Impact Report

2024

4 Years of Milestones and Successes

CACNA1A FOUNDATION

About Us

A family-led, volunteer-driven, 501(c)(3) public charity (EIN 84-4985747)

MISSION

To find specific **treatment options and a cure for CACNA1A patients** by building a collaborative network of patients, families, clinicians, and scientists that will work together to raise awareness and accelerate the understanding, diagnosis and treatment of *CACNA1A*-related disorders.

VISION

A world free of the debilitating effects of *CACNA1A*-related disorders.

VALUES

Our actions are guided by the following principles:

Collaboration

We believe that partnerships between families, clinicians, and scientists are the keys to raising awareness of *CACNA1A*-related disorders and finding a cure for those it affects.

Purpose Driven

We understand the urgency to discover treatment options and the need to fund innovative research that reflects the diversity of the *CACNA1A* population.

Integrity

We realize the importance of transparency and accountability of our organization and the researchers that we fund.

Stewardship

We are committed to keeping operating expenses to a minimum to ensure that every donation brings us one step closer to a cure.

Leading the Charge

Lisa Manaster
Co-Founder
and President

Sunitha Malepati
Vice President
and Treasurer

We're thrilled to share the CACNA1A Foundation's 2024 Year-End Impact Report!

This year is especially meaningful as we reflect on four years of progress since our founding in 2020. With 2025 marking our 5th anniversary, we are more committed than ever to driving research forward and supporting our incredible community. Together, we've achieved so much, and we're excited to share our journey with you.

Founded by parents, the **CACNA1A Foundation**, is the first and only research-focused organization for *CACNA1A*-related disorders. Over the past four years, we've made significant strides in CACNA1A research. From launching natural history studies and developing cell lines and animal models to collaborating with leading scientists, we're laying the groundwork for breakthroughs that will transform lives. These efforts, driven by your support, are accelerating progress and bringing hope to families worldwide.

As genetic testing becomes more accessible and our community continues to grow, the urgency of making our vision a reality - a world free from the debilitating effects of CACNA1A variants - has never been greater. Yet, we know there's still much to do.

Looking ahead, we remain focused on advancing research, raising awareness, and improving the lives of families affected by *CACNA1A*-related disorders. Our goals include earlier diagnosis, effective treatments, and, ultimately, a cure for this rare, complex neurological disorder.

None of our work would be possible without the dedication of our board of directors, scientific advisory board, research partners, staff, volunteers and, most importantly, you – our supporters. Every step forward is a testament to your commitment and belief in our mission.

Thank you for being an integral part of this journey. Let's keep making a difference together!

