Immunotherapy, which involves using a person’s own immune system to fight and destroy cancer cells, is considered by many leading researchers to represent the future of cancer treatment. While immunotherapy has been successful in treating other diseases, only recently have we made breakthroughs in applying immunotherapy to pancreatic cancer treatment.

Last spring, in an unprecedented, fast-tracked review, the Food and Drug Administration (FDA) approved pembrolizumab (anti-PD-1 monoclonal antibody) as the first immunotherapy treatment for advanced pancreatic cancer patients whose tumors have a unique mutation called mismatch repair deficiency (MMR) that alters their capacity to repair DNA. The Lustgarten Foundation played a critical role in bringing this new treatment to patients by funding the research and encouraging patients to get tested to determine if their tumor has MMR.

Bert Vogelstein, M.D., co-director of the Ludwig Center at the Johns Hopkins Kimmel Cancer Center and a Lustgarten Foundation Distinguished Scholar who helped direct this study, said, “It is the first example of ‘personalized immunotherapy.’ A specific immune treatment can now be recommended for patients based exclusively on the genetic characteristics of the tumor. If the tumor shows a repair defect, then it is very likely that it will respond to this drug, regardless of how advanced the cancer is at the time of treatment.”

It is estimated that approximately 1 in 50 advanced pancreatic cancer patients have mismatch repair deficiency in their tumors that makes them candidates for this type of therapy. Pembrolizumab is the first cancer drug based on a predictive cancer marker, rather than tumor type, to be approved by the FDA.

John Shinnick was diagnosed with pancreatic cancer at age 72 and didn’t think he would survive the three months of chemotherapy originally recommended to him. After receiving a second opinion and undergoing a Whipple procedure to remove a portion of his pancreas, John sought treatment at the Johns Hopkins Bloomberg-Kimmel Institute where he tested positive for the MMR mutation and was enrolled in the clinical trial for pembrolizumab in June 2016. John is still in the trial and continues to do well. “Being diagnosed with pancreatic cancer was terrifying,” John said. “I am grateful to be receiving the best possible treatment, and I have a very high quality of life.”

We encourage all patients to get their tumors tested for MMR. If the test is positive, patients should speak with their doctors to determine if treatment with pembrolizumab is right for them.

In addition to the pembrolizumab approval, we are working with Stand Up To Cancer (SU2C) on several immunology projects and on a new translational research team to explore how a type of immunotherapy called Chimeric Antigen Receptor (CAR) T-cell therapy, which has been successful in treating blood cancers, can be applied to solid pancreatic tumors. CAR T-cell therapy uses specially modified immune cells to find and destroy cancerous cells. This research is being led by Drs. Carl June, Shelley L. Berger, and E. John Wherry from the University of Pennsylvania’s Perelman School of Medicine. We are providing $1 million in funding for this research, and SU2C is providing an additional $1 million. We look forward to updating you on this exciting new research that will have a significant impact for patients.
President’s Message

Dear Friends,

We are proud to share with you that our research program is growing exponentially! In July, we announced that we are committing an unprecedented $40 million in 2017-2018 through our new Translational Clinical Program, expanded Research Investigator Award Program, and other partnerships. This is the first time any pancreatic cancer organization will commit that level of funding in a condensed period of time. The Translational Clinical Program will identify and fund innovative, multi-institutional translational research projects in the areas of earlier detection, personalized medicine and the development of new therapies with improved drug delivery, with the goal of improving the standard of care for all patients. The Research Investigator Awards will focus on funding the science underlying pancreatic cancer. These programs support our research program goal, which is to identify and fund significant researchers and research projects, clinical studies and trials that will lead to early diagnosis, improved and effective therapy, and ultimately, a cure for pancreatic cancer.

To accomplish our goal, we are focusing on four key areas: earlier detection and early intervention; personalized medicine; new therapies; and pancreatic cancer data integration. For our earlier detection and early intervention program, we will focus on impacting early detection for Stages I and II patients to significantly increase the surgery rate in five years. We will support research that advances personalized medicine by identifying existing medicines used off label, new combination treatments and novel dosing regimens to determine the treatment most likely to improve patient outcomes based on the genetic makeup of the patient’s tumor. Additionally, through our research program, we will apply our understanding of the biology behind pancreatic cancer to identify druggable targets that will lead to the development of new therapies. Finally, we will establish a pancreatic cancer registry of patient data and responses to therapies across our research programs.

