Q&A: Craig Thompson on Research Joys and Jobs

Memorial Sloan-Kettering’s leader talks about the challenges of running a Comprehensive Cancer Center and why others might want to follow in his footsteps

“Being engaged in biomedical research and clinical investigation is the most exciting endeavor you can undertake on the planet,” says Craig B. Thompson, MD, who was named president and CEO of Memorial Sloan-Kettering Cancer Center in 2010. “But we haven’t done a good job as a community in communicating how satisfying and engaging it is.”

Unlike many medical professionals, Thompson wasn’t sure what career path he’d follow when he headed off to college. But a love of science classes drew him to medicine. In the last 35 years, he has been “privileged to take care of patients at some of their most trying times and engage in biomedical research that might ultimately lead to better understanding and newer treatments of cancer.” For example, he contributed to the development of leukemia treatments and studied genes that control apoptosis. Now he studies the role metabolic changes play in cancer’s development and progression.

In addition, Thompson has directed the Abramson Cancer Center at the University of Pennsylvania, has been elected to the Institute of Medicine and the National Academy of Sciences, and was a Howard Hughes Medical Institute investigator. He’s even been named a “Rock Star of Science.”

Recently, Thompson talked with Cancer Discovery’s Suzanne Rose.

What has struck you most during your first year on the job?

The most surprising thing for me has been the retraction in public and private support for clinical research and clinical investigation. Recent scientific discoveries are providing entirely new opportunities to transform clinical care. Unfortunately, offering patients something beyond the current standard of care—a new investigational agent or a new approach to cancer treatment—is and always has been more expensive. The retraction in federal support for translational and clinical trials through the National Cancer Institute, as well as a reduction in the support of graduate medical education, in terms of both medical reimbursements and teaching residents and fellows how to conduct clinical research, makes it challenging to run a hospital dedicated to research and development.
How do you feel about the future?
I feel challenged. We’re experiencing a period of financial instability. Yet we are poised to realize revolutionary treatments in cancer. Ten years passed between the development of Gleevec and second-generation targeted therapies like Gleevec. But now, they’re going to come rapidly into the clinic. We’ve got to understand how to best use them and how to best combine them with traditional therapy. Given the current fiscal challenges, we need to be more judicious in how we undertake clinical trials. We can no longer do 1,000-patient and 10,000-patient trials. We have to think about how to learn the most from clinical trials that involve, for example, 20 patients who have a defined molecular lesion in their lung cancer.

What’s the hardest part of your job right now?
What’s most challenging is keeping everything from basic research to clinical care moving forward and working in synch so that we can quickly move laboratory discoveries into the clinic in spite of the fiscally challenging environment. For new faculty to start research projects, we need philanthropic funds, because they need to gather preliminary data to justify an R01 or program project grant. At the same time, established projects are more complex these days and require greater expertise to carry out than when I started in biomedical research. You can no longer have your own lab and get everything done with your group of people. You have to collaborate with others. And although people are starting to appreciate the importance of collaborative research, we still haven’t built up the metrics to evaluate someone’s collaborative contributions and determine who gets a promotion, who gets grant funding, or even who gets the credit when something advances to the next stage or moves into the clinic.

How can we interest more people in a career in cancer research?
Students see how hard it is to get research funding and how hard we work. We need to communicate how satisfying the work is and how exciting it is to improve health, increase our understanding of disease, and translate that information into safer, more effective therapeutic approaches.

What will the field look like in 10 to 15 years?
I think we’re going to see Americans reaffirm their belief in the importance of basic scientific research. The funding climate will get better as people appreciate the return on the investment we have made in improving health. For example, we now have vaccines that help protect against two of the world’s common cancers caused by viruses. We’re going to see advances in harnessing the immune system to help control cancer, and in epigenetics, stem cell biology, and regenerative medicine.

We might have overpromised on what we might learn immediately from sequencing the human genome. On the other hand, we as scientists can see the transformation that it’s bringing about. It’s just unfortunate that it’s taking longer than we’d like to translate information derived from the genome into improvements in the way people live.

What advice would you offer to young researchers who want to advance their careers?
Find something that you would like to understand. Your curiosity and interest will drive you past any obstacles. I’m not going to say that there aren’t days when you’ll feel challenged. But if you’re excited by what you’re doing and what you’re investigating, it’s not a job. It’s a passion.

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