

2019 ANNUAL **REPORT**



Translational Pulmonary and
Immunology Research Center

tpirc.org

Founder's letter



TPIRC and the Southern California Food Allergy Institute have seen unparalleled growth in 2019. Our organization has treated more patients than any center in the world of orphan diseases! It gives me chills to see first hand how the model I only conceived of fifteen years ago is in full motion and having a direct impact on tens of thousands of lives. What is that model? TPIRC is a combination of a biotechnology company, an advocacy organization and a clinical research therapeutics center. At its core, TPIRC lives and breathes data. This data is not just collected and living in silos. This data lives and breathes. The data works through human minds and machines which learn. This is the true process of where artificial intelligence works hand in hand with humans to provide the best clinical care possible by predicting the path to induce disease remission.

Building all of the intricate pieces which allow our data to work best for patients is complex and intense. 2019 saw the development of a revolutionary software in artificial intelligence, an in-house integrated diagnostics laboratory (Foundations Lab), a state-of-the-art Food Protein Lab, and a dynamic Learning Management System to train new physicians, practitioners and staff. This is only just the beginning. 2019 saw the seeds planted for regional expansion with the recruitment of over 150 wonderful employees and physical space growth to over 70,000 square feet across multiple sites.

This is truly meaningful work. The systems which have been built are treating more patients each month compared to the prior month. These patients come to our Long Beach headquarters from all over the United States and all over the world. Even more importantly, our Tolerance Induction Program has treated over 6,000 food anaphylactic children successfully. This is a feat which is a first in medical history. Far greater, these young people are able to move through the Tolerance Induction Program with the same level of near zero risk on their pathway to remission. While we have come a long way in over a decade, many children are still at risk. How many children? At least 8 to 10 million children are living with the risk of life threatening food anaphylaxis every day. We have much more work to do.

With your support, we have been able to continue gaining momentum. As we move into 2020, we will see another historic year for TPIRC — we will add more team members and clinic square footage, develop a 24-hour, 7-day a week call center to support our food anaphylaxis patients, make our diagnostic tests even more accurate by adding over 20 new biomarkers, and ultimately culminate the year with our expansion outside of Long Beach at two new Southern California locations!

We will continue to lead the way in using research and discovery to find the answers to questions that others in the medical community have left behind. I am proud of all we accomplished in 2019. I look to 2020 as a year with a clear, focused vision as our organization continues to reach its goals. Every child deserves the opportunity to live a life without fear. Your help counts. Please support these children, today.

With gratitude,



Inderpal Randhawa, MD
Founder & Chief Executive



OUR MISSION.



RESTORING HOPE.



ADVANCING DISCOVERY.



EMPOWERING COMMUNITIES.



Established in 2015 by Dr. Inderpal Randhawa, the Translational Pulmonary & Immunology Research Center (TPIRC) is a non-profit clinical care and research center that focuses on the development of cutting-edge, individualized treatment protocols for rare and orphan diseases utilizing comprehensive diagnostic tools and patient-driven research. Our mission is two-fold – to advance treatment discovery at a pace which helps our patients today, while building a scalable model of success to accelerate the rate of research discovery for all diseases. The TPIRC model is already offering cutting-edge treatments and exceptional advancements in care across our five primary areas of focus: Food Allergy, Cystic Fibrosis, Bronchiectasis, Immunodeficiency, and Airway Inflammatory Disorders.

The Southern California Food Allergy Institute, also founded by Dr. Inderpal Randhawa in 2015, is the largest food allergy treatment center of its kind. More than 6,000 food-allergic children have graduated from our Tolerance Induction Program and now experience what was once impossible — the joy of freely eating whatever they would like without limitation. With a near perfect success rate, the Southern California Food Allergy Institute offers secure, sustainable and successful treatment to any child with any food allergy based on their unique immune system — without restriction.

WHAT'S THE NEED?