We are grateful to all of our supporters who have championed our research, organized our community events, attended our walks, and donated in honor or in memory of loved ones, grounded in our shared conviction that research remains our best strategy for fighting this disease. As always, thank you for your ongoing support. By joining the fight, you are helping to find a cure.

Warm regards,

Kerri Kaplan
President and
Chief Executive Officer

Kerri Kaplan
President and
Chief Executive Officer
Families Honor Their Loved Ones and Unite for a Cure

We are proud to highlight two of our largest community events of 2017, Strike Down Pancreatic Cancer and the second annual Richard & Jonathan Lewis Memorial Tournament. Together, these two events raised nearly $825,000 for research. We are incredibly grateful for the generosity and dedication of the event organizers, participants, sponsors and supporters who made these events possible.

STRIKE DOWN PANCREATIC CANCER
On April 23rd, hundreds gathered for an afternoon of bowling at Syosset Lanes on Long Island to increase awareness and funding for pancreatic cancer research. The event raised $700,000. Thank you to our Board member Jennie Fortunoff and her friend Alonna Ostad, who together organized this family event in memory of Jennie’s husband Louis W. Fortunoff and Alonna’s friend and beloved youth sports coach Steve Bryan.

Jennie’s 10-year-old daughter Lara came up with an idea to raise additional funding for the event by organizing a fund-raising contest, where the winning fourth grade class at Cantiague Elementary School in Jericho, New York, won a pizza party. She worked with her teacher, her principal, and the student leaders and faculty advisors at her school to implement the contest. The contest raised $1,000, and Lara’s class alone raised $500 and donated the money to the event. “Dad meant everything to me. I just loved him while I had the chance,” said Lara. “Even though it’s too late for him, it’s not too late for other people. I hope the money finds the cure.”

SECOND ANNUAL RICHARD & JONATHAN LEWIS MEMORIAL TOURNAMENT
On June 26th, more than 150 people attended the second annual Richard & Jonathan Lewis Memorial Tournament at Glen Head Country Club on Long Island. This year’s event raised nearly $125,000. The tournament featured golf, card games, a cocktail reception and a dinner to commemorate the lives and legacies of Richard Lewis, who passed away from cancer, and his son Jonathan, who died two years ago from pancreatic cancer when he was just 38-years-old, leaving behind a grieving mother, wife, 3-year-old daughter, and sister.

The tournament was organized by Richard’s wife and Jonathan’s mother, Lenore Lewis, who founded the event to help ensure that other families don’t have to suffer as did hers, enduring such a devastating loss. “My son’s experience with pancreatic cancer has shown me that research is the only way to fight this disease, and in his memory, I will continue to raise money so that one day, a cure can be found,” said Lenore. The tournament also featured several local vendors who generously donated 20 percent of merchandise sales from the event.

Lenore Lewis (second from left), daughter-in-law Julie, granddaughter Maya and daughter Stephanie honor Richard and Jonathan.
“I’m going to be that guy who passes the five-year mark,” said Brock Ryall, a father of two young daughters who was diagnosed with Stage IIA pancreatic cancer in 2014, when he was only 38-years-old. In fact, Brock credits his optimistic outlook, his love for his family, and his determination to watch his daughters grow up as the most significant factors in his fight against this disease.

Brock’s father is a seven-year pancreatic cyst survivor. Yet, despite this family history, it took eight months before Brock’s diagnosis, and his doctor suggested that there was nothing physically wrong with him. However, Brock’s persistence may have saved his life. After undergoing a CT scan, his doctor called with the life-changing news that he had pancreatic cancer. He allowed himself a “breakdown day” to grieve alone, and then began preparing for the fight of his life. He developed his personal mantra that “Every day is going to be a win or a tie – I refuse to lose the day.”

Brock was treated by the same physician who treated his father. Like his father, he had a Whipple procedure and then underwent six months of chemotherapy with no side effects. A year later, when his tumor markers started rising again, he received a different chemotherapy for another 11 months, followed by four weeks of intensive radiation at the resection site. His most recent scans are clear and his tumor markers are normal.

Throughout Brock’s experience with pancreatic cancer, his goal has been to maintain normalcy for himself and his daughters. He has continued to work and live the life he had before his diagnosis, refusing to allow cancer to become the focal point of his life, and encouraging his loved ones to treat him as they did before he was diagnosed. After three years, “I can sometimes go through a day where I haven’t thought about cancer even once,” said Brock.