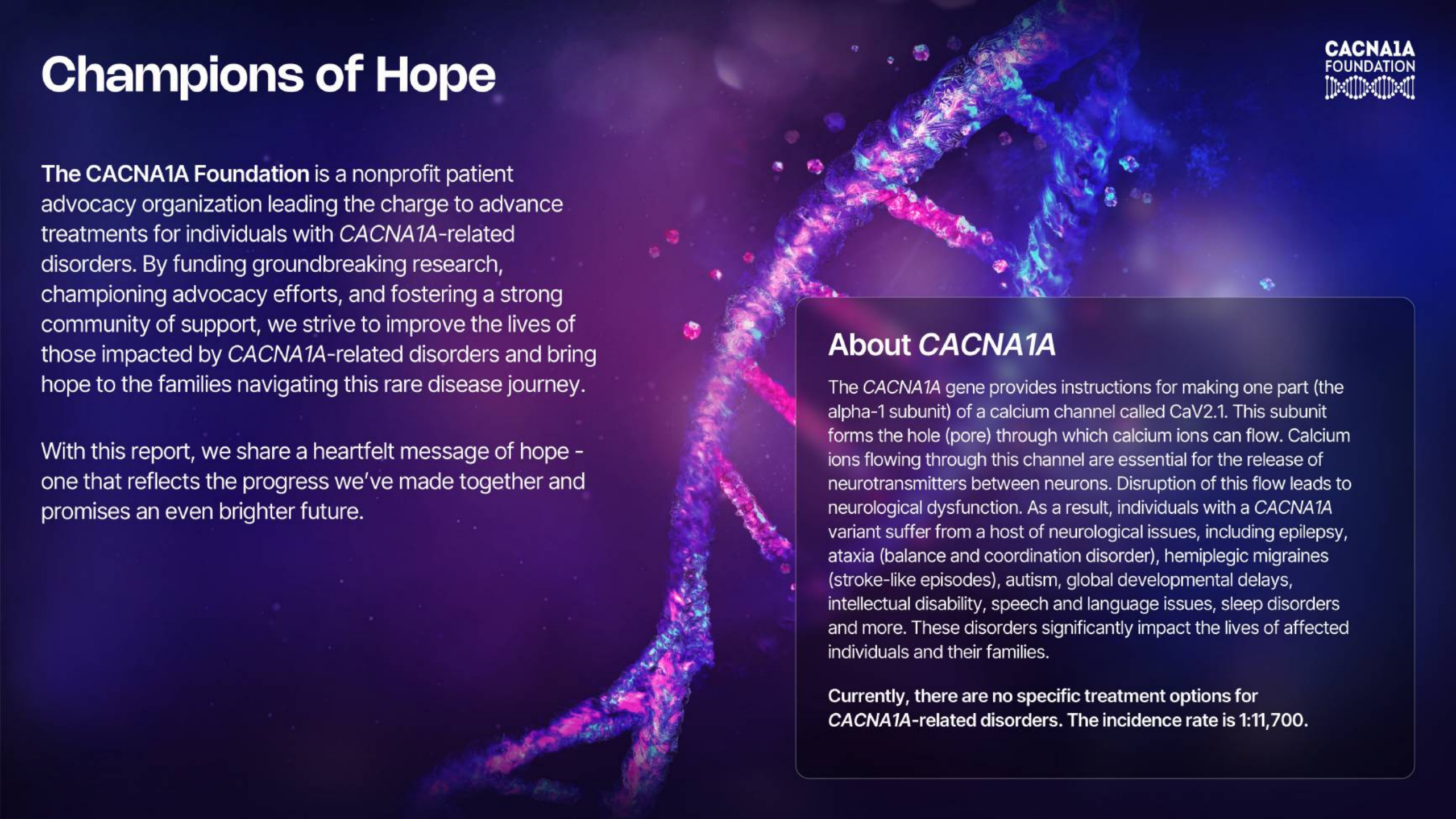
Lisa and Sunitha

Champions of Hope

CACNA1A FOUNDATION

The CACNA1A Foundation is a nonprofit patient advocacy organization leading the charge to advance treatments for individuals with *CACNA1A*-related disorders. By funding groundbreaking research, championing advocacy efforts, and fostering a strong community of support, we strive to improve the lives of those impacted by *CACNA1A*-related disorders and bring hope to the families navigating this rare disease journey.

With this report, we share a heartfelt message of hope - one that reflects the progress we've made together and promises an even brighter future.



About *CACNA1A*

The *CACNA1A* gene provides instructions for making one part (the alpha-1 subunit) of a calcium channel called CaV2.1. This subunit forms the hole (pore) through which calcium ions can flow. Calcium ions flowing through this channel are essential for the release of neurotransmitters between neurons. Disruption of this flow leads to neurological dysfunction. As a result, individuals with a *CACNA1A* variant suffer from a host of neurological issues, including epilepsy, ataxia (balance and coordination disorder), hemiplegic migraines (stroke-like episodes), autism, global developmental delays, intellectual disability, speech and language issues, sleep disorders and more. These disorders significantly impact the lives of affected individuals and their families.

Currently, there are no specific treatment options for *CACNA1A*-related disorders. The incidence rate is 1:11,700.

Impact by the numbers: 2020–2024

CACNA1A FOUNDATION

Over the last four years, our commitment to finding answers for patients with *CACNA1A*-related disorders has fueled remarkable progress. Through groundbreaking collaborations and transformative partnerships, we've achieved significant milestones that are bringing us closer to a cure. These achievements reflect our unwavering commitment to impactful, results-driven initiatives that make a real difference.

$1.8M
Funds Raised

12
Scientific Research Projects Funded

70
Members in our Research Network

352
Families in our Global Contact Registry

105
Patients in our Natural History Study at Boston Children's Hospital

101
Patients in Citizen Health

129
Patients in RARE-X Data Collection Program

3
Research Roundtables

3
Family Conferences

8
Patient Cell Lines Created

3
Animal Models Created

144K
Visits to our Website

Patients — The Key to a Cure

CACNA1A FOUNDATION

> When you meet families and you see some of the children, it gives you a renewed sense of purpose. It raises the level of urgency we have to go back into the lab and try and come up with a solution for a devastating problem.

