



Steadfast Support for Pediatric Cancer Research

An impact report prepared for the Ted Mullin Fund • Spring 2021



AT THE FOREFRONT OF KIDS' MEDICINE[®]

UChicago Medicine

Comer Children's

The impact of the Ted Mullin Fund on the work of the Section of Pediatric Hematology/Oncology at Comer Children's Hospital is immeasurable.

The data are staggering, but even they do not fully capture the numerous research discoveries leading to innovative new treatments that were made possible by Ted Mullin Fund investments.

Thank you for **15 years** of partnering with our team in the search for a cure for pediatric cancer.



Investments in Pediatric Cancer Research

Contributions to the Ted Mullin Fund in 2020 are supporting innovative research into genetic risks of cancer, led by a team of physician-scientists who are outstanding in the field of cancer genetics.

Jill de Jong, MD, PhD

Associate Professor of Pediatrics

Director, Pediatric Hematology

Director, Pediatric Cancer Risk and Bone Marrow Failure Clinic

Director, Pediatric Hematology/Oncology Fellowship Program



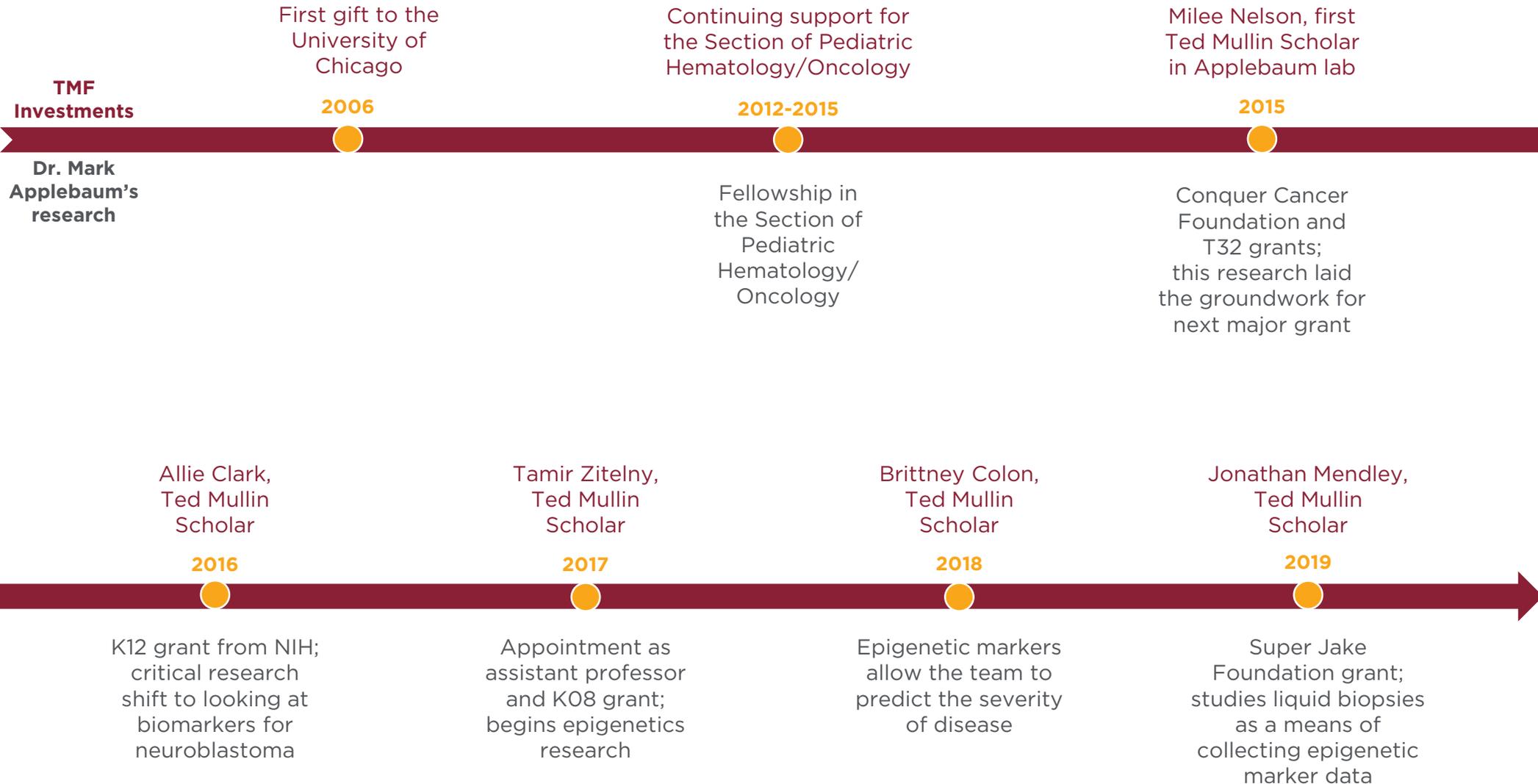
Dr. de Jong and her laboratory team are conducting research focused on inherited cancer risk. As a leader in pediatric hematology/oncology, Dr. de Jong partners with experts in inherited cancer risk in adult patients in order to apply robust laboratory methods and a proven data analysis pipeline to DNA samples from pediatric cancer patients.