**350
MILLION**

ARE AFFECTED BY RARE DISEASES

**10 MILLION
CHILDREN**

IN THE U.S. HAVE FOOD ALLERGIES

200

ESTIMATED NUMBER OF KNOWN
DEATHS DUE TO ANAPHYLAXIS

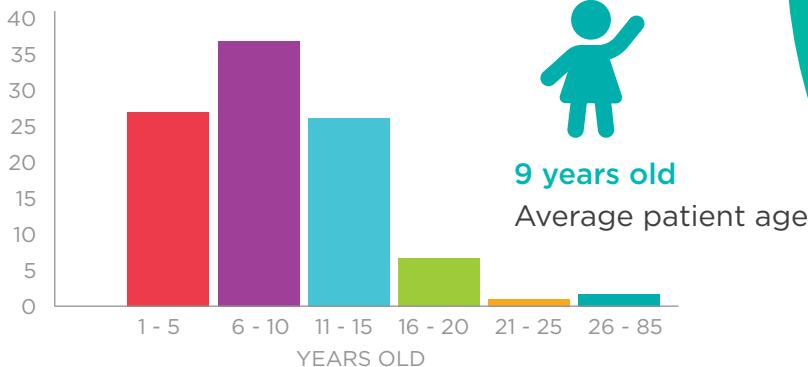
EACH YEAR

**37-CURRENT
ESTIMATED LIFESPAN**
OF A CYSTIC FIBROSIS PATIENT

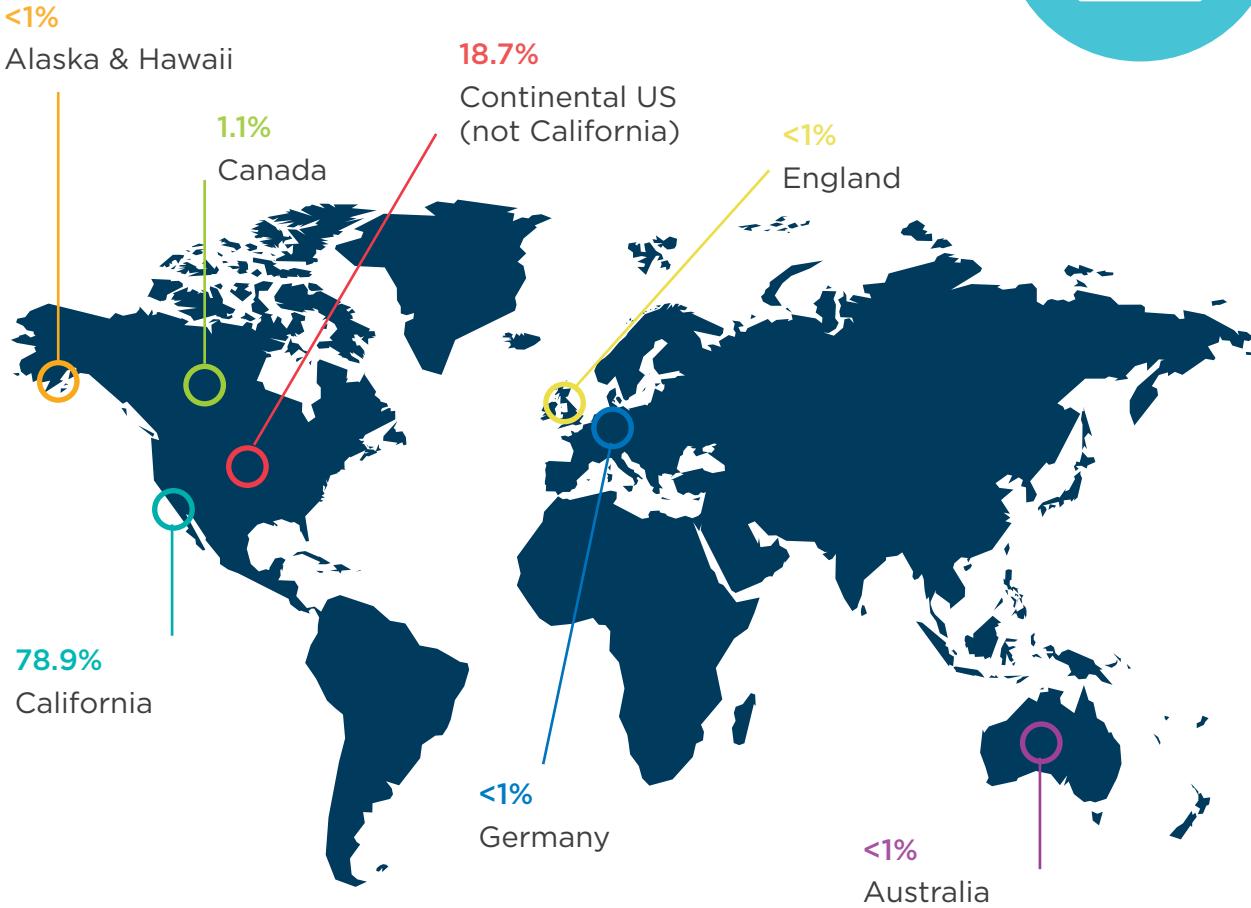


WHO WE SERVE

AGES OF OUR PATIENTS:



WHERE OUR PATIENTS RESIDE:



**ILLINOIS (69)
& NEW YORK (62)**
HAVE THE SECOND AND THIRD
LARGEST PATIENT POPULATIONS

MORE THAN 20%
OF PATIENTS ARE FROM
OUTSIDE CALIFORNIA

IN 2019, PATIENTS COMPLETED:

- 1,057 Onboarding Appointments
- 943 Launch Appointments
- 8,450 Food Challenges
- 288 Immunology & Pulmonology TPIRC Appointments
- 185,900 Food Doses Taken



44 STATES
ARE REPRESENTED IN OUR
PATIENT POPULATION,
INCLUDING ALASKA & HAWAII

Software Development

2019 was an important year in software development for TPIRC. Phase 1 of our proprietary software was developed and deployed. The software has allowed us to streamline the process from the moment a patient joins the waitlist to being scheduled for their Onboarding Visit. This automated process has allowed more than four staff members to focus efforts on patient interaction and satisfaction. The machine learning model has seen tremendous movement. A patients snapshot is able to be generated with 90-95 percent accuracy. By the end of Q2 2020, this will be closer to 99 percent accuracy. The software engineers are also developing a phone application that families can download to receive the most up-to-date information regarding their child's case, recipe video ideas, payment information, and a program tracker. This is vital to keep families engaged and provide a platform for TPIRC to continue to support families with their daily routines.



ALEXANDRA: "My daughter had her first allergic reaction when she was about 15 months old. She reacted to eggs & reacted to peanuts. My life changed. I was constantly stressed, nervous, and honestly wondered if one day I would lose her to a food allergy. Today, thanks to the tolerance induction program and the dedication of Dr. Randhawa, I no longer have to worry about losing my daughter to eating a food. There are not enough words to show my appreciation, and not enough thank yous. We are truly blessed!" - *Jodi, parent of Alex, current TIP remission patient*



2019 ACHIEVEMENTS

- Phase 1 of proprietary software complete
- Machine Learning Model development
- Managed plan development and challenge cycles with increased growth of patients (150+ new patients per month)

Research

This year has been a productive one for the TPIRC Research Laboratory. Dr. Nathan Marsteller, Director of Research, and his team have grown dramatically over the last year, allowing for more cutting-edge research to be done regarding disease progression of Cystic Fibrosis, bronchopulmonary dysplasia (BPD) therapeutics impact on lung function and structure, and allergy prevalence.

One of the biggest tasks Dr. Marsteller took on in 2019 year was developing the TPIRC Biobank so that our lab can explore mechanisms leading to the success of the Tolerance Induction Program (TIP) as well as help characterize lesser known allergens. The Biobank had great help from Marina Ghuneem who will be taking an active role as the Clinical Research Coordinator. The Biobank now has Institutional Review Board (IRB) approval which allows us to do work that until this point was not possible. In addition, we added a biobank technician to the staff, Diana Fregoso.

We are actively characterizing samples in our molecular core looking at gene expression levels. Anh Duong, Sr. Research Associate, has optimized protocols for our qPCR unit so that we can continue to actively take on, train, and produce results with volunteers and fellows from Miller Children's Hospital in Long Beach.



2019 ACHIEVEMENTS

- Established a vivarium in collaboration with our colleagues at USC
- Fabricated CPAP units for murine model
- Awarded a grant from the California Almond Board which has resulted in a manuscript that will likely be published in 2020
- Characterized the TIP program for the first time in a peer reviewed article
- Attained IRB approval for the TPIRC Biobank
- Published 3 peer-reviewed articles
- Presented findings on BPD at California Thoracic Society Conference
- Established model of BPD to assess impact of non-invasive ventilation strategies



Established immunohistochemistry core facility. Among many other things we can assess inflammation in our BPD model by looking at pulmonary macrophage infiltration to interstitial space

Food Preparation Lab

TPRIC was able to open the doors of our in-house 1,600 square foot Food Lab in July 2019 which allowed us to launch our gelatins that summer. Our Food Lab began small, but mighty starting with just two team members producing 3,000 single gelatins on demand.