Henry Colecraft, PhD, Interim Chair of and Professor in the Department of Molecular Pharmacology & Therapeutics, and a John C. Dalton Professor and Associate Vice Chair in the Department of Physiology and Cellular Biophysics at Columbia University Irving Medical Center; CACNA1A Foundation Scientific Advisory Board Member.

CACNA1A families hold the keys to unlocking the mysteries of this disease. Through your support, they can share their experiences, participate in research, and donate samples to create new research models - enabling researchers to deepen their understanding of *CACNA1A*-related disorders and drive the critical work needed to discover new treatments and, ultimately, a cure.

The CACNA1A Foundation **Biorepository** has collected blood samples from 47 patients and 27 siblings/parents for use as controls. Eight of the patient samples have been developed into induced pluripotent stem cells (iPSCs) for use by researchers for **developing and testing new treatments**.

The CACNA1A Foundation participates in four distinct **natural history studies/data collection programs**. These initiatives play a critical role in advancing our understanding of *CACNA1A*-related disorders by documenting diagnoses, symptoms, disease presentations, treatments, and outcomes, offering a comprehensive view of disease progression and variability. This data is essential for **identifying potential therapeutic targets** and **guiding clinical trials**.

CACNA1A-Clinical Assessment Research Study (C-CARS) is a multi-institution, 10-year research initiative launched in 2024 and sponsored by the CACNA1A Foundation. This study utilizes existing assessments to establish baseline measurements for clinical trials and **collects comprehensive clinical data to aid in treatment development**.

Patients — The Key to a Cure

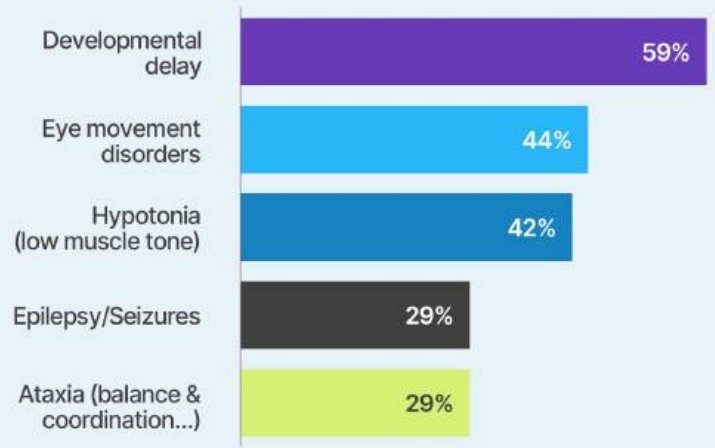
CACNA1A FOUNDATION

One of the approaches to identifying what is important to patients and their families is our CACNA1A Perspectives Project: **Understanding the Disease Burden and Treatment priorities for *CACNA1A*-related Disorders**. This short survey asks questions about how *CACNA1A* symptoms impact daily life and which are the most important to treat.

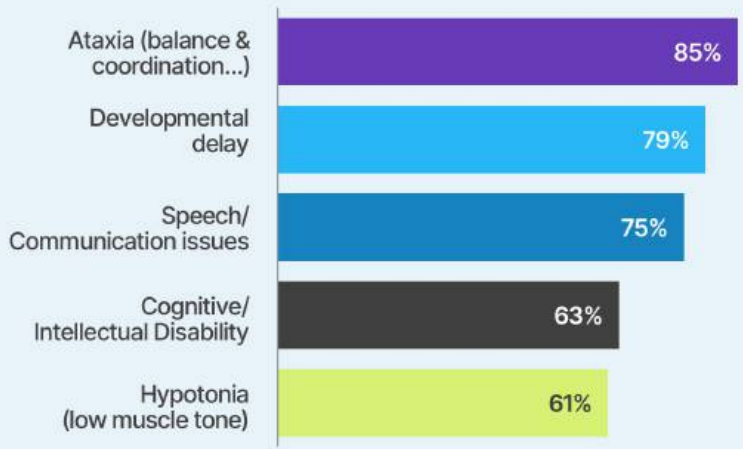
"The number one most important thing in developing a treatment is understanding the disease. The only way we can learn this is by talking to those living with *CACNA1A*-related disorders. Patient priorities are what drive research."