Through these collaborations, the team is looking to describe germline variants in genes not yet known to cause cancer and to understand how these novel variants may affect treatment, counseling, and surveillance. This work is grounded in research-level gene sequencing and laboratory testing to uncover molecular mechanisms for cancer development to more effectively cure cancers and prevent future cases in patients who carry these germline variants.

Through studies of families with multi-generational cancers, a fellow in Dr. de Jong's lab has identified variants in three genes she suspects may confer cancer susceptibility. **One of the families of interest includes members with childhood-onset osteosarcoma and adult-onset metastatic fibroblastic reticulum cell sarcoma. Funding from the Ted Mullin Fund is helping support the continuation of this research project.**

Investments in Research Have a Lasting Impact

Support from the Ted Mullin Fund has been an essential driver of Dr. Mark Applebaum's research since he joined the University of Chicago Medicine in 2012. With help from five Ted Mullin Scholars along the way, his research discoveries are leading to improved treatment strategies for children with cancer.



Mark Applebaum, MD

Assistant Professor of Pediatrics

TODAY

Dr. Applebaum's current research focuses on epigenetics—the study of the chemical and cellular processes that determine how and when genes are used. Using technology that is unique to the University of Chicago, Dr. Applebaum has shown that the expression of epigenetic marker 5hmC in patient samples can tell clinicians a lot about how to approach treatment for each individual patient. His latest work aims to prove the feasibility of testing for these epigenetic signatures through liquid biopsy. A blood test for epigenetic signatures will enable physicians to consider diagnosis, prognosis, and therapeutic planning in one simple step for pediatric cancer patients. They have been able to predict relapse before it appears in a patient's regular clinical surveillance and this technology gives the research team insights into patterns in neuroblastoma that will improve treatment strategies.

Thanks to support from the Ted Mullin Fund and Ted Mullin Scholars, Dr. Applebaum's data supporting the liquid biopsy test for epigenetic markers are very strong. He is applying for competitive grants from the National Institutes of Health and he has the opportunity to collaborate with the Children's Oncology Group to further strengthen the data. Dr. Applebaum is also forming collaborations to pursue this work in osteosarcoma with a sightline to expansion into other types of sarcomas.

“It is fun for me to look back and see where I was and see how far I've come. This gives you an idea of the evolution of a research lab and a research career...we could not do this without you.”

-Dr. Mark Applebaum



Investments in Student-Athlete Scientists

In its ninth year, the Ted Mullin Scholar Program selected four student-athletes from across the country to conduct research with the leading physician-scientists of the Section of Hematology/Oncology at the University of Chicago Medicine Comer Children's Hospital. Due to the COVID-19 pandemic, however, the Mullin Scholars Program was temporarily suspended in summer 2020.

Though this interruption was unfortunate, the Ted Mullin Scholars Program is unmatched in its duration and extensive impact. Even in a year when researchers at Comer Children's were not able to welcome scholars into their labs, the contributions of Mullin Scholar alumni to medicine, research, and patient care were remarkable. We look forward to continuing the tradition of granting undergraduate college students the opportunity to experience hands-on laboratory research and contribute to the ongoing pediatric cancer research initiatives taking place at Comer Children's.

Ted Mullin Scholar Alumni on the Frontlines of the Covid-19 Pandemic Response



Tony Restaino
University of Chicago '15
Ted Mullin Scholar 2012

“Since completing my preclinical MD studies and joining the lab of Dr. Paola Vermeer, my PhD work has focused on studying how cancer genetics influence the innervation of the tumor microenvironment, and how tumor innervation influences cancer progression and prognosis. I recently submitted an application for an NIH fellowship focused on this work. Additionally, I have continued doing clinical outreach with our community health clinic and volunteering to assist in providing **COVID-19 vaccinations** with the department of health.”