As our Challenge Clinic grew it was able to increase the number of appointments to 1,000 per month by the end of the year. The Food Lab was able to meet the need to produce more than 24,000 doses for those patients.

TPRIC's Food Lab has the ability to produce not only every dosing gelatin, precisely weighed seed and nut doses, but it creates every custom allergy patch test done as part of each patient's full allergy assessment.

Moving forward into 2020, the Food Lab expanded again into a larger 9,000 square foot building in Los Alamitos, California, again allowing us to increase patient doses by three times.



2019 ACHIEVEMENTS

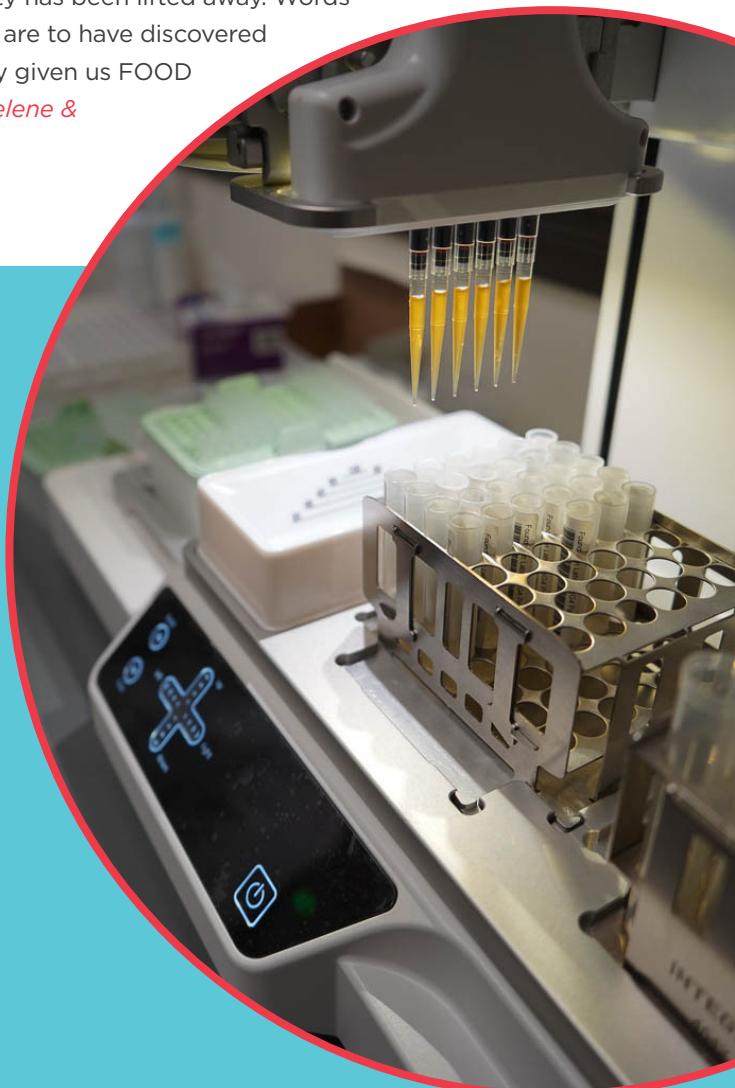
- Opened in July
- Launched gelatin dosing program
- Produced 185,900 doses that include peanut vials, hand doses and gelatin doses

Foundation Labs

Opened in January 2019, Foundation Labs opens a world of possibilities to us. Aside from being the only food allergy diagnostics laboratory in the nation, the ability to interface real-time diagnostics with real-time data analysis is a first-mover for TPIRC. With the data collection process in-house, we can manage the entire flow of data — from start to finish — and we expand exponentially our ability to collect even more data to continually study and analyze, driving our research processes and ultimately leading to the fulfillment of our primary mission — advancing discovery at a pace which helps our patients today. Foundation Labs looks forward to further expansion of data and discovery with the development of a long-term Biobank repository allowing us to study patient specimens over years and decades of time. This unheard of, long-term modeling of data and specimens gives us the greatest opportunity to rapidly discover new markers and treatments at an unprecedented pace.



