Paving the Way for Innovation

Dr. Christopher Flowers is passionate about working as a team and sharing with others the same enthusiasm for medicine that he has had since the onset of his career.

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Pulse is a publication of the Lymphoma Research Foundation, providing the latest updates on the Foundation and its focus on lymphoma research, awareness and education.

The Lymphoma Research Foundation is devoted to funding innovative lymphoma research and serving the lymphoma community through a comprehensive series of education programs, outreach initiatives and patient services.

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The Lymphoma Research Foundation (LRF) understands that a diagnosis of lymphoma may bring about many different emotions and that everyone’s journey is personal.

LRF’s Living with Lymphoma podcast is here to help the lymphoma community better understand how to cope with the unique circumstances that a diagnosis of lymphoma presents.

Listen in as experts and patients discuss psychosocial topics related to a diagnosis with lymphoma and other forms of cancer. Join Victor Gonzalez and Izumi Nakano from the Foundation’s Helpline as they explore various survivorship topics.

Visit lymphoma.org/podcast to listen and subscribe to upcoming episodes.
# Features

## Paving the Way for Innovation

When it comes to lymphoma research, Dr. Christopher Flowers certainly believes in paying it forward. Having been inspired and supported by several great mentors during his work as an oncologist and clinical researcher, Dr. Flowers is passionate about working as a team and sharing with others the same enthusiasm for medicine that he has had since the onset of his career.

## Meet the 2021 Clinical Investigator Career Development Award and Postdoctoral Fellowship Grantees

The 15 projects awarded from this year’s class of Career Development Awards and Postdoctoral Fellowship grantees include early clinical trials of novel therapies and investigations into the biology of Hodgkin lymphoma (HL), T-cell lymphomas and other lymphoma subtypes, racial disparities, and chimeric antigen receptor (CAR) T cell therapy resistance.

## An Enduring Legacy of Hope and Impact

Chike Springer was many things — a husband, son, brother, uncle and patriot — but he was most known for his positivity and determination. His legacy lives on through the Chike Springer Foundation, which addresses issues that were most important to him: the need for diversity in cancer research and biomedical science and funding innovative research with the most significant impact.

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Dawn and James Monroe Iglehart

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LRF ANNUAL GALA

Save the Date
SEPTEMBER 30, 2021  6-7 PM ET

You’re invited to a special event celebrating all we’ve accomplished together to eradicate lymphoma! Join us to cap off our 25th Anniversary, celebrate our distinguished honorees and be inspired by the significant achievements and advancements made in lymphoma research over the past year.

MAKE AN IMPACT. JOIN AS AN EVENT SPONSOR.
A variety of exciting packages and sponsorship benefits are available for the 2021 LRF Annual Gala. For more information about this year’s Gala, contact Rebecca Rausch, Senior Manager of Distinguished Events, at 917-882-9036 or rrausch@lymphoma.org.

lymphoma.org/gala
Today, people diagnosed with lymphoma are living longer, healthier lives. While we have gained tremendous ground in our understanding and treatment of this disease for many, we cannot overlook those with rare lymphomas and underserved and underrepresented population, and the continued need for greater access to lifesaving treatment, education and support.

This year, your support is funding more than $2 million in research grants to 29 researchers from leading medical and academic institutions. This investment will allow some of the most talented early-career scientists in the field to pursue their most innovative ideas and continue a career in lymphoma research. **Your support accelerates the pace of this research and fuels our impact in diagnosing and treating this disease.**

Our grants are awarded with guidance from our elite Scientific Advisory Board (SAB), which comprises 45 world-renowned lymphoma experts dedicated to seeking out the most innovative and promising lymphoma research projects for investment. We profile one of those experts, Christopher Flowers, MD, MSc of the University of Texas MD Anderson Cancer Center, in this issue. Dr. Flowers is a global leader in lymphoma clinical research and care and an inspiring mentor to early-career scientists. He has been a constant supporter of the Foundation’s Lymphoma Scientific Research Mentoring Program (LSRMP) — having served as Chair and consistently serving as faculty since the program’s inception in 2014. Dr. Flowers’ research in health disparities has been influential and laid the groundwork for subsequent breakthroughs and discoveries. We are excited to have him as this issue’s cover story and to honor him at the 2021 LRF Gala on September 30 with the Foundation’s prestigious Distinguished Leadership Award.

Finally, we are excited to introduce you to our 15 Clinical Investigator Career Development Award (CDA) and Postdoctoral Fellowship Grantees. The CDAs and Postdoctoral Fellowships are cornerstones of our research program, providing grants to early-career scientists with the greatest potential to contribute to our understanding of the disease and the development of new lymphoma therapies and diagnostic tools. As I mentioned before, patients with rare lymphomas and patients in underserved and underrepresented populations need support now more than ever. We are proud to share that 40 percent of this year’s CDA and Postdoctoral Fellowship research projects focus on rare T-cell lymphomas, and five CDA and Postdoctoral Fellowship grantees are part of the Foundation’s Health Equity Initiative, devoted to addressing inequities in the treatment and care of lymphoma patients.

We are energized by the progress we’ve made — and continue to make — only made possible thanks to each and every donor, partner and volunteer. We are truly grateful for your support.

Sincerely,

Meghan Gutierrez
*Chief Executive Officer*
Q&A WITH
Walk On! AMERICA

Ambassadors
Dawn and James Monroe Iglehart
Due to ongoing safety and social distancing policies, the Lymphoma Research Foundation (LRF) has pivoted its Team LRF Spring 2021 Lymphoma Walks (Dallas, Houston, Minnesota, Nebraska and New York) and will be bringing the lymphoma community together through Walk On! America. On June 4, members of Team LRF from across the country will tune in to an exciting virtual celebration to raise awareness for lymphoma and critical funds to support life-saving research. Additionally, as a part of Walk On! America, LRF is offering a new Neighborhood Walk program that will allow supporters to host their very own safe and socially distanced walk.

Tony Award winner and Broadway sensation James Monroe Iglehart (Aladdin/Hamilton) and his wife Dawn will serve as this year’s 2021 Walk Ambassadors. The Igleharts shared why they are passionate about supporting the lymphoma community through the Team LRF Lymphoma Walk program.

What is your background and connection to lymphoma?
In 2018 my wife Dawn was diagnosed with Hodgkin lymphoma. She received six months of chemotherapy and has been in remission ever since.

How did you learn about and get involved with LRF?
The journey that Dawn and I have been on with lymphoma has inspired us to find a way to support others who have been through similar experiences. We found the Lymphoma Research Foundation and were inspired by the several ways we could give back to the lymphoma community and help advance their mission. In 2020, I hosted a The Nightmare Before Christmas virtual benefit concert in support of LRF and The Actors Fund and raised more than $35,000.

Why did you join 2021 Walk On! America as Walk Ambassadors?
After hosting the benefit concert, Dawn and I wanted to continue to give back to the lymphoma community and found out about the Foundation’s Lymphoma Walk program. We felt like it was the perfect fit for us to be able to do so. We were honored to be chosen as this year’s Ambassadors and look forward to helping make Walk On! America a success.

Why should someone participate and fundraise for Walk On! America?
Every five minutes, someone in the United States is diagnosed with lymphoma. Programs like Walk On! America raise critical funds to help advance life-saving research and support those who have been diagnosed with this blood cancer. It also allows the lymphoma community to come together virtually for a fun and exciting event.

What about Walk On! America makes you most excited?
Being able to see participants come together for a day of community and support for each other makes us feel honored to be part of this event. We are so looking forward to seeing everyone while raising money for an extremely worthy cause.

Why are you passionate about raising funds to help advance cures for lymphoma?
Our hope is to help ensure a brighter future for all those impacted by this disease. Research is a vital tool in the race to find a cure, and that is our overall goal — a world without lymphoma.

1 Visit lymphoma.org/walks to choose your Walk location.
2 Sign up to create your own Neighborhood Walk or become a Virtual Participant.
3 Create your fundraising page and start fundraising!

Don’t forget to take advantage of our fundraising tips on our Walks page, including learning how to connect your fundraiser to Facebook and doubling your impact through a matching gift from your employer.
OP-ED

ACHIEVING HEALTH EQUITY: ACCESS AND REPRESENTATION IN BLOOD CANCER RESEARCH AND PATIENT CARE

By Steven Eichberg, Chair, LRF Board of Directors
Achieving health equity requires the removal of barriers and the creation of opportunities so that every person has access to quality healthcare and the opportunity to be as healthy as possible. We have witnessed this firsthand in service to patients with lymphoma, the most common type of blood cancer.

**Community-Based, Patient-Centered Education**

A diagnosis or relapse of lymphoma or chronic lymphocytic leukemia (CLL) often leads patients and their caregivers to sift through a complex network of information. This becomes more challenging when social and systemic barriers prevent a patient from accessing accurate health information. As a result, more nonprofits and medical institutions have invested significantly in education materials and support services that assist patients as they navigate their diagnosis. Increasingly, this disease-specific education has evolved to also address financial toxicity and the concerns many patients have regarding the affordability of their cancer treatment. In addition, data from the U.S. Census Bureau’s most recent American Community Survey showed that 21.6 percent of Americans spoke a language other than English at home. Recognizing that patients rely heavily on information available to them to maintain their health and their families’ health, it is crucial to ensure that such resources are culturally appropriate, produced in multiple languages and made available to patients and their loved ones where they are and feel most comfortable receiving such information.

