NIH NATIONAL CANCER INSTITUTE

Fall | 2023

Li-Fraumeni Syndrome (LFS) Study *Newsletter*

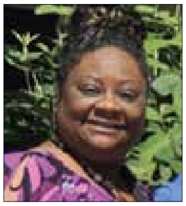
Division of Cancer Epidemiology and Genetics · Clinical Genetics Branch

LI-FRAUMENI (LFS) STUDY TEAM UPDATES

Retirement

Stephanie Steinbart, R.N., M.P.H., is a registered nurse who has had an incredibly successful career with 30 years of combined experience in cancer genetics, public health, program management, patient care, and teaching. Ms. Steinbart served as the study referral nurse for the Clinical Genetics Branch (CGB) of the Division of Cancer Epidemiology and Genetics (DCEG) at the National Cancer Institute (NCI) for more than 20 years. She retired in January 2023

Departure



Nicole Dupree-Battle, B.B.A., M.P.H., was a research assistant on the LFS study since it first opened in 2011, and many study participants may have interacted with her. Ms. Dupree recently moved to a different role at Westat and will unfortunately no longer be working with the LFS study.

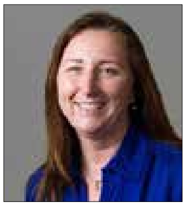
Study Recruitment

As of September 1, 2023, the LFS study has enrolled **886 participants from 229 families** since the study opened in 2011. We owe this to the time and effort given by all our participants to be part of the LFS study - we thank you all!

STUDY TEAM MEMBERS

Principal Investigator

Payal Khincha, M.B.B.S., M.S.H.S., a pediatric hematologist/oncologist, is the principal investigator of the LFS study.



Lead Medical Advisor

Sharon Savage, M.D., is the lead medical advisor for the LFS study and focuses on the molecular and genetic aspects of LFS.

IN THIS ISSUE

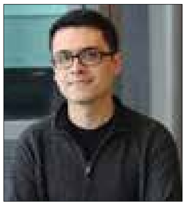
Clinical Team

Margarita Aryavand, CAPT., U.S.P.H.S., M.S.N., C.R.N.P., is a board-certified nurse practitioner and a Commissioned Officer and Captain in the U.S. Public Health Service.

Megan Frone, M.S., C.G.C., is the lead board-certified genetic counselor.

Jessica Hatton, M.S., C.G.C., is a board-certified genetic counselor.

Fellows

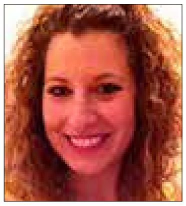


Kelvin de Andrade, M.Sc., Ph.D., is a research fellow in CGB. He is involved in a series of genetic, clinical, and epidemiological studies and is currently evaluating the population prevalence of germline *TP53* variants.

Karin Brockman, M.D., is a pediatric hematology/oncology clinical fellow at Walter Reed National Medical Center. She is working with the LFS study team on evaluating the bodily distribution of sarcoma diagnoses in LFS.

Jossy Koshy, M.P.H., is a postbaccalaureate fellow working with the LFS team on data management.

Study Managers



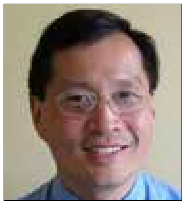
Renee Bremer, M.S., is an epidemiology program manager in CGB. She leads the development of a new online study enrollment/management system.

Cecilia Higgs, M.H.S., is a program manager in CGB. She leads regulatory matters, and submissions to the Institutional Review Board.

Soundarya Avantsa, M.P.H., is a scientific program analyst in CGB. She provides scientific support and is involved in streamlining data collection and management.

Psychosocial and Behavioral Science Research Team

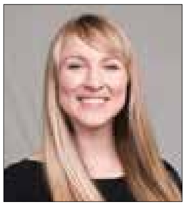
Allison Werner-Lin, Ph.D., L.C.S.W., is a senior advisor to CGB where she works on research related to psychosocial and behavioral aspects of LFS.



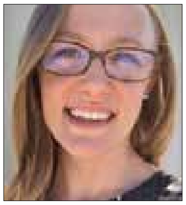
Paul Han, M.D., M.A., M.P.H., is a senior scientist with the Division of Cancer Control and Populations Sciences at the NCI, and an adjunct investigator with CGB. He works on different aspects of psychosocial and behavioral research in LFS.

Camella Rising, Ph.D., M.S., R.D.N., is a research fellow in CGB investigating health behaviors, communication behaviors, and psychosocial needs of families living with LFS.

Rowan Forbes-Shepherd, Ph.D., is a postdoctoral fellow in CGB who is studying aspects of mental health, as well as screening-related distress among individuals with LFS.