Brandon Hilliard
Carleton College '18
Ted Mullin Scholar 2018

“At the beginning of August, I started my first year as an MD/PhD student at the University of Colorado. Prior to returning to school I worked at a postgraduate research associate in the Yale University Immunobiology Department as a member of the Andrew Wang Lab. As a member of the Wang Lab, I studied xenobiotic pathways and their role in the development of food allergy. Our lab also utilized **mouse models of COVID-19** to better understand the role of viral dissemination in the pathogenesis of COVID-19. I am very excited to continue my research career at the University of Colorado and am very grateful for the opportunities provided to me by the Ted Mullin Scholar program. As a Ted Mullin Scholar I was first able to experience what it meant to bridge the gap of laboratory research and clinical medicine, and this experience led me to pursue a career as a physician scientist.”



Alyssa Pioggia
Smith College '19
Ted Mullin Scholar 2019

“Over the past year I’ve been working as an EMT in Springfield, Ma. I was certainly challenged with high acuity calls and embraced being on the front lines as COVID swept through the country. I have also been able to assist with providing **COVID testing** to underserved communities in the area. I have certainly learned a lot over the past year! This spring I will be applying to Physician Assistant programs and hope to start a program next fall.”

The Ted Mullin Hour of Power

Though the relays looked different in a pandemic, athletes still left it all in the pool

Post from the Ted Mullin Fund on April 28, 2020

“Thanks to all who took part in the 2019-2020 14th Annual Ted Mullin Hour of Power. While the Hour of Power season was cut short by the COVID-19 pandemic, 170 teams registered and over 7,100 athletes participated. We are deeply grateful to all teams and contributors for their continued efforts to fight pediatric cancer.

In these difficult days of the COVID-19 pandemic, the Ted Mullin Fund encourages everyone to find ways to help out in his or her community. The ‘pulling together’ spirit of the Ted Mullin Hour of Power is needed throughout our country. We recognize many people face serious concerns about their economic futures, but we encourage those who are able to please donate as much as possible to local needs. Volunteering time during this period of ‘social distancing’ may be equally challenging, but there are ways to volunteer from home. For ideas please check with organizations in your community, for example @volunteercenterhelps

As a supporter of UChicago Medicine Comer Children’s Hospital, the Ted Mullin Fund is committed to raising awareness and addressing the pressing needs of the frontline medical workers, patients, and families at the hospital. If you can, please consider supporting the Comer Children’s COVID-19 Response Fundraiser to alleviate the hardships on families and health care workers caused by the COVID-19 pandemic. Link in bio. **We remain hopeful in planning for the 15th Annual Ted Mullin Hour of Power, kicking off this fall.”**



November 10, 2020



Continued Investments: Ted Mullin Scholar Alumni

Edan Zitelny
Brandeis University '17
Ted Mullin Scholar 2014

"I have decided to pursue a career in Internal Medicine, with current interests in Cardiology and Critical Care. Many of the foundational values driving this decision, including developing close-knit relationships with patients and teamwork for the betterment of patient care, were cultivated if not established during my time at the Ted Mullin Scholars Program. I have applied to residency programs (!) and officially match to a residency program this spring."



Liz Joyce
University of Chicago '17
Ted Mullin Scholar 2016

"I'm in my third year of medical school at University of Michigan, and still planning to apply into Internal Medicine for residency and then hematology/oncology afterwards. I'm still doing hematology/oncology research; I'm first author on a paper that was recently published discussing pain management for cancer patients. I have also been working closely with a breast oncologist and we just submitted an abstract to the American Society of Clinical Oncology (ASCO) annual conference. I'm taking next year off to get a Master's of Science in Clinical Reasoning to further develop my research skills and make it easier to continue to do research throughout my career. I actually wrote about the Ted Mullin Scholar program in my personal statement for the Master's program. I talked about how the physicians I worked with demonstrated a blend of optimism, determination, and compassion that I still think about and try to mirror in my own interactions with patients. That summer remains a pivotal moment in my medical education, and I am increasingly appreciative of the lessons I learned."



