harmful, such as talking about the physician’s experiences to the exclusion of the patient’s concern, and 4% were useful.

Being humble about how we work includes our role with colleagues. An occupational hazard of being a physician is hypertrophy of the ego. Nurses, pharmacists, nurse practitioners, medical assistants, community health workers and many others are more effective than we are in many contexts. In every project, every person will underestmate the effort expended by every other person. After medical school, internal medicine, and infectious disease fellowship, I volunteered in the tuberculosis clinic. I thought I knew what I was doing. Fortunately nurse Pearl Branch would firmly but patiently ask me questions, such as “Dr. Frieden, are you sure you do not want to use a dose of pyrazinamide of 1500 milligrams for this patient?” or “Dr. Frieden, are you sure you don’t want to discontinue the ethambutol on this patient at this time?” It was a privilege to learn from someone who had so much practical knowledge.

In addition to humility about what we know and how we work, to be effective we have to be humble about the impact that we’re having. My father used to say that when you see how other doctors practice medicine, you realize how resilient the human body is. Early on in my career, around the time that Steve and I met, a man named Karel Styblo came to New York City. He’d created modern tuberculosis control, and he asked me a question that changed my life. I was running the program, diagnosing patients, working hard. And he said, “Dr. Frieden, last year you diagnosed 3,811 patients. How many of them did you cure?”

I didn’t know. I was terribly ashamed. And the next day I began a program to review the progress of every single patient diagnosed in New York City. I consider the definition of an epidemiologist to be someone who loses sleep over denominators. You have to be willing to be brutally honest about the impact you’re having, because that’s the only way to increase that impact.

But … humility does not mean lack of confidence. Humility does not mean insecurity. Confidence is required for the surgeon to cut, the internist to prescribe, the researcher to
experiment, the prevention specialist to implement. We all share a commitment to heal, to take action despite the inevitability of incomplete certainty.

Humility about what we know is not paralysis but rather the expectation of ongoing learning. The commitment to reassess what we think and what we think we know, a commitment to the wonder of learning about patients and about progress. Humility about how we work and what we say and hear can lead to a lifetime of self-discovery and to reverence for the privilege of learning about and becoming part of patients’ lives.

Humility about what we can accomplish alone can lead to a much more enjoyable and productive workplace, being part of a team. Humility about what we do can lead to much greater accomplishments, increasing prevention and cure rates, increasing our impact dramatically because we establish real-time feedback loops and have the honesty to act on the data that shows where we can improve. Impact, after all, is what it’s all about. It’s the single most important evaluation of our work.

Einstein wrote, “Striving for social justice is the most valuable thing to do in life.” Scientific rigor and social conscience don’t always go together. Some individuals and some institutions lack one, the other, or both; but together, they are a remarkably powerful combination. And we need them both, because we face some real threats.

We face threats from nature. Whether it’s the next Ebola or Zika or SARS or pandemic influenza or HIV, it is just a few mutations away.

We face threats, frankly, from killer industries – tobacco and other unhealthy and addictive substances. And we face threats from policymakers, who may deny quality medical care and prevention to millions of people in this country and around the world.

Faced with these threats, we’ll be strongest if we always listen to patients and use the best science to care for them, if we forge effective partnerships, engage with communities, identify new models of care and monitor how we’re doing so we can increase our impact with each passing day.

We are also faced with the threat that America could retreat from or undermine our role in the world. Einstein wrote that “Nationalism is an infantile disease. It is the measles of mankind.” I’m confident that with your commitment to caring for patients, to advancing knowledge, to social justice, you will help prevent and stop the spread of that infantile disease. Every single one of us has that responsibility.

The good news is that there is so much more to learn and to discover. Humility fosters optimism – optimism about science, knowledge and the excitement of learning and applying new knowledge.

Every patient is a universe, waiting to be discovered. It is a privilege to become part of that universe. As Thoreau wrote, “Only that day dawns to which we are awake.”
Foster curiosity. Remain awake to learning – from science, from patients, from communities, from colleagues, from rigorous analysis of how we’re doing.

Teddy Roosevelt wrote “Far and away, the best reward that life has to offer is hard work at work with doing.”

I wish you nothing more, and nothing less.

Thank you and congratulations.