**Diversity in Clinical Trials**

The attention drawn to such patient-centered healthcare over the past year has brought needed resources to the provision of health education programming. More resources are required, and one area that requires significant consideration is participation in clinical trials. Clinical trials are critical to advancing new therapies for the treatment of cancer. This is true for lymphoma patients, as many lymphoma subtypes are rare diseases with limited treatment options or no standard of care.

As the medical, scientific and advocacy communities have sought to address COVID-19, these disparities have become apparent, showing how different segments of Americans (racial and ethnic minorities, young people, the elderly, etc.) are impacted by the pandemic differently. These differences also highlight why the development and distribution of vaccines and other therapies must represent the entire population and address traditionally underrepresented communities’ needs. The U.S. Food and Drug Administration identified that people who participate in clinical trials should represent the populations most likely to use a potential new medical product and issued a guidance on designing and executing clinical trials of drugs that include people with different demographic characteristics. For success, such efforts must be supported and prioritized by a broad and diverse array of stakeholders.

“...it is crucial to ensure that education resources are culturally appropriate, produced in multiple languages and made available to patients and their loved ones where they are and feel most comfortable receiving such information.”
“Lymphoma therapies must represent the entire population and address traditionally underrepresented communities’ needs.”

Representation in Blood Cancer Research and Clinical Care
Despite decades of workforce-diversity efforts, diversification in medical subspecialties like lymphoma research and clinical care remains a challenge. According to an article in the New England Journal of Medicine, long-standing institutional tradition and policies that result in inequity create barriers for racial and ethnic minority groups in advancing their medical careers. In addition, a lack of diversity in medical subspecialties can alienate patients because they do not see themselves in the healthcare professional team caring for them.

In 2021, it is estimated that more than 111,000 people will be diagnosed with lymphoma and CLL in the U.S. To meet all patients’ needs, we need to champion systemic changes to the way we educate and inform and reduce the barriers to care for every patient.

ABOUT THE AUTHOR
Steven Eichberg is Chair of the Lymphoma Research Foundation’s (LRF) Board of Directors. Diagnosed in 2012 with follicular lymphoma, Steven has benefited by the years of research being done by LRF’s scientific community to provide new and innovative treatment, and today he is a Lymphoma Thriver. He is a long-time supporter of LRF and wants to ensure all lymphoma patients have access to quality cancer care so that they may be Lymphoma Thrivers as well.

This opinion editorial was published in Living with Blood Disorders/USA Today on April 16, 2021.

LATEST U.S. FOOD AND DRUG ADMINISTRATION (FDA) APPROVALS FOR THE TREATMENT OF LYMPHOMA

The U.S. Food and Drug Administration (FDA) is responsible for the approval of drugs, including biological products, for human use in the United States. To receive real-time FDA updates for the treatment of lymphoma, download the Focus on Lymphoma app for free in the Apple App and Google Play Store.

LISOCABTAGENE MARALEUCEL (BREYANZI)
February 5, 2021 — A chimeric antigen receptor (CAR) T cell therapy approved for adult patients with certain types of large B-cell lymphoma, including diffuse large B-cell lymphoma (DLBCL) not otherwise specified (including DLBCL arising from indolent lymphoma), high-grade B-cell lymphoma, primary mediastinal large B-cell lymphoma (PMBCL), and follicular lymphoma grade 3B (FL3B), who have not responded to, or who have relapsed after, at least two other types of systemic treatment.

UMBRALISIB (UKONIQ)
February 5, 2021 — An oral kinase inhibitor including PI3K-delta and casein kinase CK1-epsilon approved for adult patients with relapsed or refractory marginal zone lymphoma (MZL) who have received at least one prior anti-CD20-based regimen and adult patients with relapsed or refractory follicular lymphoma (FL) who have received at least three prior lines of systemic therapy.

AXICABTAGENE CILOLEUCEL (YESCARTA)
March 5, 2021 — A chimeric antigen receptor (CAR) T cell therapy approved for the treatment of adult patients with relapsed or refractory follicular lymphoma (FL) after two or more lines of systemic therapy.

LONCASTUXIMAB TESIRINE-LPYL (ZYNLONTA)
April 23, 2021 — A CD19-directed antibody and alklylation agent conjugate for adult patients with relapsed or refractory large B-cell lymphoma after two or more lines of systemic therapy, including diffuse large B-cell lymphoma (DLBCL) not otherwise specified, DLBCL arising from low-grade lymphoma, and high-grade B-cell lymphoma.
Walk On! AMERICA

YOU CHOOSE HOW TO JOIN!

✓ Host a Neighborhood Walk
Form a team and host your own personalized mini neighborhood walk. Invite friends and family to join you.

✓ Be a Virtual Participant
Form a team and ask friends and family to help fund life-changing research, and then join us for the virtual celebration on June 4th.

lymphoma.org/walks

Walk captains will receive a Neighborhood Walk Kit full of goodies to help make your event fun and safe!
PAVING THE WAY FOR INNOVATION

When it comes to lymphoma research, LRF Scientific Advisory Board (SAB) member Christopher Flowers, MD of the University of Texas MD Anderson Cancer Center certainly believes in paying it forward. Having been supported by great mentors during his work as an oncologist and clinical researcher, Dr. Flowers is passionate about working as a team and sharing with others the same enthusiasm for medicine that he has had since the onset of his career.

“Medicine really is an incredible way to interact with people and make a difference in their lives at a time when it matters most.”
Mentors Lead the Way
During his freshman year at Stanford University, Dr. Flowers had diverse interests, studying subjects such as romance linguistics and etymology. However, it was his freshmen advisor Ken Melmon, an immunologist and clinical pharmacologist, who helped guide his path ahead to science. “I always had an interest and passion to be in medicine,” says Dr. Flowers. “Medicine really is an incredible way to interact with people and make a difference in their lives at a time when it matters most.”

Following his undergraduate studies, Dr. Flowers attended Stanford University School of Medicine, where he not only studied medicine, but also trained in computer science and medical informatics. It was then that he became fascinated with research and how it could be applied in the clinical arena to help patients. Upon completion of medical school, Dr. Flowers moved to Seattle to complete his residency at the Fred Hutchinson Cancer Research Center. During the middle of his internship, he had plans to short-track into an allergy and immunology fellowship program, until another influential mentor opened his eyes to a different field — lymphoma.

“I have been exceptionally fortunate to have great mentors throughout my career who have helped to inform my ultimate decision to be a doctor and focus on lymphoma,” he says.

During the last rotation of his internship, Dr. Flowers worked in the inpatient lymphoma wards with Dr. Oliver Press. Dr. Oliver Press, who would later chair the LRF SAB from 2006-2008. “Working with Ollie completely changed my career and piqued my interest in stem cell transplantation and clinical and translational lymphoma research,” says Dr. Flowers. “Without him and other really incredible mentors at Stanford, Fred Hutch, and Emory, I wouldn’t have decided to dedicate my life’s focus on clinical investigation.” After completing his fellowship, Dr. Flowers started his faculty career at the Winship Cancer Institute of Emory University in Atlanta, where he spent 17 years before obtaining his current position as the Chair of the Department of Lymphoma and Myeloma and interim Division Head of Cancer Medicine at the University of Texas MD Anderson Cancer Center.

Observing Outcomes
Due to the wide differences in the types of lymphoma, Dr. Flowers believes that one of the great benefits of being a lymphoma specialist is the ability to help patients across a large number of lymphoma subtypes. He feels that it not only makes his work more interesting but also creates opportunities to help patients and the medical community learn more about this complex disease. “The longer we study lymphoma, the more subtypes we discover. With these new discoveries we develop better treatments specific to lymphoma subtypes,” says Dr. Flowers. He feels that patient care gives him the best idea of what matters most to those diagnosed with the disease and helps to inform what he decides to focus his research on. “Being a clinical investigator is the best career I could possibly imagine,” says Dr. Flowers. “There is such a tight connection between understanding lymphomas, providing the highest-quality patient care and being an investigator.”

While much research is being done in the field of lymphoma, Dr. Flowers considers it to be understudied and underappreciated compared to other more common cancers. “Lymphoma can often be more challenging to study, but the disease process stimulates my intellectual curiosity about what kinds of things we can do to make things better for patients,” says Dr. Flowers. “I feel that as oncologists, we are bestowed with the highest honor of being able to care for people during their greatest time of need, and that’s what fuels me every day.”

“I feel that as oncologists, we are bestowed with the highest honor of being able to care for people during their greatest time of need, and that’s what fuels me every day.”

