



cancer in his lifetime and this year an estimated 29,720 men in United States will die of the disease. Yet the PSA screening test for prostate cancer remains controversial because it can lead to overtreatment of slow-growing cancers.

“If you look at the U.S. Preventive Services task force recommendation against PSA-based screening for prostate cancer, it’s not that they said that the PSA screening doesn’t have benefits,” says urologic surgeon Dr. David Penson of Vanderbilt-Ingram Cancer Center in Nashville. “The controversy exists because in their opinion the harms of screening outweigh the benefits. PSA is a good test in that we definitely find prostate cancer with the PSA. The question becomes do we overtreat prostate cancer? Anywhere from 20 to 30 percent of the cancers we find with the PSA test don’t need to be treated.”

Urologist William Catalona, the man who developed the PSA test as a first-line screening test for prostate cancer, points out that the death rate from prostate cancer has decreased by 44 percent in the United States since the start of the PSA era in the early 1990s. “That’s more dramatic than for any other cancer,” he says. Catalona and his colleagues at Northwestern University recently finished a study on a new screening test for prostate



## Straight Talk about Cancer

**Yael Cohen**  
Founder of F\*\*\* Cancer

**W**ith a nonprofit called F\*\*\* Cancer and the official title of “chief cancer f\*\*\*\*\*,” 26-year-old Yael Cohen doesn’t mince words. And she’s determined to change the way that we talk about cancer. Her target: generation Y. Her vehicle: letsfcancer.com, a resource that empowers its audience with real-world tools to communicate about the disease rather than cower in fear.

“Kids can teach their parents something more important than how to use their smartphones,” Cohen says. “Most kids don’t know how to start the conversation, so we built a campaign to teach them what they should discuss with their parents.”

It all started in 2009, on the heels of her own mother’s breast cancer diagnosis. Cohen had a shirt made for her mom that said F\*\*\* Cancer. “It was such a summation of everything I was feeling,” she says. “I never thought Mom would wear it in public. She’s a classy lady who doesn’t say the word f\*\*\*, never mind wear it.”

But when her mom did wear the shirt, the response was remarkable. “I knew we had something powerful when strangers would hug Mom,” Cohen says. “The foundation of what we do and why we have this following is because of our name. The whole point is to meet people where they are, to let them be brave, vulnerable and uncensored in what is often a really censored experience.”

Cohen’s strategy of channeling the power of humor into a serious movement has worked. People all over the globe have contacted her with stories of finding cancer and convincing their reluctant parents to get screened. She recalls one young man whose father had an unrelenting cough. “He kept asking his dad to go to the doctor and his dad ignored him,” she says. “Then he used the lines from our site and told his dad, ‘This isn’t about you; this is about me. I’m worried.’ His dad went to the doctor and was rushed into emergency surgery for lung cancer. That’s when I realized, ‘Holy s\*\*\*, we did that.’” — A. P.



## Bringing Big Data to Cancer

**Eric Schadt**, Icahn Institute for Genomics & Multiscale Biology, Mount Sinai School of Medicine

**W**ith five kids ranging in age from 4 to 16, Eric Schadt is comfortable with chaos. In his work life, he collaborates with 10 or more scientists at a time, produces two dozen or more scientific papers a year and harnesses massive amounts of data. His mission: push the brightest minds in science to embrace complexity.

Rather than honing in on single genes or linear pathways of disease, Schadt says, we need to understand the vast network of genes, metabolites, proteins and environmental factors that drive the function of the human body. “If we want to figure out how complex biological systems work, we need to understand how the different components talk to each other,” he says. “The goal is to use the digital universe of information analyzed with powerful

supercomputers to create models of the living world that are nearly as complex as we are.”

Schadt’s approach is hypothesis-free, big data-driven and based on the premise that we don’t understand the root causes of disease. “In the same way sophisticated predictive mathematical models drive decision making in the financial markets—what stocks to buy, how much to buy, when to sell—we want to give doctors tools to use in their decision making.”

He projects that in five to ten years, medicine will be so personalized that physicians will be able to pinpoint what disrupted the network that caused a person’s cancer, predict the disease course and determine how best to treat or even prevent it. — A. P.