

Lou Gehrig's group dangles million-dollar bait for biomarker search

When Avichai Kremer discovered in October 2004 that he had Lou Gehrig's disease and would live perhaps another three years, he considered his options: move to an island, commit suicide or try to find a cure. A driven Harvard Business School student, Kremer chose the last option.

He and two colleagues spent more than 1,000 hours asking scientists and industry executives what would most help research on the fatal disorder. Nearly all said the same thing—that they need a better way to track disease progression. This November, Kremer announced that Prize4Life, a new philanthropic organization, would award \$1 million to anyone who can come up with such a biomarker.

"The beauty of this contest is that you define the outcome you want and open it to every researcher in the globe," says Kremer.

Lou Gehrig's disease, or amyotrophic lateral sclerosis (ALS), is a neurodegenerative illness that attacks motor neurons and leads to paralysis and death, usually within five years after diagnosis. Two years after his diagnosis, Kremer, a former platoon commander for the Israeli artillery corps, can barely walk or enunciate his words.

About 120,000 people worldwide are diagnosed with the disease every year. Clinical



Prize4Life: Avichai Kremer and two friends hope their scheme will speed up research.

trials for ALS treatments are costly and inefficient. A good biomarker could change that. Kremer came up with his idea after reading about the X Prize, a \$10 million reward for anyone who could build a reusable human spacecraft.

The first phase of his prize will be \$15,000 each for five teams for a theoretical proposal. The remaining \$925,000 will go to the first team that shows that their biomarker can halve the costs of ALS drug trials. Sure, the scheme sounds interesting, but can it produce a winner?

In the case of the X Prize, corporations and wealthy individuals vied for publicity by sponsoring competitors, spending more than

ten times the amount of the award (*Nature* 431, 620; 2004). In October, another \$10 million prize challenged scientists to build a device that can sequence the human genome faster and for less (*Nature* 443, 733; 2006).

But this model may not work in medicine. Unlike the glamorous attention that accompanies a space flight contest, experts note, sponsors for medical research may be difficult to find.

"It's a terrible idea," says Jeffrey Rothstein, a researcher at Johns Hopkins University. Scientists must have money before—not after—they do the research, he says. "How do you achieve the goal without funding upfront?"

Other groups have considered similar schemes, but eventually tabled them. "We've talked about it in the Huntington's arena," says Allan Tobin, an advisor to the philanthropic group High-Q. "The question is, 'Is a prize a big enough motivation for people to do research on spec?' The answer we've come to is 'No.'"

Kremer says he hopes Prize4Life will at least generate publicity for ALS research. Even if they don't find a winner, adds Nate Boaz, Prize4Life's co-founder, the \$1 million could still be used to fund other ALS research.

Emily Waltz, New York

New chief brings welcome change to US cancer agency

John Niederhuber, the new director of the US National Cancer Institute (NCI), says politics has no role at the institute. That may be the case now, but some staff and cancer activists saw Niederhuber's predecessor—Bush family friend and physician Andrew von Eschenbach—as a classic political appointee.

A urologist, von Eschenbach arrived at the institute in 2002 with little experience at the bench. He has since moved on to the Food and Drug Administration, appointed in a hurry after former commissioner Lester Crawford was accused of financial conflicts of interest. Crawford pled guilty to fraud in October.

Few are willing to criticize von Eschenbach publicly, but privately NCI staffers are thrilled with the change. Niederhuber, who officially took over the agency in October after working for von Eschenbach for a year, understands both science and the institute in a way his predecessor did not, they say.

"Science is the yellow line down the road for me," Niederhuber says. "I'm very much a believer in science and having science drive the decisions we make."

Like von Eschenbach, who survived both melanoma and prostate cancer, Niederhuber

has also had a personal experience with cancer: his wife Tracey succumbed in 2001 to breast cancer. He says he promised her before she died that he would work to improve patients' access to experimental therapies.

Until 2002, Niederhuber was a surgeon and oncologist at the University of Wisconsin in Madison, where he also headed the school's Comprehensive Cancer Center. But having served on several NCI advisory panels over the past 30 years, he was a familiar face at the Bethesda campus even before he joined the staff last year.

Based on the comments he gets from staff who come up to talk to him after meetings, he says he feels welcomed.

"People say that my presence and my understanding of the science has given them a sense of purpose and belonging," he says.

Robert Wiltrot, director of the NCI's Center for Cancer Research, says Niederhuber is a stabilizing force at the NCI.

"He's got a whole portfolio of experience," says Wiltrot. "He comes with the advantage of being a scientist and being a people person."

Where von Eschenbach pursued large, sweeping programs—such as the improbable

goal of ending cancer deaths by 2015—Niederhuber is interested in translating discoveries into treatments, more welcome when the institute has been weathering a funding freeze.

"[Niederhuber] is well aware of the pain that is widespread in the cancer research community and the toll that it is taking on young people's career plans," says Robert Weinberg, a biologist at Whitehead Institute for Biomedical Research, who has been critical of von Eschenbach's emphasis on large projects.

Still, it won't be easy to find money to fund new projects within the limits of the tight NIH budget, says Diana Zuckerman, president of the Washington-based advocacy group National Research Center for Women & Families. The group in 2004 worked closely with the NCI to put together a brochure on surgery choices for women with breast cancer.

"The challenge for Niederhuber is to make tough decisions," she says, "when there isn't enough funding for all the important work that NCI does."

Tinker Ready, Boston