One area of research that is particularly interesting to Dr. Flowers is finding ways to improve patient outcomes by using models to predict them ahead of time. “I learned very early on from patients that physicians should not only focus on improving the duration of survival. We must also work to improve quality of life,” says Dr. Flowers. “The measurement of patient-reported outcomes is really the best tool that we have to make an impact on an individual’s life after a lymphoma diagnosis.” His current study with lymphoma epidemiologist and SAB member, Dr. James Cerhan of the Mayo Clinic strives to achieve just that. The Lymphoma Epidemiology of Outcomes Cohort Study (LEO) has enrolled nearly 8,000 non-Hodgkin lymphoma (NHL) patients across eight academic medical centers in the United States. The study is helping to characterize the ways that patients with lymphoma have been treated and the best ways to predict outcomes. LEO also collects lymphoma tissue and blood samples to learn more about the biology of each lymphoma subtype. This is the largest study following patients with lymphoma ever to be conducted in the United States. The second phase of LEO will start later in 2021.
Outcome Equality

From studying outcomes Dr. Flowers recognized several important factors that can affect lymphoma patients. One such factor is the influence health disparities can have on a patient’s outcome. Dr. Flowers says that disparities occurring based on race, rural locations, socioeconomic status, and insurance status can be the difference between someone whose lymphoma gets cured or not. “When you look at large data sets and see these kinds of disparities, it makes you wonder why those issues exist,” says Dr. Flowers. “These are the types of issues that present clear opportunities for research and interventions to close that gap.”

Dr. Flowers says that there are many ways to address these disparities in lymphomas, such as improving access to care, clinical trials and supportive care. He says that these interventions could have an important societal benefit for cancer patients. “Creating equity often means that you need to create new interventions for specific groups so that everybody has the same favorable outcomes. Our ultimate aim is to achieve the greatest impact by improving outcomes for the greatest number of people,” says Dr. Flowers. He also notes that better representation will not only improve outcomes for more patients, but it can also help researchers determine the efficacy of treatments when developing new therapies.

Given the prevalence of health disparities, Dr. Flowers underlines that participation in studies such as the LEO study are critical to gathering data that can help improve treatment in the future. “One of our steps in the next five years is to recruit patients who come from those minority populations and rural environments to understand the relationships between their lymphoma diagnosis, the treatments that they receive and their outcomes,” says Dr. Flowers. With all this information, Dr. Flowers is confident that patients from all backgrounds can live longer and better lives in the future.

“Mentoring the next generation of researchers has been one of the highlights of my career.”

Student Becomes the Teacher

While improving the lives of patients is at the forefront of Dr. Flowers’ work, mentoring the next generation of lymphoma researchers is also of the utmost importance to him and one of the things that he finds most rewarding about clinical research. “My mentors were critical to my success in my career and I, therefore, pay it forward by mentoring the next generation of researchers,” says Dr. Flowers. “This has been one of the highlights of my career.”

Dr. Flowers notes that research programs such as the Lymphoma Research Foundation’s Lymphoma Scientific Research Mentoring Program (LSRMP) are crucial to advancing cures and improving the lives of those impacted by lymphoma.

Dr. Flowers takes every opportunity to mentor junior scientists not only at his own institution but also through LRF’s research programs. He has volunteered as faculty for LRF’s LSRMP workshops each year since 2012 and has personally sponsored six LRF grantees. He has also been a faculty member and led other national mentoring programs for hematologists and oncologists. “Mentorship has a compounding effect in that I see that people I have mentored throughout my career are now starting to have mentees of their own,” says Dr. Flowers. He believes that the best chance of conquering difficult diseases such as lymphoma is to capitalize on the use of team science to identify key areas where research can have the largest impact. The interaction of his mentees and other LRF SAB members and their mentees in LEO is a prime example of the great impact that team science can have on the lymphoma community.

On the horizon, Dr. Flowers hopes to move the efforts in lymphoma epidemiology to better understand who is at risk for lymphoma and why. With the brightest minds in lymphoma working together, he is hopeful that healthcare professionals in this next generation of mentees will identify strategies for predicting and preventing lymphoma.
No matter what else happens in our world, three things remain constant:

LRF, your support and our collective commitment to continue the research to find a cure.

Join the Circle of Hope:
Make a Difference in Our Community

As a Circle of Hope partner, you will join a group of committed donors who support the Lymphoma Research Foundation (LRF) on a monthly basis. This will ensure LRF can respond to the needs of our community and further groundbreaking research year-round.

To join the Circle of Hope, go to lymphoma.org/circleofhope to make your monthly commitment. For more information about this monthly giving program, please contact the development team at development@lymphoma.org.
In March, the Lymphoma Research Foundation (LRF) announced its 2021 research investment — 29 grant programs totaling more than $2 million to early-career and disease-specific scientists based at many of the world’s leading cancer research institutions.

The LRF Clinical Investigator Career Development Award (CDA) and Postdoctoral Fellowship Grant Program support junior faculty members and PhD and advanced clinical fellows pursuing research in lymphoma and chronic lymphocytic leukemia (CLL). The 15 projects awarded from this year’s class of CDA and Postdoctoral Fellowship grantees include early clinical trials of novel therapies and investigations into the biology of Hodgkin lymphoma (HL), T-cell lymphomas and other lymphoma subtypes, racial disparities, and chimeric antigen receptor (CAR) T cell therapy resistance.

PAMELA BLAIR ALLEN, MD, MS
WINSHIP CANCER INSTITUTE OF EMORY UNIVERSITY
Career Development Award

Advanced-stage cutaneous T-cell lymphoma (CTCL) is a rare and life-threatening type of non-Hodgkin lymphoma (NHL) that starts in the skin, with poor outcomes, particularly in Black patients. It remains unclear why Black CTCL patients are at higher risk of death compared to White patients. Through her 2020 Lymphoma Scientific Research Mentoring Program (LSRMP) project, Dr. Allen found that there seems to be a unique presentation of CTCL in Black patients compared to other races, where these patients present younger, predominately female, more cutaneous tumors and higher-risk presentations. For her 2021 LRF research project, Dr. Allen will assemble a large group of CTCL patients across the country, capturing detailed clinical and tumor specimens to determine the clinical, social and genetic factors that contribute to poor survival in Black patients. She will also conduct a clinical trial combining two new therapies that may improve patients’ outcomes with CTCL and assess barriers for clinical-trial enrollment in Black patients.

Dr. Allen is an Assistant Professor in the Department of Hematology and Medical Oncology at Emory University School of Medicine in Atlanta. She obtained her MD from the University of Florida College of Medicine in Gainesville, Fla., and completed her residency at the University of Maryland in Baltimore. She was drawn to lymphoma research when she noticed groups of Black
CTCL patients with highly symptomatic disease and poor survival had been excluded from extensive studies in lymphoma. Her frustrations focused specifically on poor outcomes she saw in young Black women. Dr. Allen received several devastating cases of Black women diagnosed with very advanced CTCL who did not respond to therapy and died from their disease. “We sought to understand why Black patients seemed to have a different and more aggressive disease and how social and genetic determinants of health contribute to outcomes in this population,” Dr. Allen recalls.

In the next 10 years, Dr. Allen hopes that advances in lymphoma research will shift the paradigm in T-cell lymphoma toward more effective and tolerable therapies and identify critical gaps in care for ethnic minorities. “I am enormously grateful to LRF for the impact they have on patient education, my education and funding this project in CTCL. I hope the results of this study will lead to greater improvements in all CTCL patients in the future,” she says.

Dr. Allen’s research project is part of LRF’s Health Equity Initiative, devoted to addressing barriers in access to care and research in lymphoma.

Classical Hodgkin lymphoma (cHL) tumor cells have developed several ways to avoid detection and destruction by the immune system, including expression of immune checkpoint proteins on their surface to shield them from immune attacks. Targeting the PD-1 immune checkpoint has been a highly successful strategy in this disease. Another immune checkpoint, called CTLA-4, is also frequently expressed in cHL tumors and represents another target for therapeutic intervention. Dr. Merryman’s LRF research project will begin with a phase II trial testing ipilimumab (Yervoy), a CTLA-4 monoclonal antibody (mAb), with or without the PD-1 mAb nivolumab (Opdivo), among patients with relapsed or refractory cHL. His focus is on high-risk patients to identify new treatment options. “We hope that this trial will identify additional treatment options for patients with cHL who have failed initial treatments,” he says.

Dr. Merryman is an Attending Physician at Dana-Farber Cancer Institute in Boston, where he is focused on developing immune-based treatments for Hodgkin lymphoma (HL) and indolent non-Hodgkin lymphomas (NHL). He has also participated in lymphoma clinical investigator programs with the American Society of Hematology (Clinical Research Training Institute) and with the LRF’s Lymphoma Scientific Research Mentoring Program (LSRMP). He completed his MD at Harvard Medical School before his residency at Brigham and Women’s Hospital in Boston.

Dr. Merryman’s interest in lymphoma was sparked during his medical residency when he observed significant immune-related toxicities in lymphoma patients undergoing allogeneic transplantation after receiving immune checkpoint blockade. With his mentor Dr. Philippe Armand’s help, he organized a multicenter, international collaboration to better characterize the clinical outcomes of transplant patients who had previously received a PD-1 inhibitor. “We reported that these patients had a higher-than-expected rate of early immune toxicity in the form of a non-infectious febrile
syndrome and early severe acute graft-versus-host disease (GVHD) resulting in several fatalities,” recalls Dr. Merryman. “Our work was the first to document these novel findings and has triggered multiple efforts to identify novel transplant approaches to reduce this potential toxicity.” This led to his relationship with LRF in the LSRMP in 2019. “I have continued to meet with these leaders in lymphoma research over the past two years, and they have provided instrumental guidance both for my research projects and my career,” he says.