Anika Thomas-Toth
Carleton College '20
Ted Mullin Scholar 2019

"I am excited to return to the LaBelle lab at the University of Chicago (where I completed my Ted Mullin internship last summer) to work as a research assistant while I explore future schooling and career paths."



Continued Investments: Ted Mullin Scholar Alumni



Connor Sholtis
Amherst College '15
Ted Mullin Scholar 2013

"I'm currently a fourth-year medical student at the University of Rochester in Rochester, NY. At this point I have decided to pursue orthopedic surgery and have just submitted my applications for residency. Within the next few months I should know where I'll train for the next five years! I chose surgery because I love the hands-on nature of surgical practice and I chose orthopedics because it has huge opportunities for restoring patients' quality of life. The ability to walk, to use one's hands, to sit without pain. They are all things that many of us take for granted, but not everyone has those privileges. I'm super excited to start my residency journey and it's crazy to think that it started all those years ago with the Ted Mullin Scholars program."

Jonathan Mendley
University of Chicago '21
Ted Mullin Scholar 2019

"Currently I'm starting my fourth year at the University of Chicago, and am planning to apply to medical school this coming spring. I was not able to continue working in Dr. Applebaum's lab this summer as a result of the pandemic, but I have been working with him remotely using the data I generated last summer during my experience in the Ted Mullin Scholars program as part of a dry lab project. Additionally, this summer I worked as a research assistant for the Hospitalist Project at the University of Chicago Hospitals, where I conducted interviews with hospitalized patients over the phone to help improve quality of care and to collect data for further clinical research."



Katie Bennett
Williams College '16
Ted Mullin Scholar 2014

"I started at Clora, a Boston-based life sciences company, in December 2020, and have just relocated from Cleveland to Boston. Clora is a technology platform to build, discover, and manage on-demand talent in the life sciences. As the manager of the Operations team, I'm responsible for the day-to-day consultant journey through our marketplace. I love working in life sciences and using the professional skills I've built to guide my team to success!"

Ted Mullin Fund Investment by the Numbers

\$1,509,076.54

fundraised since 2006 by the Ted Mullin Fund to support the pediatric cancer research and scholar program at the University of Chicago Medicine Comer Children's Section of Hematology/Oncology.

This success is built on the generosity of the donors and participants of the **Ted Mullin Fund Hour of Power Fundraisers** held across the country. This total is the result of over **2,549 individual donations**, from **45 different states** and the District of Colombia.

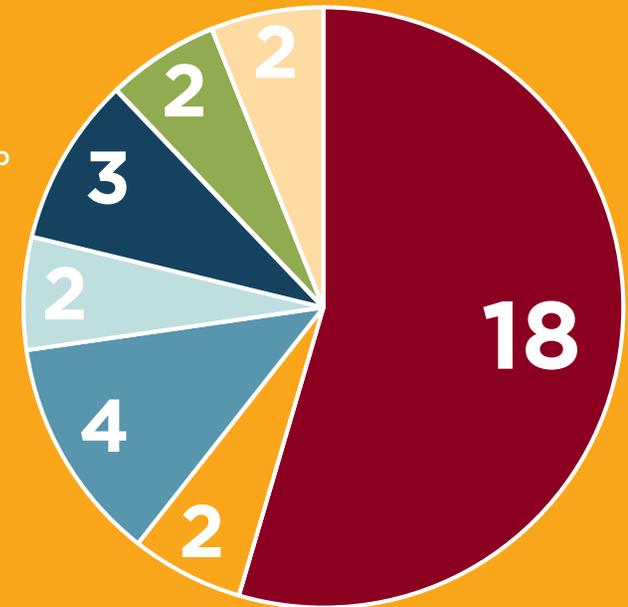
The University of Chicago Medicine Comer Children's Hospital has selected **37 undergraduate student-athletes** as Ted Mullin Scholars from across the country. Scholars hail from **16 different universities** across **7 different states** and Washington D.C.

"Your vision, commitment, and hard work have changed the lives of young scholars, supported our mission, and facilitated discovery."

- John Cunningham, MD

What's Next for Ted Mullin Scholars

- Pursuing either MD or MD/PhD
- Conducting research in academic or government laboratories
- Working at a biotech start-up
- Working in primary health care delivery
- Completing residency
- Undergraduate with plan to apply to graduate school
- Working in a field other than biosciences



4 scholars' participation was deferred in 2020 due to the pandemic

Mapping Mullin Scholars





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