

## **Health, Technology, and Professionalism**

**Downstate Medical Center Commencement Address**

**College of Nursing and College of Health Related Professions**

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I would like to extend my thanks to Dr. Williams and to all of you for the opportunity to say a few words to this impressive group of graduates at the time of your commencement into the professions for which you have diligently trained. My congratulations to you all, and to your families who have supported you through a long and arduous process.

You now are embarking on wonderful careers, and it is customary for commencement speakers to inspire you to embrace and shape what lies ahead. In considering what I would say, I looked to see what key messages have been shared by other commencement speakers in other venues this year. I did come across a few examples with titles such as: “Make your own opportunities”, “Why you’re moving too fast”, “How to shock and awe your boss”, “Don’t sweat how you start”, or even “Learning to be a superhero”! But you have all enjoyed previous commencement ceremonies, and your presence at Downstate in the health-related programs from which you are graduating is testimony to your personal goals and career decisions—perhaps drawn from past inspirational talks as well as from your families and your life experiences. I do not want to repeat those important messages from your past, although they are still relevant to your future. I would rather aim to build on your recent accomplishments as you consider your futures as health professionals.

Although you are graduating with a variety of degrees and certificates, what ties you together is your identity as a health professional – with all that this implies for a dedication to service, to patients, and to the weakest or most disadvantaged among us. Even those of you in medical informatics are a new breed of health professional, although your influence on patients and on the quality and safety of care is through your attention to the management of information and knowledge in health care and biomedicine—key determinants of how patients are treated and how the health of our

communities is protected. My remarks are accordingly directed to you just as much as they are to those who interact directly with patients.

I will return to this notion of health professionalism in a few minutes, but let me focus first on some personal experience and how it influences my own thinking about where we are today and where health professionals such as yourselves will be leading us in the years ahead. My own career in health care began some 40 years ago when I entered a program that would allow me to obtain both medical and computer science training. That made me an odd duck at the time, because computers were only beginning to be used in medicine. Although I was committed to a career in health care, I had also become aware that computers and communication technology held tremendous potential for positively influencing the quality of care and for addressing the challenges faced by all clinicians in keeping up to date with new developments emerging from the world of basic science and clinical research. It happened that I was receiving my training in Northern California just as the concept of a “Silicon Valley” was emerging. After finishing my training, I remained in that area for 25 years as an academic clinician, caring for general medical patients. I was also a researcher and educator in the field of informatics, experiencing first hand (often earlier than I would have elsewhere) the remarkable new ideas that came into reality and were rapidly adopted by our society: minicomputers, personal computers, the internet, laptops, graphical interfaces, local area networks, the World Wide Web, cellular telephones, wireless networks, tablet computers, and social networking. As your parents can attest, the world is remarkably different from what it was 40 years ago!

It was a heady experience to find myself in the midst of all this innovation. I’ll never forget the 1977 talk by a computer science professor who sought to convince his audience that within a few years people would want to have computers in their homes! Few in the audience could imagine what the average American would do with a home computer. Manage recipes? Meanwhile, Steve Jobs was working away with Steve Wozniak in a nearby garage.....

And I knew the scientists who created the notion of packet-switched networking – the invention that led to the Internet (and no, none of them was named Al Gore...). Their goals were simply to allow computers at a distance to share data with one another at high speed; they never imagined the impact of the Internet today, not only on technology but on society, politics, the way in which business is performed, and of

course health and health care as well. So, as I watched these developments around me, and the creation of new companies and industries such as Yahoo, Cisco Systems, Sun Microsystems, Google, Facebook, and many others, I tried to anticipate the ways in which the new directions might positively influence health care. In turn, I sought to develop some of the early examples of such concepts while dealing with skepticism and sometimes outright antagonism from my colleagues in the healthcare community.

Most of you come from a generation that has never known the pre-computer era. You understand the role of technology as both a great enabler (when was the last time you had to memorize a telephone number?) and also a phenomenon that needs to be handled with care (remember those warnings about not posting those inappropriate photos on Facebook?). I have lived and worked through an era in which health professionals have struggled to understand and feel comfortable with those technologies. For many years computers were relatively foreign to the healthcare environment and were late to be introduced. Many health professionals wished these technologies would not intrude on what they felt was already a sufficiently complicated and rapidly evolving realm.

I accordingly look forward to the years ahead, during which graduates such as yourselves will continue to enter the health professions and bring with you a very different comfort level regarding the roles and limitations of technological solutions to health-related problems. Your patients, who will also be increasingly tech-savvy, will benefit from your knowledge in these areas. As you rise to leadership roles, you will have a growing ability to influence the ways in which information technology is selected, introduced, and evaluated. Your experience with technology will allow you to appreciate the remarkably positive ways in which health care can be improved (for example, through information access and decision support, error detection, and facile management of patient information to the benefit of safety and care coordination as well as to public health insights). But you will also know to guard against systems with inadequate protection of patient privacy, poor interfaces that complicate rather than enhance the experience of clinicians and patients, or costs that cannot be justified in terms of benefits for either patients or your colleagues.

How do these technological issues, and your future role in promoting the appropriate adoption and use of such innovations, relate to the issue of professionalism? Your graduation today includes with it a sacred trust – a trust from society that you will be

guided by the tenants of professional duties that arise when other people are placing their well being—and sometimes even their lives—in your hands. We tend to emphasize the importance of that trust on the way in which you provide care for other individuals. However, it also has an impact on the way in which you serve as educators (and you are all likely to do teaching as part of your professional work), and it affects the questions that you ask when you undertake research studies or assess the environment in which you work. Thus your professionalism affects your patients directly, through the care you provide yourself, and also indirectly, as reflected in the way in which you guide others and influence the healing environment in which your patients will be treated or managed.

To paraphrase Charaka, who spoke of health professionalism in the 2<sup>nd</sup> century, “Three kinds of clinicians are found in this world; firstly, the imposter in clinician’s robes; secondly, the vainglorious pretenders; and thirdly, those endowed with the true virtue of the healer.” Clearly we all aspire to the latter category, maintaining an ethical compass that guides us to do right and to avoid actions or decisions that are not in the best interests of our patients.

It is a weighty set of expectations. It implies subordinating your own interests to the interests of others; adhering to high ethical and moral standards; responding to societal needs while reflecting a social contract with the communities that you serve; evincing core humanistic values, including honesty and integrity, caring and compassion, altruism and empathy, and respect for self, patients, peers, and other health professionals; and exercising accountability for yourself and for your colleagues. All this is meant to occur while you demonstrate a continuing commitment to excellence and sensitivity to multiple cultures and life styles, coupled with a willingness to reflect critically upon your actions and decisions and to strive for constant education and improvement.

I trust that the relationship of these professional responsibilities to your roles as users and promoters of appropriate technological innovation will also be clear. Technology must be used safely, effectively, and ethically as well. You are all entering wonderful professions—ones that society respects and for which there is growing demand—but the special expectations of professional responsibility cannot be taken lightly.

You and your families have a great deal to celebrate today, and I hope you are all as proud of yourselves as your institution and your professional colleagues are. We salute all you have already accomplished and look forward warmly, and with anticipation, to the marks you will be leaving on health care and our society in the years ahead.