After completing his LRF research project, Dr. Merryman aspires to design clinical trials that use rationally designed immune-based treatments to cure more patients with lymphoma. He is hopeful for the future of lymphoma research. “Clinical care for patients with lymphoma has changed dramatically in the last 10 years, and I am optimistic that the pace of clinical advances will continue to accelerate in the years ahead,” he says.

Chimeric antigen receptor (CAR) T cell therapy has been very successful in certain cancers, such as B-cell leukemia and lymphoma. However, the needle has not moved for most other malignancies, particularly T-cell lymphomas that are characterized by poor prognosis with current therapies. Dr. Ruella’s LRF research project proposes to develop a novel approach for patients with relapsed or refractory T-cell lymphoma by developing a novel CAR T cell therapy that recognizes the tumor-associated target CD5. He developed a strategy to enhance CAR T cell efficacy by using the genetic engineering technology called CRISPR-Cas9. Dr. Ruella will begin by testing this novel engineered CART5 immunotherapy product in a first-in-human clinical trial and study the factors and biomarkers associated with clinical success. “The proposed research is highly relevant to public health because patients with relapsed and refractory T-cell lymphomas have no available cures, and we desperately need to develop personalized and novel therapies for these patients,” Dr. Ruella explains. “This study will significantly impact the field of cancer immunotherapies by developing a novel potent anti-T-cell lymphoma immunotherapy.”

Dr. Ruella is an Assistant Professor of Medicine and the Scientific Director of the Lymphoma Program at Perelman School of Medicine, University of Pennsylvania in Philadelphia. He began his medical training with an MD from the University of Torino, School of Medicine, in Orbassano, Italy, and continued with a residency and fellowship at the same institution. During his medical training, Dr. Ruella was introduced to lymphoma by his mentor Dr. Corrado Tarella, who translated his enthusiasm to develop novel and innovative therapies for lymphoma. “Since medical school, I had the dream to become a physician-scientist to change the treatment paradigms for relapsed and refractory lymphoma,” recalls Dr. Ruella. His dream became a reality at the University of Pennsylvania when he assisted Dr. Carl June in engineering immune cells. His work at the University of Pennsylvania in an LRF-supported study in 2015 led to the publication of a first-author manuscript (Ruella M. Clinical Cancer Research, 2016) that showed for the first time that CAR T cells can be successfully combined with small molecules. “Today, the LRF CDA is allowing me to have protected time during the critical stage of my career when I am translating our preclinical research to the clinic,” says Dr. Ruella. “I cannot overstate the fundamental role that the LRF has played in my career development and success throughout the years.” Dr. Ruella’s career goal is to manage a translational group focused on advancing personalized treatments for patients with lymphoma. “In an ideal scenario, I would like to be able to craft a personalized therapy for each patient based on their molecular, immunological and epigenetic profile,” he says.
Peripheral T-cell lymphoma (PTCL) is an aggressive type of non-Hodgkin lymphoma (NHL) derived from the malignant transformation of blood cells called T-lymphocytes. Currently, patients diagnosed with PTCL have limited treatment options and poor prognosis, highlighting the need for a better understanding of PTCL pathogenesis to foster the design of novel therapeutic approaches.

Within the T-lymphocyte nucleus, the DNA is wrapped around specific proteins called histones, forming a highly organized 3D structure called chromatin. Alterations of the spatial chromatin organization are found in different tumor types and have played a role in malignant transformation and tumor progression. Recent studies in PTCL have identified mutations in genes contributing to the establishment of the chromatin structure, suggesting a function of the chromatin rewiring on tumor progression. Drugs targeting those regulators have shown promising efficacy in PTCL, further indicating that the chromatin landscape might be necessary for controlling PTCL pathogenesis.

For her LRF research project, Dr. Battistello will investigate PTCL patient samples' chromatin architecture and relate it to their genetic background and cellular phenotype. She aims to identify chromatin regions that may be critical for PTCL survival and functionally validate their importance using large-scale gene-editing approaches. “Overall, this study will expand our understanding of the role of the chromatin landscape on oncogene activation in T-cell lymphoma pathogenesis, will identify new regulators of tumor progression and will help design better therapeutic strategies to improve clinical outcomes,” Dr. Battistello explains.

Dr. Battistello is a Postdoctoral Fellow at New York University School of Medicine in New York. She received her PhD from the Swiss Federal Institute of Technology Lausanne (EPFL), in Lausanne, Switzerland. Her passion for lymphoma research sparked from her interest in the plasticity of the hematological system. “I was fascinated by how these same cells that protect us from pathogens can, in turn, transform and become a tumor themselves,” she recalls. In the future, Dr. Battistello hopes to become an independent investigator leading a research group focused on the epigenetic regulation of hematological malignancies and the interaction of the tumor cells with other components of the immune system. “The willingness to advance our scientific knowledge and have an impact on patients’ lives is what drives my scientific commitment,” she says.

During the month of June, join the Lymphoma Research Foundation (LRF) to celebrate survivors. Support LRF as we come together to recognize lymphoma survivors, increase awareness of survivorship and raise funds to ensure a brighter future for all those impacted by this blood cancer.

Make a gift in honor of a loved one or lymphoma survivor at lymphoma.org/NCSD
Most patients treated for mantle cell lymphoma (MCL) achieve complete remission. Nevertheless, a significant number of patients will eventually relapse due to the regrowing of rare cancer cells remaining in the body after treatment, which is known as minimal residual disease (MRD). For her LRF research project, Dr. Debaize aims to establish new approaches that will define MRD-specific vulnerabilities and test new drug combinations to overcome resistance, kill MRD and cure this highly deadly disease. “With our collaborators at the Massachusetts Institute of Technology (MIT), we will detect and characterize those cells with new innovative approaches,” explains Dr. Debaize. “We believe that the key to eradicating MRD is to understand its unique vulnerabilities.”

After receiving her PhD from the University of Rennes in Rennes, France, Dr. Debaize joined the lab of David Weinstock, MD at Dana-Farber Cancer Institute, Harvard Medical School in Boston as a Research Fellow. She devotes her efforts to the specific targeting of MRD in mantle cell lymphomas. “This project is in line with my long-term goal, which is to pursue an academic career in translational research with a focus on the identification of biomarkers and therapeutic targets in B-cell lymphomas,” says Dr. Debaize.

Dr. Debaize’s interest in lymphoma research and pursuit of a scientific career stemmed from her personal experience witnessing her brother’s journey with blood cancer. “I am now dedicated to the development of novel therapeutic strategies for hematologic malignancies with the hope to translate them into better outcomes for patients who are not cured with current therapies.”

The pioneer monoclonal antibody therapy rituximab (Rituxan) has revolutionized the treatment of B-cell lymphomas. However, patient response to rituximab varies based on numerous factors, including the affinity with which immune cells interact with the antibody. In her LRF research project, Dr. Dixon proposes to engineer cancer-fighting immune cells, known as natural killer (NK) cells, to improve this cancer therapy. Using state-of-the-art genetic engineering to express a high-affinity receptor on NK cells will enhance their ability to bind and kill cancer cells via rituximab, leading to increased tumor clearance.

Dr. Dixon is a Postdoctoral Associate at the University of Minnesota Twin Cities in Saint Paul, Minn. She received her PhD from the Medical College of Wisconsin in Milwaukee. Through the guidance of her mentors Drs. Bruce Walcheck and Jeffery Miller, Dr. Dixon expanded her knowledge in leukocyte cell biology. “With the help of my mentors, I have begun to investigate the ability of CD64-expressing iPSC-derived NK (iNK) cells to kill tumor cells via antibody-dependent cell-mediated cytotoxicity (ADCC),” she explains. Dr. Dixon’s inspiration and commitment to science have derived from the hopes that her son can grow up in a world that is not impacted by losses from cancer.

Over the next decade, Dr. Dixon envisions owning an independent research lab as a principal investigator in an academic institution, where she can continue to bridge immunology and cancer treatments. “Being an LRF grantee will help me secure funding for future projects, network with fellow lymphoma researchers and help me achieve my goal of becoming an independent researcher and principal investigator with my academic lab.”

Dr. Dixon’s research project is part of LRF’s Health Equity Initiative, devoted to addressing barriers in access to care and research in lymphoma.
EDMOND FERIS, PHD
DARTMOUTH-HITCHCOCK NORRIS COTTON CANCER CENTER
Postdoctoral Fellowship Grant

Some of the most critical oncogenes responsible for tumor formation in humans are transcription factors. Dr. Feris’ LRF research project focuses on the study of how transcriptional dysregulation can lead to carcinogenesis (the process of normal cells transforming into cancer cells). Dr. Feris, together with his advisor Dr. Michael Cole, invented a method of identifying inhibitors that can block the oncogenic functions of the MYC (protein coding gene) transcription factor. They have recognized promising leads that can become a new type of cancer drug for patients with high MYC activity, which is characteristic of almost all lymphomas. “This LRF-funded project will help us in the characterization of these inhibitors for their development into potential new anti-cancer drugs,” Dr. Feris explains.