Pangkong Fox, PhD, Science Engagement Director and caregiver, CACNA1A Foundation

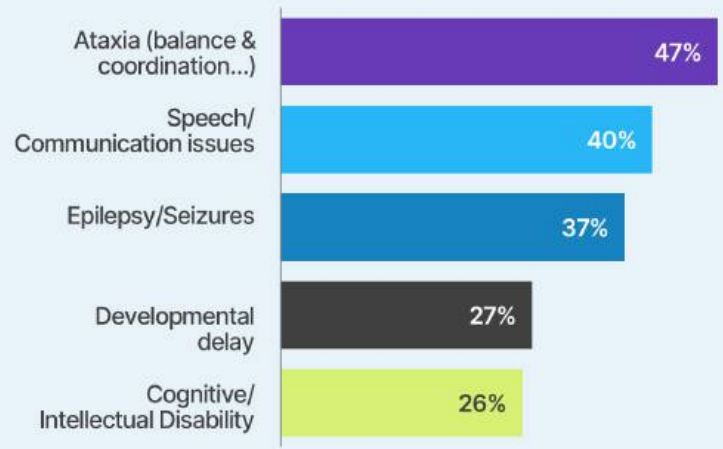
What were the initial *CACNA1A* symptoms seen?



What symptoms are currently exhibited?



What symptoms impact daily life the most?



From the 73 participants, we learned that **developmental delay and eye movement disorders are the earliest *CACNA1A* symptoms identified.** As individuals get older, developmental delay is still an impactful symptom, but ataxia, speech/communication issues, and epilepsy/seizures rise to the top and are priority symptoms for which treatments should be developed to improve the quality of life for the CACNA1A community.

We are grateful that our CACNA1A community values science and we encourage families to keep participating in the many research studies to help find better treatments for *CACNA1A*-related disorders!

Research — Accelerating a Cure

Driving research is at the core of our mission

CACNA1A FOUNDATION

Understanding *CACNA1A* Variants

We are supporting research to test if variants make the calcium channel harder or easier to open. This can help classify variants into gain-of-function or loss-of-function.

Identifying Disease Mechanisms

Once the functional impact of variants on channel function are understood, researchers will further investigate how these impacts make a variant pathogenic, or disease-causing.

Building A Preclinical "Toolbox"

To carry out both basic and translational research, the Foundation has funded scientific tools that can be utilized. These include patient cell lines and animal models like mice or fruit flies in which variants can be studied outside a human body.

Enhancing *CACNA1A* Expression

One approach to treating loss-of-function variants is to increase the activity of the healthy copy of the *CACNA1A* gene. We are funding the beginning stages of this treatment.

Inhibiting Calcium Channel Activity

To dampen the channel overactivity due to gain-of-function variants, researchers are utilizing approaches to inhibit the channel and restore normal activity.

Gene Therapy

A universal treatment is replacing the variant gene copy with a brand new healthy copy. We are funding the initial stages of this gene replacement therapy where the variant copy will be silenced in the brain and the new copy will take its place.

Research — Accelerating a Cure

Building a collaborative network

To advance research, the CACNA1A Foundation has organized a global, collaborative research network that consists of 70 researchers, clinicians, industry representatives, and regulatory agencies, representing over 40 institutions. The network comes together through monthly virtual meetings, working groups, and annual in-person gatherings to discuss the gaps in basic and translational research and how to best get treatments to the CACNA1A community. **Priorities for the immediate future include:**

1. Expanding studies on the impact of variants on channel function.
2. Testing existing medications for inhibitory or activating effects on channel activity.
3. Developing a disease-modifying therapy to increase the expression of the healthy gene.
4. Identifying biomarkers and outcome measures, methods to effectively assess the impact of a treatment, for future clinical trials.

