Wings of Hope for Pancreatic Cancer Research awards groundbreaking grants at CU Cancer Center

By Peter Jones

There is finally *both* bad news — and good news — about pancreatic cancer.

The bad news is hardly new: Research into the often-deadly cancer of the pancreas continues to wallow at about where breast cancer research was when Jimmy Carter was in the White House.

But research is slowly, but surely, catching up — and much of the groundbreaking work is happening on the Anschutz Medical Campus at the University of Colorado Health Sciences Center, thanks to Wings of Hope for Pancreatic Cancer Research.

“In the ‘60s and ‘70s, pancreatic cancer was not really recognized,” said Dr. Richard Schulick, director of the CU Cancer Center. “People would pass away and you wouldn’t even know the patient had pancreatic cancer. But in the last 10 or 20 years, we’ve actually made a lot of progress.”

For one thing, there is now a CT scan powerful enough to detect the often-hidden killer in high-risk patients. But still there is no simple blood test, MRI or ultrasound, the kinds of routine examinations that are taken for granted in more “high profile” cancers.

“The pancreas is deep in the body,” Schulick explained. “By contrast, if you get a breast exam, you can feel it, but you can’t feel the pancreas. If you have colon cancer, people typically have signs. You can get a colonoscopy. But pancreatic cancer basically doesn’t give symptoms until it either spreads or causes pain. It doesn’t show itself until very late.”

This year, more than 55,000 people will be diagnosed with pancreatic cancer in the United States. Fewer than 9 percent will still be alive five years later. What’s more tragic, as the death rates for other cancers have gone down in recent decades, pancreatic cancer has gotten even deadlier — and the situation is likely to get worse before it gets better.

Enter Wings of Hope for Pancreatic Cancer Research.

Schulick is quick to recognize that the Colorado-based foundation has been instrumental in much of the important research taking place at the CU Cancer Center.

“Whenever you have a grassroots effort like this, it really makes a difference and reinforces how important it is to get together and get rid of this cancer,” the chief researcher said. “What amazes me about Wings of Hope founder Maureen Shul is how much an individual with the right type of collaboration and support can really move the ball.”

The story is personal for Shul. Wings of Hope first took flight in 2012 shortly after her mother and brother died of the disease in astonishingly quick succession.

“When you lose the people closest to you within months of one another, it has a profound impact on every facet of your life,” Shul said. “The decision to found Wings of Hope was entirely grief driven and changed the trajectory of my life.”

Wings of Hope is changing many other lives too. In fewer than seven years, the foundation has raised more than half a million dollars, all of which has been awarded in grants to CU Cancer Center researchers. Last year alone, Wings of Hope awarded three $50,000 grants and partnered with Stand Up to Cancer to bring a new and promising clinical trial to the center.

The first study is looking into whether certain drugs can be used to enhance the effects of radiation treatments on the pancreas. The problem is that radiation therapy can at times suppress the immune system and the ability to kill tumors. Radiation can also increase scarring or fibrosis, making it more difficult for good immune cells and drugs to penetrate to the cancer.

“The pancreatic tumor is different from other cancers,” explained Dr. Sana Karam, the study’s principal investigator. “The goal of my research is to figure out how we can harvest only the positive effects of radiation and combine it with something that can overcome the negative effects in the treatment of this disease.”

Dr. Karyn Goodman, the center’s associate director of clinical research who is working closely with Karam, says the study illustrates yet another of the confounding puzzles of pancreatic cancer.

“There’s some initial data saying these tumor cells have the ability to survive under very adverse conditions—they become even more resistant when there’s no oxygen,” she said.

Until Wings of Hope stepped up to the table, Karam’s research almost came to a halt.

“I was about to shut down the project — it was only because of Wings of Hope that we’re able to continue, and we’ve made a lot of progress and are moving in the direction of testing our results in patients,” the doctor said.

A second grant from Wings of Hope is helping researchers develop combination strategies to make chemotherapy more effective. Using an “organoid library,” the goal is to see if inhibitors in combination with chemotherapy are a formula for success.

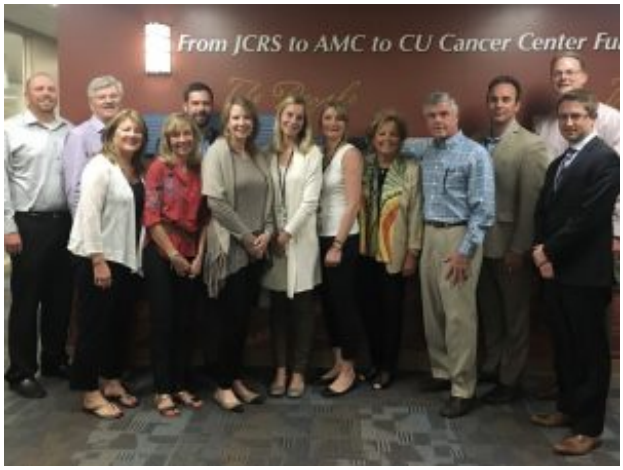
The third grant supports work on reversing the “immunosuppressive microenvironment” in pancreatic cancer. Preliminary studies indicate that POM, a drug approved for treatment of multiple myeloma, has been useful in changing the suppressive microenvironment in pancreatic cancer. The aim is to test whether POM can mobilize the immune system to combat the disease.

Finally, Wings of Hope is financing a clinical trial involving local patients, as well as others at Johns Hopkins and Harvard. The trial combines chemotherapy agents with Losartan, a blood-pressure medication. The premise is built around what are believed to be Losartan's anti-cancer properties and the drug's ability to improve access to tumors.

"It's a more recent approach to localized pancreatic cancer, where the therapy is given prior to surgery in an effort to shrink the tumor as much as possible. Usually, surgery is done first," said Dr. Wells Messersmith, who is overseeing the trial. "We hope that it will pave the way for a much larger study that could change the standard of care for pancreatic cancer."

While the Wings of Hope-supported research being conducted at the CU Cancer Center is important in and of itself, it crucially also leads to even further research on a broader scale.

"The beauty of these pilot projects is that it allows the scientists and clinicians to get more data to submit for grant funding from organizations like the National Institutes of Health," Schulick said. "That enables multimillion-dollar grants, which otherwise would not be possible."



From left, Wings of Hope grant recipients Todd Pitts, Ph.D., and Peter Dempsey, Ph.D., Wings of Hope board members Courtney Walsh and Stephanie Ludwig, past grant recipient Kelly Sullivan, Ph.D., board member Lauren Ambrozic, grant recipient Dr. Karyn Goodman, board member Cheryl Meguid, Wings of Hope founder Maureen Shul, board member Jim Comerford, past grant recipient Joaquin Espinosa, Ph.D., grant recipient Dr. Wells Messersmith, and Jerry Sinning, director of development, Faculty and Hospital Relations at the University of Colorado's Office of Advancement. Grant recipients not pictured: Dr. Sana Karam, Dr. Richard Schulick and Dr. Yuwen Zhu.