Dr. Feris is a Postdoctoral Fellow at Dartmouth-Hitchcock Norris Cotton Cancer Center in Lebanon, N.H. He received his PhD from Geisel School of Medicine at Dartmouth College, also located in Lebanon. Dr. Feris’ inspiration from an early age is his mentor and uncle, Dr. Edmond Yunis, who has dedicated his life to the study of immunogenetics. Through their work together, they published several scientific publications. “Even today, I continue to rely on his wisdom and unusual journey through many different areas of scientific research,” Dr. Feris says.

Dr. Feris hopes to be a project leader in the clinical development of these inhibitors as a potential new cancer drug. “Thanks to the fortunate and generous contribution and support of LRF, we will deepen the application of our invention and the characterization of our inhibitors in the context of lymphoma,” he explains. “The support from LRF has also allowed me to become more independent and seek my scientific discoveries.”

RUI GUO, MS, PHD
BRIGHAM AND WOMEN’S HOSPITAL, HARVARD MEDICAL SCHOOL
Postdoctoral Fellowship Grant

Epstein-Barr virus (EBV) was the first virus found to cause Burkitt lymphoma, a rare and aggressive form of non-Hodgkin lymphoma (NHL). The virus shuts down nearly all its genes in Burkitt tumors to avoid immune detection. Therefore, high-intensity chemotherapy is used to treat EBV-infected Burkitt lymphomas, resulting in side effects. In his LRF research project, Dr. Guo seeks to investigate how lymphocyte metabolism pathways are subverted to cloak EBV’s presence in Burkitt lymphomas and how interventions such as restricting the amino acid methionine can be used to reverse this silencing mechanism. He proposes that the studies highlight actionable metabolism pathways as potential therapeutic targets for EBV latency-reversal approaches.

Dr. Guo is a Postdoctoral Research Fellow at Brigham and Women’s Hospital, Harvard Medical School in Boston. He received his PhD from the College of Veterinary Medicine, Kansas State University in Manhattan, Kan. Dr. Guo’s passion for lymphoma research arose from his deeply motivated curiosity and the desire to alleviate human diseases through biomedical research. “I am fascinated by the molecular mechanisms by which viruses interact with host pathways, in particular metabolism and epigenetics, to cause tumors,” he shares.

In the next decade, Dr. Guo hopes to become an independent investigator at a major university. “I hope to make seminal contributions to the basic scientific understanding of viral tumorigenesis,” he explains. “My long-term scientific interest is to develop an integrated strategy combining CRISPR genome editing, transcriptomics, metabolomics and proteomics approaches to study virus host-pathogen interactions in EBV-driven lymphomas.”
Chimeric antigen receptor (CAR) T cell therapy is a type of immunotherapy that genetically modifies a patient’s immune cells to recognize and kill tumor cells. “CAR T cell therapy has shown promise in the treatment of B-cell lymphomas, which led to the approval by the U.S. Food and Drug Administration of CAR T cell products targeting a protein on the surface of lymphoma cells called CD19,” says Dr. Hirayama. “The lymphoma tumor microenvironment — the cellular environment in which the tumor exists — might be an important and yet remarkably understudied factor governing CAR T cell therapy efficacy.”

Dr. Hirayama’s LRF research project seeks to identify factors in the tumor microenvironment that impact CD19 CAR T cell therapy’s efficacy for large B-cell lymphoma. He strives to determine the minimum number of target CD19 molecules required on the surface of lymphoma cells for efficient killing by CAR T cells and explore the tumor microenvironment’s cellular composition and how interactions between immune, stromal and tumor cells affect response to CAR T cell therapy.

Dr. Hirayama is an Immunotherapy Physician Scholar at Fred Hutchinson Cancer Research Center in Seattle. He received his MD at the University of Brasilia and completed his residency and fellowship at the University of Sao Paulo School of Medicine in Brazil. He joined Dr. Cameron Turtle’s laboratory at Fred Hutchinson, where he conducts studies looking at long-term outcomes of CD19 CAR T cell therapy for B-cell malignancies, which resulted in two first-author papers.

Over the next decade, Dr. Hirayama hopes to become a principal investigator conducting CAR T cell clinical trials using data generated from his LRF research project. “I realized that research is one of the best ways to make meaningful contributions to a large portion of patients suffering from a given disease,” he says. “I thank my mentor, Dr. Cameron Turtle, who inspires me to adopt and commit myself to the highest standards in conducting science in pursuit of helping patients.”

Dr. Hirayama’s research project is part of LRF’s Health Equity Initiative devoted to addressing barriers in access to care and research in lymphoma.

Diffuse large B-cell lymphoma (DLBCL) is an aggressive form of non-Hodgkin lymphoma (NHL). The recent identification of DLBCL patient subgroups featuring distinct DNA mutation profiles has provided researchers with new opportunities to treat DLBCL using more targeted therapies. Dr. Isles’ interest lies in how the DNA mutations that occur in the “Cluster 1” or “BN2” DLBCL subgroup can make B-cells, the immune cells responsible for generating antibodies to help protect us from infection and re-infection, switch from healthy functional cells to dangerous cancer cells. Her LRF research project strives to understand how a protein frequently mutated in C1/BN2 patients functions normally and how its mutation causes B-cells to become malignant. She is also investigating how co-occurring mutations found in patients from the C1/BN2 subgroup cooperate to cause DLBCL. “From our study, we hope to identify therapeutic vulnerabilities that can be harnessed to treat C1/BN2 DLBCL patients,” Dr. Isles says.

Dr. Isles is a Postdoctoral Associate in Medicine in the lab of LRF Scientific Board Member (SAB) and grantee Ari Melnick, MD at Weill Cornell Medicine, where she is working to establish her research niche in the field of DLBCL and marginal zone lymphoma (MZL) biology. After receiving her PhD from the University of Sheffield, UK, she decided to pursue cancer research in the field of hematological malignancies. In search of a mentor, she found Dr. Ari Melnick, whose contributions have made a significant impact in hematological malignancies. “I aim to expand on the skills I have gained thus far in my career, being an asset to the Melnick lab, which is at the forefront of the field, keeping up to date with exciting new techniques, and using innovative ideas to drive advances in the field,” she says.

After completing her Postdoctoral Fellowship grant, Dr. Isles aspires to become an independent researcher. “Having the LRF fellowship grant will help me demonstrate that I can ask my own independent research questions and deliver on them within a deadline,” she says. “I find it extremely motivating to know that the work I carry out during my career will hopefully contribute towards better treatment options and increasing our understanding of the disease that impacts the lives of so many people.”
RICHA KAPOOR, PHD
PERELMAN SCHOOL OF MEDICINE, UNIVERSITY OF PENNSYLVANIA
Postdoctoral Fellowship Grant

T-cell lymphomas are aggressive cancer types that exhibit clinical and genetic heterogeneity, and current therapies do not incorporate personalized medicine opportunities. Research has shown that cutaneous T-cell lymphoma (CTCL) patients exhibit a high frequency of genetic alterations. Dr. Kapoor’s LRF research project aims to decipher the role of these high-frequency genetic alterations in the development of T-cell lymphomas and evaluate their therapeutic potential using animal models and clinical samples. “With the successful completion of this project, new therapeutic targets will be identified that can provide patients with personalized care,” she remarks.

Dr. Kapoor received her PhD from the National Institute of Immunology (NII) in New Delhi, India. She is a Postdoctoral Fellow at the Perelman School of Medicine, University of Pennsylvania in Philadelphia, where she studied intrinsic mechanisms of the central nervous system resulting from immune cells’ attack on the brain and spinal cord in multiple sclerosis (MS). This study helped her comprehend the pathophysiological mechanisms occurring during disease that led to the development of therapeutics to antagonize pathogenic immune responses. “Eventually, with great interest, I transitioned to carry out translational research in the field of T-cell lymphoma,” Dr. Kapoor says. “My obsession with understanding the underlying mechanism of how genetic mutations affect the biologic function of T-cells and make these cells cancerous drew me to this research field. Finding new effective therapeutic targets for people affected by lymphoma can increase their overall survival and patient care.”

Her long-term goal is to become an independent scientist and use animal models and patient samples to translate therapeutics through clinical trials. “LRF has given me the courage and enthusiasm to move forward with my goals,” says Dr. Kapoor. “This grant opportunity has provided me a platform to discover potential therapeutic targets and take them forward as therapies while I grow as a successful independent scientist.” Her personal experience of witnessing her grandmother’s journey with lymphoma drives her passion for this field of research. “I am driven by my ambition to find a potential cure for lymphoma and alleviate the pain and suffering of patients and their families going through the struggle,” she remarks.

Dr. Kapoor’s research project is part of LRF’s Health Equity Initiative, devoted to addressing barriers in access to care and research in lymphoma.