Growth, Impact, Collaboration

CACNA1A FOUNDATION

Family Support & Raising Awareness

1. Presented at and/or attended professional conferences, including Global Genes, American Epilepsy Society, Chan Zuckerberg Science in Society Meeting, and Rare Disease Day at the Broad Institute of MIT and Harvard
2. Received a Horizon Grant to publish clinical care guidelines (coming in 2025)
3. Held 22 virtual meetups for families, caregivers, extended family members, and newly diagnosed families
4. Convened more than 200 participants for our second hybrid Creating Connections Family & Scientific Conference in Bethesda, Maryland
5. Awarded six scholarships for families to attend the Family Conference
6. Launched the Cure Club to increase participation in CACNA1A research by having family volunteers send personalized reminders to others, helping to gather high-quality data essential for advancing research and finding a cure

Growth, Impact, Collaboration

CACNA1A FOUNDATION

Driving Science Forward

1. Presented the CACNA1A Disease Concept Model Study at the American Epilepsy Society annual meeting
2. Authored a key paper, Developing a pathway to clinical trials for *CACNA1A*-related epilepsies: A patient organization perspective in Therapeutic Advances in Rare Disease
3. Funded four new research grants
4. Hosted 3rd annual CACNA1A Research Roundtable at the NIH Neuroscience Center with over 50 scientists in attendance
5. Presented three research posters at professional conferences
6. Launched the CACNA1A Portal (UT Houston and the Broad Institute of MIT and Harvard)
7. Advocated for a unique ICD-10 code for *CACNA1A*-related neurodevelopmental disorders by presenting at the ICD-10 Coordination and Maintenance Committee Meeting (awaiting decison)
8. Welcomed Michael Strupp, MD, FRCP, FANA, FEAN, FAAN to our Board of Directors

Creating Connections Community Conference

The **Creating Connections Conference** brings together CACNA1A families, caregivers, clinicians, researchers, and industry leaders from around the world to share knowledge, build community, and collaborate. This event helps families **connect with experts and others** on similar journeys while fostering partnerships to **advance research and care**.

2021	2022	2024
100 attendees	**150** attendees	**200** attendees
20 countries	**20** countries	**12** countries
Virtual	San Antonio, TX and Virtual	Bethesda, MD and Virtual

Testimonials

"The Foundation has given us community and given us hope."

Casey and Sonjia Dawley
CACNA1A parents and volunteers

"I have no doubt that these gatherings will clearly improve awareness and ultimately lead to better care and better research."

Asaef Shaikh, MD, PhD
Case Western Reserve University, School of Medicine

Awareness + Fundraising = Impact

The **CACNA1A Foundation** actively participates in national and international events to raise awareness about *CACNA1A*-related disorders, fostering greater understanding, earlier diagnoses, and improved access to resources and care. Awareness efforts also drive research funding, influence public policy, and build a supportive community to enhance the lives of patients and families.

Notable events we have attended include:

AES 2024 ANNUAL MEETING
December 6-10 | Los Angeles, CA

aapos
American Association for Pediatric Ophthalmology and Strabismus

NORD®
National Organization for Rare Disorders

Global Genes®
Allies in Rare Disease

Chan Zuckerberg Initiative

Rare Bootcamp™

AAP experience WASHINGTON, DC 2023
National Conference & Exhibition

PARTNERING FOR PROGRESS
Patients
Clinicians
Researchers
Pharma
Annual Ataxia Conference

The **CACNA1A 5K Run, Walk & Roll** was launched in 2020 and is our largest fundraiser and awareness building event. Held every Spring, the 2024 event was attended by **1000 participants in six countries and 36 states**.

Awareness + Fundraising = Impact

Our work would not be possible without the incredible support of our community. Family-led fundraisers hold a special place in our hearts—they are driven by love for someone with *CACNA1A*-related disorders and have achieved remarkable results for our cause.


Emarie's Encanto Golf Tournament, NM

CACNA1A Awareness Day - March 19th
Raising awareness across the globe
#ThisisCACNA1A #CureCACNA1A

Team CACNA1A participated in the **Million Dollar Bike Ride in 2023 & 2024**, alongside 30+ teams, raising over $120,000 for CACNA1A research. This total includes a generous match from the UPENN Orphan Disease Center.

Global Ambassadors, CACNA1A parents and caregivers, volunteer to support the community in their regions. They connect families with local resources, share ways to engage with Foundation programs and research, promote awareness, and collaborate with local researchers and medical professionals.