Brock participated in the Foundation’s inaugural Mechanicsburg Pancreatic Cancer Research Walk in May and considers the walk the beginning of his journey to help others impacted by the disease and to support the Foundation’s research initiatives. “A cure will happen, and I believe it will happen in my lifetime,” he said.

We hope you will consider donating to our research efforts as part of your year-end giving. Any contribution you make to the Lustgarten Foundation is 100 percent tax deductible, and 100 percent of your gift will go directly to pancreatic cancer research. We are so grateful for your support, and we know that patients will benefit from the additional research we will be able to fund thanks to your contribution.

Best wishes for a wonderful holiday season!
Our Promising Science

Lustgarten-funded researchers have published papers this summer highlighting key discoveries that are advancing our knowledge of how pancreatic cancer metastasizes and how we can detect the disease earlier, which is a key factor in reducing cancer deaths in the future. Through these discoveries, we are moving closer to a better outcome for patients who need it the most.

Christopher Vakoc, M.D., Ph.D. and his team at Cold Spring Harbor Laboratory used organoid technology to find that pancreatic cancer cells reprogram gene enhancers to achieve the ability to spread. This research appeared in the July 27th issue of the prestigious journal *Cell* and provides strong evidence supporting this explanation of metastasis, which is the cause of most cancer deaths. The researchers used pancreatic organoid technology developed by our Director of Research, Dr. David Tuveson, at the dedicated Lustgarten Foundation Laboratory at Cold Spring Harbor Laboratory. An organoid is a three-dimensional cell culture system which reproduces a patient’s tumor in a dish in order to test it repeatedly to determine response to various treatments. Organoids enabled Dr. Vakoc and his team to compare normal pancreatic ductal cells in six mice with cells from the same animals in three distinct stages: premalignant, malignant and metastatic. By understanding the biochemical changes that cause cancer to spread, eventually researchers will be able to screen potential drugs to suppress these biochemical changes and stop the cancer from metastasizing.

Research published the week of September 4th in the *Proceedings of the National Academy of Sciences* highlights how combining mutations in circulating tumor DNA (ctDNA) with protein markers can result in a screening test with improved sensitivity (64% of early stage patients detected) while retaining very high specificity or accuracy (99.5% or less than 1% false positive). The combination of ctDNA and protein markers was superior to any single marker alone. According to Anne Marie Lennon, M.D., Ph.D., Associate Professor of Medicine and Director, Pancreatic Cyst Center of the Ludwig Center at the Johns Hopkins Kimmel Cancer Center, this study demonstrates that many patients with resectable pancreatic cancer could have their cancer detected through a non-invasive blood test. These patients are generally diagnosed earlier than those whose cancer has metastasized. This is so important because currently, 80%-85% of patients are diagnosed with advanced stage disease and are not eligible for surgery to remove their tumors. Dr. Lennon and her colleagues also hope to develop a test that will be used in healthy, asymptomatic individuals.

Thank you to everyone who participated in our first walk leader conference!

Walk leaders from more than 30 of our Pancreatic Cancer Research Walks gathered on Long Island this summer for two days of training, networking and inspiration. Thank you to all those who participated, shared ideas and best practices and brainstormed how to make our walk program even more successful!
Our Pancreatic Cancer Research Walk program encompasses 39 walks across the country, including four inaugural walks this year in Tampa, FL; Staten Island, NY; Mechanicsburg, PA; and Annapolis, MD. Because of our dedicated walk leaders, volunteers, participants and sponsors, our walks have already garnered more than $2.3 million this year, and thanks to private funding, 100 percent of every dollar donated goes directly to research.

**TAMPA, FL**
On March 4th, more than 120 people participated and raised over $59,000 for research. Pat Musolino organized the walk in memory of her husband Frank, who passed away just weeks after he was diagnosed. Pat wants her granddaughters to see that something positive can come from losing their grandfather.

**STATEN ISLAND, NY**
Nearly 300 people joined us on April 30th and raised more than $50,000 for research. Casey McKenna organized this walk to honor her grandfather’s memory and to support others in Staten Island who are fighting pancreatic cancer.

**MECHANICSBURG, PA**
Nearly 200 people gathered in Mechanicsburg on May 7th, raising more than $22,000 for research. Volunteer basketball coach Dennis Bavaria organized the walk in memory of his wife, Claire Rose. Dennis also runs an annual basketball fundraiser in his wife’s honor.