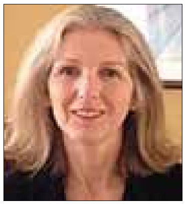


Chloe Huelsnitz, M.P.H., Ph.D., is a postdoctoral Cancer Prevention Fellow at the NCI conducting research on how social relationships impact the experiences of individuals with LFS.

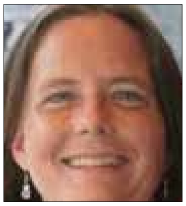


Ashley S. Thompson, M.S., C.G.C., is a special volunteer in CGB and certified genetic counselor who aims to understand specific challenges faced by individuals with *de novo* LFS.

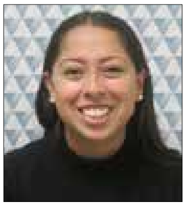
Westat Study Support



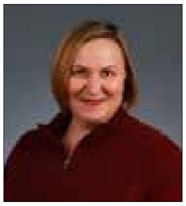
Kathryn Nichols, R.N., B.S.N., is the lead research nurse.



Deborah Flamish, M.A., is a research assistant.



Hodalis Gaytan, B.S., is a research assistant.



Katharine Beebe, M.P.H., is a data manager.

Please visit the NCI LFS study website (www.lfs.cancer.gov) to learn more.

Please visit this website to learn more about the Psychosocial and Behavioral Research team. https://dceg.cancer.gov/research/what-we-study/psychosocial-effects

RESEARCH UPDATES AND UPCOMING STUDIES

Clinical trial of Metformin in LFS

Metformin is a medicine that is usually used to treat diabetes. It has been shown to increase the time to cancer development in mice with LFS. Along with investigators in the NCI's Center for Cancer Research, Dr. Khincha is developing a clinical trial to study the effects of metformin as a form of cancer prevention in adults with LFS. We anticipate that this study will open in early 2024 and we will send more information once we have an official launch date.

Assessing Barriers to Recommended LFS Screening

Access to whole body MRI and other recommended cancer screening for LFS (listed on page 6) is unfortunately difficult for many. Using responses from last year's follow-up surveys, we are investigating the most common barriers to obtaining screening with the hope of determining potential strategies to mitigate these barriers. Thank you to everyone who responded to the survey!

Study on Screening-Related Distress, also called "Scanxiety"

Many cancer survivors report that attending regular cancer scans before, during and after treatment can be stressful. We have completed data collection for a study to advance our knowledge on participants' experiences of undergoing regular cancer screening for LFS. Analysis is underway and our results will be instrumental in developing future interventions to help manage screening-related distress.

DCEG hosts the 6th International Li-Fraumeni Syndrome Association Symposium

DCEG hosted the 2022 LFSA Symposium held on October 13-15th, 2022 in Bethesda, Maryland under the supervision of Dr. Khincha and the LFS study team. The symposium was conducted in a hybrid environment, with well over 200 in-person attendees and over 200 virtual, from countries all over the world.

Several members of the LFS study team presented their work at this symposium:

- *TP53*-specific modifications on the ACMG/AMP variant curation guidelines improve analysis of germline *TP53 variants*
  Frone, M.
- The *TP53* Database: Transition from the International Agency for Research on Cancer to the US National Cancer Institute
  de Andrade, KC.
- The prevalence of autoimmune disorders in individuals with and without Li-Fraumeni syndrome
  Obregon, I.
- Cancer screening at the NCI: Present and Future
  Khincha, PP
- Imaging Strategies in Surveillance and Follow-up of Patients with Li-Fraumeni Syndrome
  Malayeri, A.
- How do young people with Li-Fraumeni Syndrome understand and experience cancer survivorship? "It's just an intermission"
  Werner-Lin, A.
- Coping with complex health care needs: Addressing barriers for adolescents and young adults with Li-Fraumeni Syndrome
  Wilsnack, C.
- Family communication experiences and challenges of adolescents and young adults with LFS: Implications for psychosocial care and future research
  Rising, C.
- Mental health outcomes for adolescents and young adults with Li-Fraumeni syndrome
  Forbes-Shepherd, R.

Front row from left: Joseph F. Fraumeni, Jr., Payal Khincha;
Middle: Mone't Thompson, Megan Frone, Allison Werner-Lin, Renee Bremer;
Back row: Ashley Thompson, Jessica Hatton, Camella Rising, Rowan Forbes-Shepherd

17th International Meeting on Psychosocial Aspects of Hereditary Cancers (IMPAHC)

In May 2023, the NCI hosted the global Annual IMPAHC conference to exchange research and ideas on how best to support individuals, families, and communities living with heritable cancer syndromes. Dr. Allison Werner-Lin, and Dr. Jada Hamilton, from the Department of Psychiatry and Behavioral Sciences at Memorial Sloan Kettering Cancer Center, co-organized the meeting with NCI.