CACNA1A FOUNDATION AUSTRALIA

CACNA1A FOUNDATION ITALY

CACNA1A FOUNDATION CANADA

2025 GOALS

CACNA1A FOUNDATION

01

Launch the first CACNA1A Multidisciplinary Clinic at UTHealth Houston, with a ribbon-cutting ceremony on 3/17/25

02

Plan an FDA Listening Session to share patient experiences and emphasize the urgent need for new therapies to regulatory decision makers (submitted initial application 1/14/25)

03

Hire an Executive Director to strengthen leadership and strategic growth

04

Develop a Major Donor Strategy to secure funding for long-term initiatives

05

Obtain an ICD-10 Code to improve diagnosis and tracking of *CACNA1A*-related disorders (awaiting decision)

06

Advance Research by developing *CACNA1A*-specific biomarkers, endpoints, and outcome measures for clinical trials

07

Expand Natural History Studies and the C-CARS program to deepen our understanding of *CACNA1A*-related disorders

08

Host the 4th Research Roundtable/CACNA1A Think Tank to foster collaboration and innovation

09

Develop New Resources for Families, including clinical care guidelines, new parent support webinars, virtual meetups, and more, to assist families in managing their medical journeys

10

Expand Preclinical Research Tools to evaluate potential therapeutic approaches

11

Grow the Community by connecting with 100 new families through our contact registry and building partnerships across the global patient community, including expanding our Global Ambassador program

Teamwork

CACNA1A FOUNDATION

Running a nonprofit rare disease advocacy group requires a dedicated team of leaders, staff, volunteers, and partners who work together to drive research, support patients and families, and advocate for meaningful change. From strategic planning and fundraising to community building and awareness efforts, every role is vital to advancing our mission.

Leadership Team

- **Lisa Manaster**
  Co-Founder & President
- **Sunitha Malepati**
  Vice President & Treasurer
- **Pangkong Fox, PhD**
  Science Engagement Director
- **Hourinaz Behesti, PhD**
  Science Advisor
- **Lynn Tusa**
  Director of Development
- **Ashley Kulikowski**
  Social Media Manager
- **Josh Wolf**
  Finance Consultant

Science Advisory Board

- **Zameel Cader, DPhil, MRCP**
  Oxford Headache Centre
- **Charles J. Cohen, PhD**
  BioIntervene
- **Henry M. Colecraft, PhD**
  Columbia University
- **Anne Ducros, MD, PhD**
  Montpellier University
- **Christopher Gomez, MD, PhD**
  University of Chicago
- **Joanna Jen, MD, PhD**
  Mount Sinai
- **Sookyong Koh, MD, PhD**
  Children's Hospital & Medical Center, Omaha, NE
- **Jeffrey L. Noebels, MD, PhD**
  Baylor University
- **Elsa Rossignol, MD, MSc, FRCP**
  CHU Ste-Justine, University de Montréal
- **Michael Wangler, MD**
  Baylor University

Board of Directors

- **Lisa Manaster**
  Co-Founder & President
- **Sunitha Malepati**
  Vice President & Treasurer
- **Amy Junge**
  Secretary
- **Allison Buchner**
- **Sarah Greathouse**
- **Hala Mirza**
- **Deborah Ondrasik, MD**
- **Michael Strupp, MD, FRCP, FANA, FEAN, FAAN**

