



## Stanford eCorner

### Early Path of a Biotech Innovator

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UCSF Chancellor Susan Desmond-Hellmann describes her unique career path from being a student, to becoming a practicing oncologist, to becoming an innovator at private sector firms. According to Desmond-Hellmann, her varied path not only offered a wide variety of experiences, but also informs her current thinking about leadership and innovation.



#### Transcript

I have an agenda. I don't have slides because I thought that maybe I would just tell a few stories. I like to tell stories and I wanted to introduce you to being an entrepreneur and a leader in life sciences by introducing you a little bit to my journey and talking about some of the differences in how you can innovate or attack problems in life sciences from many different angles. So as you've just heard, I made a very unusual move from Genentech back to University of California, San Francisco. But before that, after I was a student like you all are now, I had a very unusual and atypical journey. And I want to start by telling you a little bit about that, because I think it frames how I think about leadership and how I think about innovation. After I went to medical school, I came to UCSF to be a resident, which made you do your clinical training in internal medicine. So that's the path where you're a general medical doctor. After four years of doing that, and learning medicine on the wards in San Francisco, I decided to do an oncology fellowship. So I wanted to specialize in cancer.

I wanted to be an adult cancer physician. And while I was in my first year, I got very, very interested in why people get cancer and decided that I wanted to be a cancer epidemiologist, to study the natural history of cancer to specifically impact on patients not getting cancer. I think I was ahead of my time because everyone now thinks about health, wellness, and disease prevention. But we didn't have a lot of tools then, other than "Stop Smoking" which is the best way to avoid cancer and remains the best way to avoid cancer. But because of that interest I had, when I was a second year oncology fellow, when many of my colleagues went into the lab and started working on basic research, I did something very different. I went across the bay to UC, Berkeley and got a masters degree in Public Health, with a specific focus on epidemiology and biostatistics because I wanted to learn more about methodology to become a cancer epidemiologist. I wanted to learn about things like P-values and inference and proving things like one does when you're trying to prove, for example, that something causes cancer-or does not cause cancer. And that was a life changing experience for me. It gave me a fantastic fundamental background for the way I think today and the way that I use that inference-proof, those concepts, later in my career. Now, as all of you know, you can have a very good notion of what you'll do in your career and then life intervenes.

So what made a big intervention on my path as a clinician when I was in UCSF was the HIV/AIDS epidemic. Over the years, as I studied medicine and cancer, I became an expert in the kind of cancer that was most prevalent associated with the AIDS epidemic, Kaposi's sarcoma, and got into the study of Kaposi's sarcoma. Again, the ideology, why did patients who had HIV infection developed Kaposi's sarcoma? And as I was asking questions about that, two things happened. One, the Rockefeller Foundation approached UCSF and asked UCSF to start to study AIDS in Africa; and secondly, I decided as I was investigating Kaposi's sarcoma to try and understand African Kaposi's sarcoma which had existed for a long time before the AIDS epidemic. So before it was popular for students to go into international health or global health, my husband, who's an infectious disease doctor, and I were loaned by UCSF to Makerere University in Kampala, Uganda. And I became the attending physician at Uganda Cancer Institute studying epidemic or HIV-associated Kaposi's sarcoma and endemic Kaposi's sarcoma,

the kind of Kaposi's sarcoma had long been seen in Africa. A fantastic experience in global health. Following that experience, I went into private practice. I was what my parents now called "a real doctor". They might seem slightly disappointed when they say that.

I put on my shingle and every day, all day long, I saw patients with cancer. That was an experience that was one of the most amazing things that I had experienced in my career. For two reasons, one is, being a real doctor every single day lead me to understand cancer in a very different level than I had before, as someone who approach it from much more of a research standpoint. I learned much more about caring, healing, side effects and compassion as they were associated with patients with cancer. And the other thing I learned is, cancer is a lousy business. And when I was in practice, we had too few remedies for what I cared about most which was healing patients. Making them all better, helping. And so, after a couple of years in practice, I made another career change and went to Bristol-Myers Squibb, which was the first experience I had in cancer product development. So Bristol-Myers Squibb is and was then a very traditional pharma company. What's called Big Pharma, a very traditional, typically a chemistry type of company that uses chemistry to make small molecules and have a long tradition of cancer therapy.

And at the time, I went there Bristol-Myers Squibb had a new drug called Taxol, paclitaxel, which was a new cancer drug that was specifically being designed for breast cancer at that time. So I worked on Taxol for breast cancer for two years. Very traditional. Very traditional. And it went very well. We were able to have Taxol approved for the treatment of breast cancer in the US and Europe where it remains a mainstay of breast cancer therapy after many years have passed. I tell you this background because I think one of the things that impacted me as an entrepreneur and as a leader was that journey. So I was so privileged to be able to learn epi and biostats, some of the fundamental principles of how one thinks about product development, how to be a doctor, how to care for patients, and think about what's good for patients, and very traditional pharmaceutical approach to product development.