PHIL LANGE, PHD
UNC LINEBERGER COMPREHENSIVE CANCER CENTER
Postdoctoral Fellowship Grant, Bruce D. Cheson Fellow

Epstein-Barr virus (EBV) is a human pathogen known to promote numerous lymphomas and lymphoproliferative diseases. Many of these malignancies are highly aggressive and have not been found to benefit from current immunotherapeutic treatments. New therapeutic approaches are needed to improve outcomes for patients with these virus-driven malignancies. Dr. Lange’s LRF research project focuses on a pathway known as adenosinergic signaling, which is exploited by many cancers to evade the immune system. “I am working to understand the mechanisms by which EBV-driven lymphomas hijack this pathway and to identify strategies by which to use this pathway as a therapeutic target for the treatment of these cancers,” he explains.

Dr. Lange is a Postdoctoral Fellow at UNC Lineberger Comprehensive Cancer Center in Chapel Hill, N.C, where he is mentored by Dr. Blossom Damania. He received his PhD from the Medical College of Wisconsin in Milwaukee. His long-standing fascination with the association between viral infection and cancer has driven his passion for this field of research. “I am encouraged by the prospect of immunotherapeutic and adoptive cell transfer approaches for the treatment of lymphomas — particularly for those that are virus-associated, as these often express unique and targetable viral antigens,” he shares. “Furthermore, we are constantly learning more about how viruses such as EBV promote lymphomagenesis. Because of how EBV exploits cellular pathways to promote lymphomagenesis, these discoveries are often broadly applicable to the field of lymphoma research as a whole and will undoubtedly inform new approaches for treating lymphomas.”

In the next 10 years, Dr. Lange hopes to run his own lab as a tenure-track professor within an academic research institution. He is very grateful to be an LRF grantee. “This funding and recognition from LRF will further my career in numerous ways and facilitate meaningful discoveries that may improve the lives and outcomes of lymphoma patients,” he says.
Diffuse large B-cell lymphoma (DLBCL) is the most common type of non-Hodgkin lymphoma (NHL) and the most common hematologic malignancy in the United States. Dr. Mandato’s LRF research project will involve developing murine (mice) models carrying the predominant genetic alterations identified in patient-derived lymphoma samples. “The models are genetically engineered to carry a combination of the abnormalities that drive the development of a subset of DLBCLs in humans and will represent faithful models of the disease,” Dr. Mandato explains. The models will characterize the pre-malignant and malignant microenvironment and assess the immune system’s role in tumor response. “These models could also represent ideal tools for testing new targeted therapeutic strategies.” Moreover, Dr. Mandato and her team will examine the tumor microenvironment in a cohort of DLBCL patient samples with known genetic alterations using a panel that captures the markers expressed by different immune cell populations.

Dr. Mandato is a Postdoctoral Fellow at Dana-Farber Cancer Institute in Boston. She received her PhD from the Veneto Institute of Molecular Medicine (VIMM) in Padua, Italy. Her research builds on her interest in immune escape mechanisms and aberrant signaling pathways in B-cell lymphomas. “I am involved in analyses of genetic bases of immune evasion in lymphoid malignancies, including DLBCL and classical Hodgkin Lymphoma,” says Dr. Mandato. “The development of murine systems to model combinations of defined genetic alterations of human lymphomas can translate into approaches of benefit for patients with these diseases.” Her devotion to lymphoma research stems from losing a loved one to lymphoma as a teenager. “I thought if there would have been an effective treatment, she would still be alive, and I like to think that was the moment when the idea of lymphoma research developed in my mind,” she shares.

Earlier in her career, Dr. Mandato believed that she would come to the U.S., publish a paper and return to Italy; but the current pandemic opened her eyes to the fact that many things are out of our control. “It has been four years since I moved to the U.S., and I do not plan to go back anytime soon. I cannot think where I want to be in 10 years from now — that is out of my control,” says Dr. Mandato. “I can say that two years from now, I would like to publish impactful research and continue to make progress in my career,” she shares.

T-cell lymphomas represent a heterogeneous group of peripheral and cutaneous non-Hodgkin lymphomas (NHL) with a range of unmet clinical needs. Anaplastic large cell lymphoma (ALCL) is a CD30+ subtype of non-Hodgkin T-cell lymphoma in pediatric and adult patients. Patients who exhibit chromosomal translocations resulting in the anaplastic lymphoma kinase (ALK) oncogene’s chimeric fusion have been successfully treated with tyrosine kinase inhibitors such as crizotinib (Xalkori). ALK-negative ALCL is highly aggressive and remains very difficult to treat effectively due to the lack of targeted therapy options, resulting in high mortality and the urgent need for new treatment options.

Dr. Prutsch’s LRF research project will focus on the selectively essential ALCL genes, including a group of highly expressed transcription factors referred to as the core regulatory circuitry, to identify new targeted therapies that kill ALCL cells without known driver mutations. Her findings will analyze CRISPR-Cas9 screening results across the whole genome and establish which genes are selectively essential for cell growth and survival of ALCL relative to all other cell types. “Successful completion of these preclinical studies will validate a new strategy for...
treating ALK-negative ALCL patients and will also provide an exciting new framework for the treatment of other lymphomas and malignancies without tractable driver mutations,” she says.

Dr. Prutsch is a Postdoctoral Fellow at Dana-Farber Cancer Institute in Boston. She received her PhD from the Medical University of Vienna in Vienna, Austria. She is currently studying the molecular genetics of pediatric leukemia and lymphoma. “My scientific career has been shaped by my strong interests in the molecular biology of cancer and how this applies to translational research,” she remarks.

Dr. Prutsch hopes that her time as an LRF grantee will help her continue to develop her ability to research the areas of cancer biology, disease modeling and drug discovery. Her long-term career goal is to become an experienced researcher with a deep understanding of tumor-selective gene dependencies as potential therapeutic targets for treating lymphoma.

Dr. Prutsch’s research project is part of LRF’s Health Equity Initiative, devoted to addressing barriers in access to care and research in lymphoma.

40% of CDA and Postdoctoral Fellowship projects focus on rare T-cell lymphomas

To learn more about LRF’s 2021 research investment and research programs, visit lymphoma.org/research. LRF is accepting applications for its 2022 Early Career Grant programs starting June 2021 at lymphoma.org/grants.

Monday, May 24, 2021
Quaker Ridge Golf Club
Scarsdale, NY

Join the Lymphoma Research Foundation (LRF) for the 2021 Golf Invitational for a chance to play at Quaker Ridge Golf Club, one of the country’s top ranked courses and finest clubs. Golfers will enjoy lunch, course refreshments, a post-tournament cocktail reception, prizes for contest winners and more.

For more information about the event and our health and safety plans, visit lymphoma.org/golf

or contact Rebecca Rausch, Senior Manager of Distinguished Events at (917) 882-9036 or rrausch@lymphoma.org.
When did you become interested in lymphoma?
I first became interested in lymphoma as a medical student. My interest was solidified during my pediatric hematology/oncology training, in part because of my extraordinary mentor, Dr. Kara Kelly, who I was fortunate enough to work with every Wednesday in our outpatient Pediatric Oncology clinic.

As a postdoctoral fellow, I completed a population-based analysis of survival trends among pediatric and adolescent/young adult (AYA; 15-39 years) patients with acute lymphoblastic leukemia (ALL), acute myeloid leukemia (AML) and Hodgkin lymphoma (HL) using the Surveillance, Epidemiology and End Results (SEER) Program database. Using 40 years of data, we found that despite survival improvements, racial/ethnic disparities persist, and AYAs with HL continue to suffer poorer outcomes, particularly non-White patients. The questions raised by these findings (e.g. what was driving disparities?) brought the limitations of population data in adjusting for key disease and treatment variables to light, thus leading me to seek new datasets and to build novel cohorts to help us answer some questions about the drivers of these disparities.

When did you receive funding from LRF and what research project were you working on?
In 2017, I was selected to participate in the Lymphoma Research Foundation Lymphoma Scientific Research Mentoring Program (LSRMP), which was truly an incredible opportunity — and one that I’m certain set me on the path I’m on today.

As an LSRMP Scholar, I had the opportunity to work under the mentorship of the incredible Drs. Brian Link, Matt Maurer and Andy Evens for a week during our workshop (I still seek their mentorship today). Alongside my peers (and now lifelong friends), I worked that week to refine my proposal, which was to examine survival outcomes by race and ethnicity in children and adolescents enrolled on Children’s Oncology Group (COG) trials for treatment of Hodgkin lymphoma. The adjustments we made during that week together helped me develop a project that I ultimately published in the Journal of Clinical Oncology. Our analyses revealed that while relapse rates and event-free survival during up-front protocol-directed therapy did not differ by race/ethnicity, after relapse, non-White patients had up to a threefold increased risk of death. These findings indicate that other (yet unidentified) factors (including post-relapse trial enrollment, access to novel therapies and stem cell transplantation) are likely contributing to observed disparities in pediatric and AYA lymphoma outcomes.