Volunteers

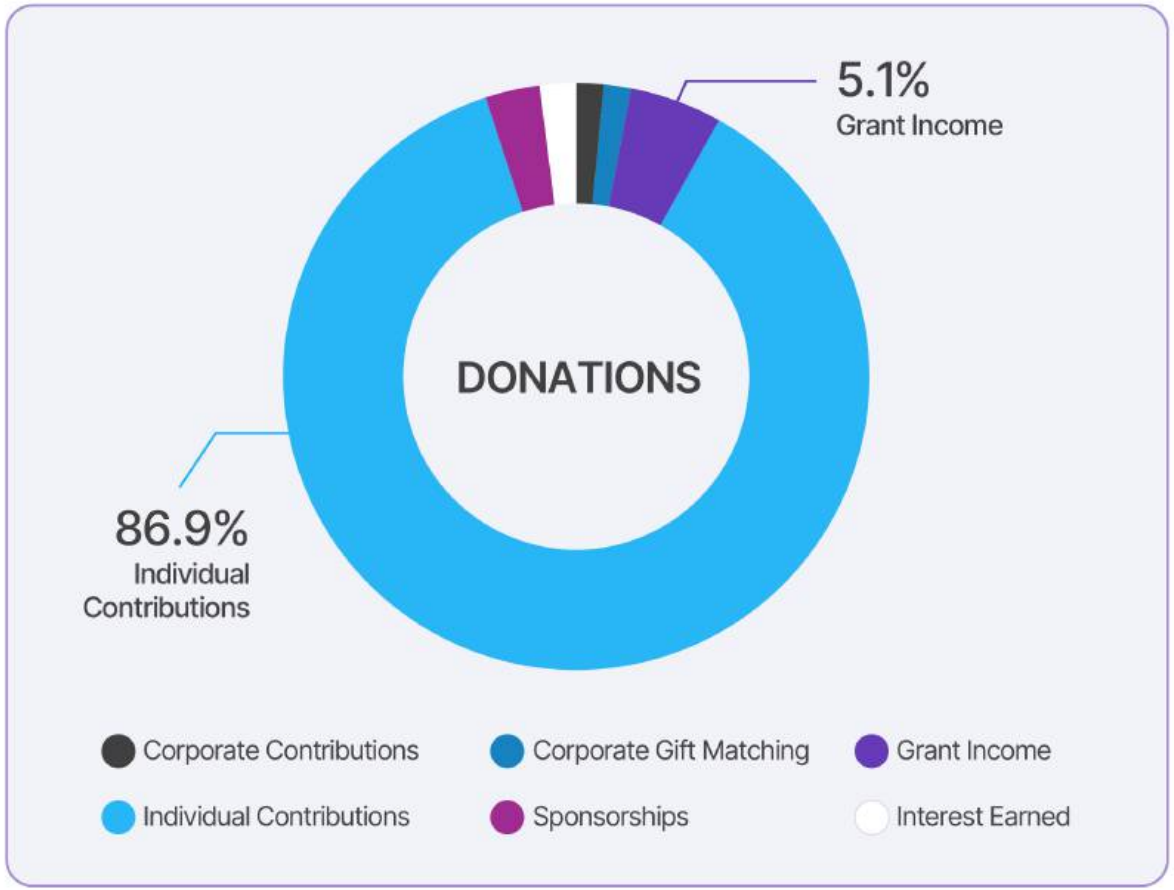
Our dedicated volunteers are the heart of our work. Their skills strengthen our efforts and their outreach helps build community and connect new families to our vital resources. We are deeply grateful for their support and trust.