**ANNAPOLIS, MD**
On September 10th, more than 400 people attended the walk, raising nearly $100,000* for our research program. Friends and family of Virginia Lee Brassel organized the walk, to commemorate her life as a beloved member of her community.

* Amount raised at time of printing

For more information and to register for an upcoming walk, visit www.lustgarten.org. Don’t see a walk near you? Learn how you can start a walk in your community by contacting Ann Walsh, Director of Events, at 516.737.1559 or awalsh@lustgarten.org.

**NAPERVILLE, IL**
Thank you to the third graders at All Saints Catholic Academy in Naperville, IL for organizing a lollipop sale and raising $600 for our Naperville Pancreatic Cancer Research Walk! We are honored by their commitment to community service and to our cause.
Join Us on Our Journey Toward a Cure!

In 2017, we have nearly 300 community events planned nationwide to honor the lives of loved ones lost to pancreatic cancer and those who are currently fighting. We extend our gratitude to all of our community events organizers, who are at the heart of what we do, and we’ve highlighted a few of our recent events below.

For more information on organizing an event in your area, please contact Susanne Igeneri, Special Events Coordinator, at 516.737.1560 or signeri@lustgarten.org.

TOUGH MUDDER COMPETITION

On July 22nd, Team Just Us Jerks, led by Tim Walsh, participated in the Tough Mudder 2017 competition in Bethpage, Long Island, completing a 12-mile long, military style, mud-covered obstacle course. The team raised more than $18,000 for our research program in honor of Tim’s relatives fighting the disease. Team members worked together, committed to their inspirational motto: Drag pancreatic cancer through the mud and bury it.

BEEFSTEAK DINNER AT THE BROWNSTONE

Mark Semmel founded this annual event in memory of his mother, Nancy Semmel, to raise funding for research that will help other families impacted by pancreatic cancer. The Beefsteak Dinner, held on August 10th, raised more than $18,600 to benefit our research program.

GOLFING “FORE” A CURE

Thank you to our dedicated volunteers who have organized 19 golf outings in their communities this year, including those pictured below. Together, these events have raised more than $200,000, contributing significantly to our research on earlier detection and new treatments.
Remember NOVEMBER is Pancreatic Cancer Awareness Month!

### 2017 CALENDAR OF EVENTS

Be sure to check the calendar of events at www.lustgarten.org for updates.

#### OCTOBER
- 7 Pound the Pavement for Purple 5K Run/Walk  
  Neptune, NJ
- 7 Scramble for Shelly Golf Outing  
  Pottstown, PA
- 7 New England Pancreatic Cancer Research Walk  
  Boston, MA
- 8 Long Island Pancreatic Cancer Research Walk  
  Jones Beach - Wantagh, NY
- 8 The Larry Golf Classic  
  West Haven, CT
- 21 Grape Gallop  
  Milford, NJ
- 22 Rutgers University Alpha Zeta Omega's Lustgarten Walk for Pancreatic Cancer  
  New Brunswick, NJ
- 28 Hannibal Pancreatic Cancer Research Walk  
  Hannibal, MO
- 28 Steve Rickert Memorial Shoot  
  Lehigh Valley, PA
- 29 Dutchess County Pancreatic Cancer Research Walk  
  Poughkeepsie, NY

#### NOVEMBER
- 5 Greater Philadelphia Pancreatic Cancer Research Walk  
  Pennsauken, NJ
- 5 Denver Pancreatic Cancer Research Walk  
  Denver, CO
- 5 Purple Pucks for Pancreatic Cancer Research  
  Dedham, MA
- 9 Cheers to a Cure  
  Hoboken, NJ
- 16 World Pancreatic Cancer Day

#### DECEMBER
- 2 San Francisco Pancreatic Cancer Research Walk  
  San Francisco, CA
- 13 Holiday Rock & Roll Bash  
  New York, NY

### SOCIAL MEDIA

Follow us on Facebook, Twitter, Instagram and LinkedIn and share us with your friends!

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- Connect with us on LinkedIn: [https://www.linkedin.com/company-beta/12175707/](https://www.linkedin.com/company-beta/12175707/)

Thanks to private funding, 100 percent of every dollar donated to the Lustgarten Foundation goes directly to pancreatic cancer research.

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