What made you interested in focusing on racial and ethnic disparities in your research?
My commitment to improving healthcare equity and reducing disparities in pediatric and AYA patients with cancer is long-standing and is largely informed by my clinical experiences caring for minority and underserved populations in East Harlem and Washington Heights, New York. My project with the SEER database revealed eye-opening disparities in non-White and AYA patients with Hodgkin lymphoma. HL offers an excellent paradigm to study these disparities because successful approaches are well-established in both the up-front and relapsed treatment settings. It made me think, we understand how to treat this disease, why are certain populations still dying? This is the knowledge gap that informs my research agenda.
What do you think is important for the lymphoma community to understand about survival disparities in lymphoma?

I think that it is important to remember that despite extraordinary advances in basic discovery, translational research and clinical cancer care in recent decades, racial/ethnic minorities and AYA aged patients have not benefited to the same extent as other groups. This is largely because the scientific, structural and community norms that shape research and care in the U.S. largely promote research that disproportionately recruits White patients.

What is being done to help improve health equity and reduce disparities among lymphoma patients?

Whether at the patient, provider, health system or scientific level, a common theme is that cancer clinical trials are largely viewed as being outside the norm. Disparities in clinical trial enrollment have been identified as a high-priority area by both the Institute of Medicine and the National Cancer Institute (NCI), however systemic under-enrollment of racial/ethnic minority and socially disadvantaged patients in the U.S. represents an unresolved challenge in medicine. New efforts to expand access to clinical trials are finally coming to the forefront of our field — I think that this paradigm shift is going to have an extraordinary impact on outcomes in these vulnerable populations.

Why was the funding you received from LRF vital to advancing your career in studying and treating lymphoma?

In 2018, I was awarded the LRF’s AYA Lymphomas Correlative Studies Grant to examine Hodgkin lymphoma outcomes in a clinical trials population and in a registry-based population. With the support of this grant, my collaborators and I conducted the largest analysis of Hodgkin lymphoma outcomes by age in the Children’s Oncology Group to date. Our analyses identified that while the NCI defines “AYA” as 15-39 years, age 12 years may be a threshold that is important for our Hodgkin lymphoma populations. Specifically, we found that patients who were 12 years and older on the COG trials had significantly higher risk of relapse. Further, we found that the effect of age on survival differed between those with mixed cellularity histology and those with nodular sclerosis histology. These findings suggest that there is some biologic difference across the age spectrum in Hodgkin lymphoma that we have yet to understand — and importantly, it opens up a new avenue for investigation in AYA lymphoma. The manuscript summarizing this work is currently under review, and I look forward to sharing it with LRF once published!

These findings were also used in real time to inform a really big change in our clinical trials. Specifically, the observation that age 12 years old was a significant threshold impacting event-free survival provided the justification for lowering the eligible age limit down to 12 years for patients enrolling on the current phase 3 intergroup trial S1826 (led by SWOG Cancer Research Network).

Why did you choose to focus your clinical and investigative work on AYA and pediatric populations?

Clinically, I have always been interested in working with AYAs — the added fact that many lymphomas are considered “AYA” diseases — especially Hodgkin lymphoma — really sealed this age group in as my population of interest. In terms of research, I am focused on AYAs because they, like minority patients, continue to lag behind on the survival curves. In some cases, the underlying mechanisms may be similar — i.e., AYAs are the least likely age group to have health insurance, and minority populations often have public or no health insurance — so for both populations, barriers impacting access to care may be important. In other cases, the mechanisms driving age-related survival differences may be very different from those driving race-related differences. A great example of this is our work in the COG — we found that when treated within clinical trials with protocol-directed therapy and supportive care, racial disparities in Hodgkin lymphoma were erased. In contrast, within the same cohort, survival differences by age persisted and may be even more pronounced than the differences we see in population-based settings. We have our work cut out for us!

What research are you currently working on that you’d like to share?

My long-term goal is to identify individual, neighborhood and health-system factors that lead to disparities in pediatric and AYA lymphoma care and outcomes so that multilevel strategies can be developed to improve the survival of high-risk populations.
Study reveals inequities in accessing telemedicine among older patients, women and racial/ethnic groups during the COVID-19 pandemic.

The COVID-19 pandemic has uprooted conventional healthcare delivery, requiring the healthcare community to more widely adopt telemedicine (also known as telehealth). The Centers for Medicare and Medicaid Services (CMS) and private insurers have expanded reimbursement for telemedicine; however, full reimbursement was initially restricted to only visits using video and not those using only telephone.
The use of technology for outpatient care raises important questions regarding equity and access — as it has been studied and proven that lower rates of technology adoption and internet access are present among older adults, racial and ethnic minority groups, and those of lower socioeconomic status. To further investigate inequalities in telemedicine, researchers at the University of Pennsylvania Health System conducted a retrospective cohort study reviewing their records of patients scheduled for telemedicine visits between March 16 and May 11, 2020.

The study period began after a local shelter-in-place order and ended before the significant reopening of the health system's clinics and in-person visits. The researchers compared demographic characteristics of patients who completed a telemedicine visit (either by telephone or video) to patients who were scheduled for, but did not complete, a telemedicine visit and compared patients who completed a telemedicine visit with a video to those who completed with a telephone.

The Results: Inequities Are Present in Telemedicine Delivery
A total of 148,402 patients were scheduled during the study period and met the inclusion criteria. Of those, 80,780 (54.4 percent) completed a telemedicine visit. Of the 78,539 patients with completed visits where the type of visit was specified, 45.6 percent had video visits, and 54.4 percent had telephone visits. Patients with completed visits were more likely to be younger English-speaking females with commercial insurance and were less likely to be Asian. Patients who completed their visits with video were more likely to be younger and white with a higher median household income.

Inequities in the type of telemedicine visit were present as well, particularly with video. Compared with patients younger than 55, older patients were less likely to receive care via video. Compared to White patients, Black and Latinx patients used video less, as did women and those with a household median income of less than $50,000.

Understanding the Barriers
The COVID-19 pandemic has disproportionately impacted communities of color and marginalized populations, revealing significant inequities in the United States healthcare system. According to the study’s researchers, their findings demonstrate those significant inequities are also present among patients in accessing necessary telemedicine care.

Older patients were associated with both lower telemedicine use and lower video use. The researchers assert that the study results are consistent with the evidence that older age is associated with lower internet availability, lower use of digital health technology and slower rates of technology adoption. Also, comorbid medical conditions and visual, hearing and motor skills issues make telemedicine challenging for older adults. The researchers suggest designing telemedicine platforms that address audio, visual, and motor impairment, broadband coverage and privacy concerns.

The COVID-19 pandemic has disproportionately impacted communities of color and marginalized populations, revealing significant inequities in the United States healthcare system.

In the study, non-English language as the patient’s preferred language was associated with 16 percent lower telemedicine use, suggesting that language barriers to care may be an issue. To lessen the disparity, the University of Pennsylvania Health System is implementing a more formalized communication method in the patient’s native language and a seamless end-to-end (from check-in to visit follow-up) integration of translation services into the telemedicine visit technology and setup instructions.

Video use for telemedicine visits was significantly lower among Black and Latinx patients and patients with a median household income below $50,000. According to the researchers, these findings are likely reflective of decreased accessibility to the internet, connected devices and video-capable technology. Also, lower-income patients and patients from minority groups are less likely to own a computer or have reliable cell phone data and internet at home. It is also found that the financial strain the COVID-19 pandemic has placed on these communities has exacerbated these disparities. The researchers assert that intentional implementation to ensure that all patients are equipped to participate in telemedicine care is critical. In addition to Black and Latinx patients, the study revealed a racial disparity among the overall use of telemedicine among Asian patients. The researchers note that barriers to accessing care, poorer patient-doctor relationships and increased racism against Asian Americans during the COVID-19 pandemic may be associated with lower telemedicine use, but more investigation is needed.
Lower-income patients and patients from minority groups are less likely to own a computer or have reliable cell phone data and internet at home.

Although women were associated with increased telemedicine use overall in primary care, they were associated less with specialty care and less with video use overall. The researchers assess that because schools have closed during the COVID-19 pandemic, women have become disproportionately responsible for childcare duties, limiting their time to engage in specialty telemedicine care. In addition, women experienced higher unemployment during the pandemic. The researchers believe that although they (women) may be more available for routine primary care visits during the pandemic, financial strains may create barriers to specialty care, given the additional associated copayments.

With telemedicine trending to be a mainstay in how healthcare professionals treat patients, the researchers suggest healthcare systems must intentionally design their telemedicine platforms to mitigate inequity and prioritize the needs of those who have been historically marginalized.

The original article, “Patient Characteristics Associated with Telemedicine Access for Primary and Specialty Ambulatory Care During the COVID-19 Pandemic” was published in JAMA Network Open on December 29, 2020.

CURRENT UPDATES ON COVID-19

The health and safety of the lymphoma community is LRF’s top priority. Visit the COVID-19 Learning Center at lymphoma.org/covid19 for ongoing updates on the virus, vaccines and LRF events and educational programs.

Need to know how COVID-19 is impacting the lymphoma community? Download our free fact sheets and watch COVID-19-specific webinars at lymphoma.org/covid19 to stay informed.

Have questions about the COVID-19 vaccines? Read our COVID-19 FAQs and updates at lymphoma.org/covid19 or contact the LRF Helpline at 800-500-9976 or helpline@lymphoma.org.