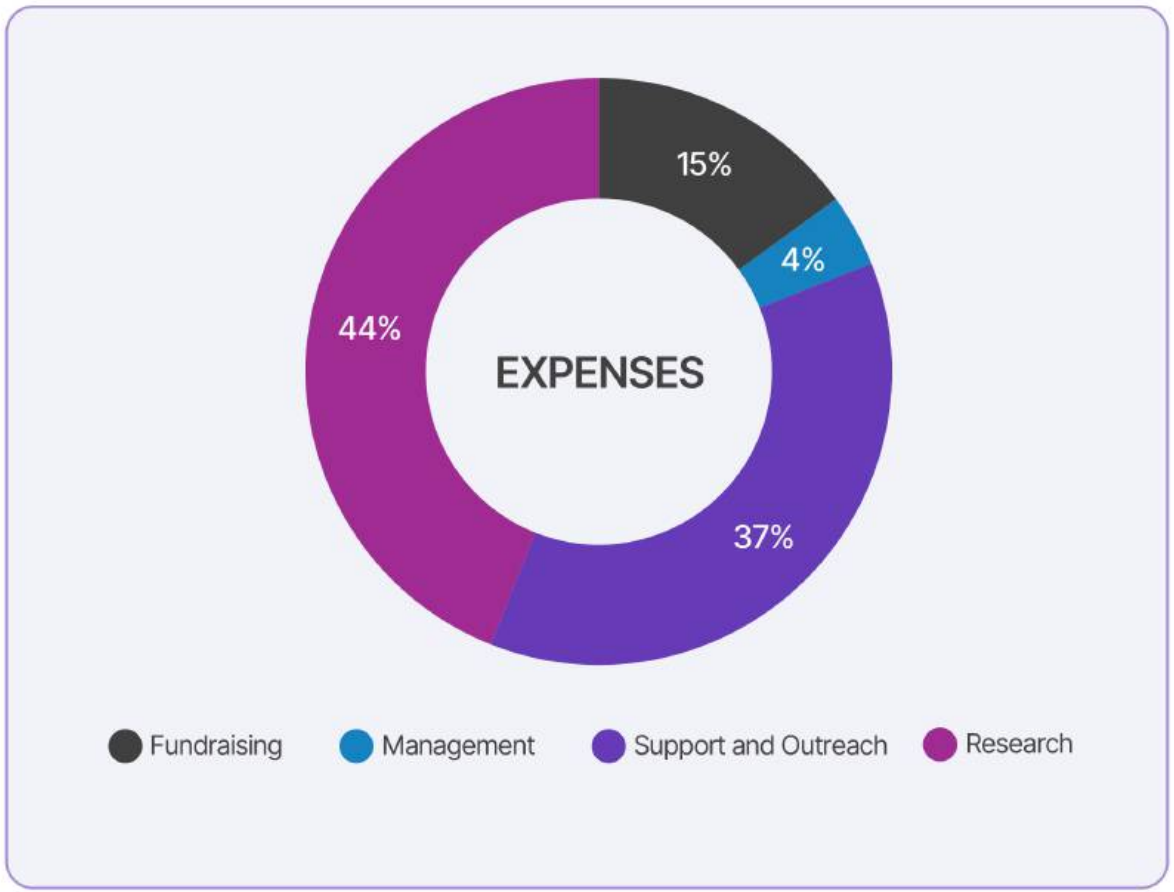
Carolyn Anderson
Valentina Bolletta
Céline Carayon
Luciana Cuccuru
Casey Dawley
Sonjia Dawley
Meera Desai
Chrissy Holman
Dan Krolczyck
Cristina Labarile
Lora Morne
Presley Reilly
Donna Schaare
Chris Senaratne
Theresa Spong
Tim Spong
Christina Tee
Shanna Tolbert

Financials

At the CACNA1A Foundation, we're dedicated to using every dollar wisely. **More than 81%** of our funds go directly to critical research and family support. This commitment lets us push ahead with confidence, knowing that, together, we're making a real difference for those affected by *CACNA1A*-related disorders.

We're excited to share the following overview of contributed revenue and expenditures for 2024.





Fundraising Overview

CACNA1A FOUNDATION

Since 2020, Facebook fundraisers have generated

$116,000

Since 2020, we have raised

$1,800,000

from our community

Grants Received

Rare As One

In 2021, the CACNA1A Foundation was one of 20 organizations selected from 200 applicants to receive a Rare As One Grant from the Chan Zuckerberg Initiative (Cycle 3). This **$600,000**, three-year grant supported the development of an international patient-led collaborative research network, strengthened our organizational capacity, and convened the community around shared priorities.

#RAREis... A program by AMGEN

The #RAREis Global Advocate Grant provides financial support to advocacy groups worldwide that work to advance, educate, and address the needs of the rare disease community. The CACNA1A Foundation has been awarded **$10,000** through this program to translate resources into multiple languages and publish clinical care guidelines.

the orphan disease center

In 2022, the CACNA1A Foundation received a **$17,000** grant from the Orphan Disease Center at the University of Pennsylvania to develop a novel mouse model with a *CACNA1A* gene mutation. Animal models are crucial for studying disease mechanisms and for drug discovery. In addition, as part of the Million Dollar Bike Ride, the Foundation was awarded matching funds in 2023 and 2024, totaling **$65,590** for two research grants.

The CACNA1A Foundation is committed to driving progress through funding innovative research and building strong collaborations among patients, families, caregivers, clinicians, researchers, and industry professionals. Together, we share a united vision:

A future where *CACNA1A-related* disorders are rapidly diagnosed and effectively treated.

Your generous support can make a profound difference. Together we can bring hope and a brighter tomorrow for those affected by this rare disease.

Visit our website

Make a Donation

GREATNONPROFITS 2024 TOP-RATED NONPROFIT

Platinum Transparency 2024 Candid.

www.cacna1a.org info@cacna1a.org