Several NCI LFS study team members presented their research:

- Body image, health behaviors, and health-related quality of life in young people with inherited multi-organ cancer risk: A call for mindful self-compassion-focused interventions
  Rising, C. and Coffaro, A.

- A focus on the mental health of young people with inherited cancer syndromes: A mixed-method study of Li-Fraumeni syndrome
  Forbes-Shepherd, R.

- Understanding scanxiety among individuals with Li-Fraumeni syndrome undergoing periodic cancer screening: A qualitative study
  Forbes-Shepherd, R.

- "I told them that they had to get tested, and they did": Sibling social influences on LFS testing, screening, and decision-making
  Huelsnitz, C.

Left to right: Jennifer Young, Rowan Forbes-Shepherd, Allison Werner-Lin, Camella Rising, Ashley Thompson, Chloe Huelsnitz, Catherine Wilsnack, Emily Pearce, Sharon Savage.

RECENT PUBLICATIONS FROM THE STUDY TEAM

Hatton JN, de Andrade KC, Frone MN, Savage SA, Khincha PP. **Spectrum and excess risk of gastrointestinal tumors in Li-Fraumeni syndrome.** *Clin Gastroenterol Hepatol*. 2023.

Obregón IH, de Andrade KC, Bremer RC, Khincha PP, Savage SA. **Pilot study of the prevalence of autoimmune disorders in Li-Fraumeni syndrome.** *Fam Cancer*. 2023.

Werner-Lin A, Forbes-Shepherd R, Rising CJ, et al. **How do young people with a hereditary cancer predisposition syndrome understand and experience cancer survivorship?** "With Li-Fraumeni syndrome, it's just an intermission." *Psychooncology*. 2023.

Rising CJ, Wilsnack C, Boyd P, et al. **Family communication challenges of adolescents and young adults with Li-Fraumeni syndrome: Implications for psychosocial care.** *Patient Educ Couns*. 2022.

Werner-Lin A, Forbes-Shepherd R, Young JL, et al. **Embodied risk for families with Li-Fraumeni syndrome: Like electricity through my body.** *Soc Sci Med*. 2022.

Wilsnack C, Young J, Merrill S, et al. **Reproductive Beliefs Among Families with Li-Fraumeni Syndrome: Generations of Cancer Risk.** *Journal of the Society for Social Work and Research*. 2022.

THANK YOU FOR PARTICIPATING IN OUR LFS STUDY! THE STRENGTH OF OUR STUDY IS IN OUR PARTICIPANTS.

SCAN THIS QR CODE TO VISIT THE LI-FRAUMENI SYNDROME STUDY WEBSITE!

RESOURCES

The Genetic Counselors from our study worked with several others from the Li Fraumeni Syndrome Association (LFSA) Genetic Counseling Advisory Board to create various resources to help individuals with LFS navigate different aspects of LFS care.

Check out the following on the LFSA website under Resources.

- Insurance Basics for Individuals with Li Fraumeni syndrome: https://www.lfsassociation.org/insurance-basics-for-individuals-with-li-fraumeni-syndrome-lfs/
- Quick Reference Resource for Mental Health Providers: https://www.lfsassociation.org/wp-content/uploads/2021/05/Quick-Reference-Resource-for-Mental-Health-Providers.pdf
- LFS Fact Sheet for Medical Providers: https://www.lfsassociation.org/wp-content/uploads/2021/09/LFS-Fact-Sheet-for-Medical-Providers.pdf

The National Comprehensive Cancer Network publishes consensus-based screening guidelines for individuals with LFS. Here are the updated guidelines:

Breast Cancer Screening (Women)

- Breast awareness starting at age 18 years
- Clinical breast exam, every 6-12 months, starting at age 20 years
- Age 20-29 years, annual breast MRI with and without contrast
- Age 30-75 years, annual breast MRI with and without contrast and mammogram
- Age >75 years, management should be considered on an individual basis
- Consider a risk-reducing mastectomy

Other Cancer Screening (Men and Women)

- Comprehensive physical exam every 6-12 months, all ages
- Annual whole-body MRI, all ages
- Annual brain MRI as part of whole-body MRI or as a separate exam, all ages
- Abdominal ultrasound every 3-4 months in children
- Annual dermatologic examination starting at age 18 or earlier, if needed
- Colonoscopy and upper endoscopy every 2-5 years starting at age 25, or 5 years before the earliest known colon or gastric cancer in the family, respectively.
  - For those who received whole-body or abdominal therapeutic radiation therapy, colonoscopy screening is recommended 5 years after treatment of disease
- Consider pancreatic cancer screening at age 50 if there is a first or second degree relative with an exocrine pancreatic cancer on the same side of the family as the TP53 variant

Prostate Cancer screening (Men)

- Screening with prostate-specific antigen (PSA) starting age 40 years