Feeling anxious? It’s normal. The LRF Helpline remains a resource for support and to answer questions you may have. Contact the LRF Helpline at 800-500-9976 or helpline@lymphoma.org.
COVID-19 UPDATES & RESOURCES

The Lymphoma Research Foundation (LRF) COVID-19 programming and resources provide members of the lymphoma community with the latest information on COVID-19, financial assistance and resources for emotional support.

COVID-19 WEBINAR SERIES

LRF’s free webinars are hour-long interactive programs led by leading lymphoma experts. Watch/listen to the following archive programs:

• COVID-19: What the Lymphoma Community Needs to Know
• COVID-19: Managing Concerns for Lymphoma Patients
• COVID-19: Addressing Telemedicine Now and in the Future
• Updates on COVID-19 from the 2020 American Society of Hematology Meeting

COVID-19 FACT SHEETS

LRF’s free fact sheets covering the topics below are available for download at lymphoma.org/publications:

• Understanding COVID-19
• Understanding the Immune System and Lymphoma
• How to Prepare for and Cope with a Pandemic or Crisis Situation
• Resources for COVID-19 Financial Assistance and Emotional Support

FINANCIAL ASSISTANCE

LRF’s Patient Aid Program provides limited financial assistance for people with lymphoma/CLL in active treatment to help with costs including food, transportation, lodging or housing, utilities, child care and/or devices (e.g., canes, wheelchairs, ramps).

Access these resources, articles, FAQs and more in LRF’s COVID-19 Learning Center at lymphoma.org/covid19.

CONTACT THE LRF HELPLINE

800 500 9976 | helpline@lymphoma.org
Chike Springer was many things — a husband, son, brother, uncle and patriot — but one thing he was known for most was his infectious positivity and determination. “Chike was hilarious — he did great impressions and made jokes about everything, a lot of times about me or his mom,” his wife Lyndsay Springer recalls. “He was also very introspective and critical, but fair. He was the guy everyone wanted on their team because he made you better.”

He carried that positivity and determination with him in April 2019 after a series of tests, and a biopsy revealed he had T-cell histiocyte rich large B-cell lymphoma (THRLBCL), a rare and aggressive subtype of diffuse large B-cell lymphoma (DLBCL) with malignant B-cells and reactive T-lymphocytes. B-cells are lymphocytes that make antibodies to fight infections and are a vital part of the lymphatic system. T-cells stimulate B-cells to produce antibodies and kill cells that a foreign invader has already infected.

The most widely used treatment for DLBCL presently is the combination known as R-CHOP (rituximab [Rituxan], cyclophosphamide [Cytoxan], doxorubicin [Adriamycin], vincristine [Oncovin], and prednisone). The R-CHOP regimen is usually given in 21-day cycles (once every 21 days) for an average of six cycles. However, the length and number of cycles given can vary based on the patient’s disease and health status. In some instances, a patient is treated in 14-day cycles, and for limited-stage disease (Stage I or II), 3-4 cycles may be used, followed by radiation therapy.
Immediately, Chike began an alternate treatment for aggressive DLBCL called dose-adjusted EPOCH-R, which is a chemotherapy combination of etoposide phosphate, prednisone, vincristine [Oncovin], cyclophosphamide, doxorubicin hydrochloride [hydroxydaunorubicin], and rituximab [Rituxan]. Typically during each treatment cycle, doses of some of the drugs may be increased or decreased to allow the patient the dose that works the best with the fewest side effects (dose-adjusted). By August of the same year, he showed a great response; however, his 8-week post-treatment PET scan showed continued signs of the disease. Furthermore, his lymph node biopsy showed the markers needed for more targeted therapy were no longer present in the cancer cells, precluding him from most of the novel therapies and clinical trials that were available at that time. Although chemotherapy was his only option, Chike remained positive and determined to continue. “He always believed he would make it through and always stayed positive,” says Lyndsay. “He looked for every opportunity to help any other cancer patients in the infusion room who he noticed were having a hard time by talking to them with his huge smile and offering whatever he could.”

During Chike’s treatment, he and Lyndsay became hyper-focused on learning about lymphoma, its treatment and research. Given the rarity of Chike’s lymphoma, they immersed themselves in learning about the molecular differences in lymphoma and how advances in precision medicine can impact treatment for patients like him. They began to entertain the idea of forming a charitable foundation that supports innovative research and mentors middle and high schoolers who are interested in cancer research or biomedical science. “We didn’t want to compete with great organizations doing fantastic things for patients, the families and the science,” says Lyndsay. “We wanted to be a support for organizations and help fill the gaps in care and research.”

Unfortunately, Chike’s health continued to decline, and he was admitted to the emergency room. The doctors did everything they could, but his body had been through too much. “Chike was the strongest person I have ever known. He did everything right and was always confident and positive,” says Lyndsay. “I know now that cancer has nothing to do with who you are or how hard you try to beat it. Cancer can happen to anyone, and only together we will overcome and beat it.” Lyndsay thought about when she and Chike were planning to form a foundation and decided to turn the plan into action and reached out to his family and friends for support. “It broke my heart to think that he would never get the chance to do this, but together, we will try to do that for him in his honor.”

With Lyndsay as President, Chike’s brother Adwin as Vice President and Treasurer, and a host of other family and friends, the Chike Springer Foundation was born. The foundation’s mission is to enable better treatment options and promote diversity in cancer research, and it focuses on two issues close to Lyndsay, Chike and their family: addressing the need for diversity and mentorship in cancer research and biomedical professionals and funding innovative research with the most significant impact.

As Lyndsay began searching for a nonprofit that aligned with her foundation’s vision and mission, she came across an article in the ASCO Post written by LRF Scientific Advisory Board (SAB) member Bruce Cheson, MD, FACP, FAAS, FAAAS, on progress made in the treatment of DLBCL. She decided to contact him. “I decided to take a chance and reached out to Dr. Cheson on LinkedIn — I was so surprised he responded!” she says. “I shared with him my background and mission of the foundation, and he began talking about the Lymphoma Research Foundation.” She was impressed by the Lymphoma Research Foundation’s (LRF) results-driven and comprehensive approach addressing key gaps in lymphoma research and patient care. “The more I spoke with staff at the Foundation, the more I got to witness their passion for finding cures for lymphoma,” she says.

This year, the Chike Springer Foundation partnered with LRF to sponsor Luis Malpica Castillo, MD, an LRF Scholar (aka Chike Springer Legacy Scholar) in the 2021 Lymphoma Scientific Research Mentoring Program (LSRMP). The LSRMP is a first-of-its-kind two-year program that provides hematology and oncology fellows and junior faculty a unique experience to learn how to build a successful lymphoma research career. Program participants, known as LRF Scholars, attend a week-long intensive workshop to learn and network with members of LRF’s SAB and gain the skills needed to design and administer research studies, apply for future grant funding and establish themselves as independent researchers. Dr. Castillo’s LRF research project will evaluate the clinical, epidemiologic, host genetics and treatment factors that may influence patients’ outcomes in Latin America.

For Lyndsay, she is hopeful about the impact Chike Springer Foundation can make in Chike’s honor. “We’ve done so much already within the first year, and that success is due to everyone who has been inspired by Chike’s story and supported us. We are extremely grateful for the incredible work of LRF and the support they have shown us,” she says. “I’m excited to see where we go and the impact we can make in the years to come. Together we overcome.”
The Lymphoma Research Foundation's volunteer Scientific Advisory Board, comprising of 45 world-renowned lymphoma experts, guides the Foundation's research activities, seeking out the most innovative and promising lymphoma research projects for support.

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The Lymphoma Research Foundation's volunteer Scientific Advisory Board, comprising of 45 world-renowned lymphoma experts, guides the Foundation's research activities, seeking out the most innovative and promising lymphoma research projects for support.
UPCOMING EVENTS

Ask the Doctor — Virtual .............................................................. 5.18
Update on COVID-19 and Telehealth for Lymphoma Patients Webinar — Virtual ............................. 5.19
Ask the Doctor — Virtual .............................................................. 5.24
LRF Golf Invitational ................................................................. 5.24
Swirl Series Campaign .............................................................. thru 5.28
Caregivers and CAR T Cell Therapy Webinar — Virtual .............................................................. 5.26
Walk On! America Celebration — Virtual ............................................... 6.4
Neighborhood Walks ................................................................ 6.5-6
National Cancer Survivors Day ..................................................... 6.6
Ask the Doctor — Virtual .............................................................. 6.9

Want to receive information about Lymphoma Research Foundation events happening in your area? Visit lymphoma.org/emails signup to select your email preferences and stay up to date with the latest from the Foundation.
Do You Have a Donor Advised Fund (DAF)?

Support the Lymphoma Research Foundation (LRF) through the #HalfMyDAF challenge and make your charitable dollars count.

Commit to granting half your donor advised fund to LRF.

Make your pledge before Sept. 30 to help nominate LRF for a matching grant of up to $100,000.

Support LRF’s mission to eradicate lymphoma and serve those touched by this disease.

Learn more about the #HalfMyDAF challenge and how to make your commitment at halfmydaf.com.