SELENE & HANNAH: “The girls have been in Girl Scouts since they were both in Kindergarten. There were only TWO flavors of Girl Scout cookies that they could safely eat which didn't have nuts or cross contaminants. Now, thanks to Dr. Randhawa and this amazing program, the girls have treated egg, coconut, all nine tree nuts and are currently eating 30 peanuts per day! This will be the first year that they can eat ALL of the cookies! So much of our stress and anxiety has been lifted away. Words cannot express how thankful we are to have discovered this program and how it has truly given us FOOD FREEDOM!” - *Cindy, parent of Selene & Hannah, current TIP patients*



2019 ACHIEVEMENTS

- Began in-house allergy testing in January
- Added specific IgG4 to in-house test menu in February
- Exclusive diagnostic testing in-house for all patients
- Received COLA Accreditation in August
- Began complete blood count with Differential testing in-house in November
- Passed a surprise inspection by California Department of Public Health by 100% in December

SOUTHERN CALIFORNIA FOOD ALLERGY INSTITUTE

The year 2019 was a year of growth for the Clinic at the Southern California Food Allergy Institute. New policies and procedures were made to increase safety and efficiency. Many of our clinical needs were brought in-house. All patients from Miller Children's Hospital were transferred to the Clinic. The Clinic increased the number of employees in an effort to keep pace with the number of increased patients we are serving. We worked to make sure our communications with patients and their families improved, including the creation of welcome packets for newly onboarding patients and clearer pricing of services.

Our staff growth allows us to help a greater number of children in 2019.

Last year we added:

- 1 Full time physician
- 4 per diem physicians
- NP provider staff increased from 3 providers to 9
- Medical Receptionist staff increased from 3 to 8
- Medical Assistant staff increased from 5 to 13
- LVN staff increased from 2 to 4



2019 ACHIEVEMENTS

- Launched gummy dosing
- Established Foundation Labs
- Waitlist time decreased by half
- Patient volume doubled while reaction rates stayed the same between 0.002 % - 0.004%
- Food Lab tripled in staff

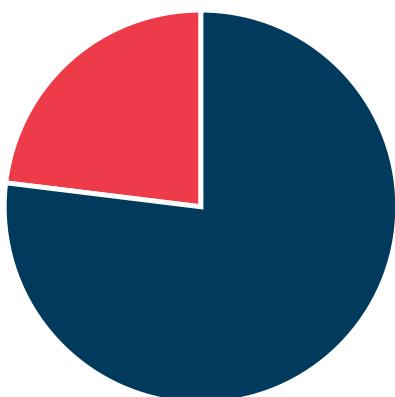
FINANCIALS PRE-AUDIT

**ASSETS
2.75 MILLION**

**LIABILITIES & EQUITY
2.75 MILLION**

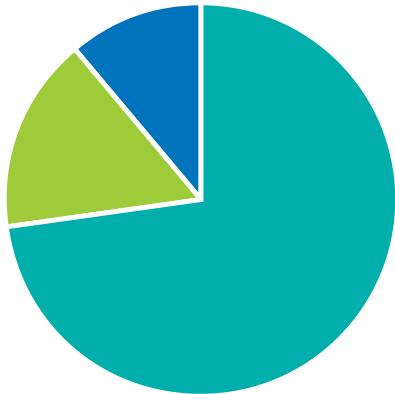
**NET ASSETS
1.9 MILLION**

**2019 REVENUE
\$8.63M**



● Programs	\$6.63M	77%
● Contributions & Bequests	\$2.00M	23%

**2019 EXPENSES
\$8.43M**



● Programs	\$6.24M	73%
● Management & General	\$1.38M	16%
● Fundraising	\$0.90M	11%



WILLIAM: "Life before coming to the Southern California Food Allergy Institute was isolating and scary. William was on daily multiple breathing treatments, frequent rounds of steroids, continual need for rescue meds, and had multiple hospital stays. He is a different kid now. He is thriving and healthy. William's asthma and environmental allergy progress has been just as monumental and life changing as his food victories. What a joy to watch him freely explore nature, race on his bike, jump on the trampoline, grow vegetables in a garden, and play on a baseball team this past fall with his dad. A happy kid breathing-freely all while at the same time saying good riddance to life-threatening food allergies." - *Kirsten, parent of William, current TIP patient*

SENIOR STAFF

Inderpal Randhawa, MD
Founder & Chief Executive

Anoop Lohara
Chief Financial Officer

Crystal Cantu
Human Resources Manager

Janelle Heflin, BSW, RN, CPN
Clinical Operations Manager

Nathan Marsteller, PhD
Director of Research

Colin Wang
Chief of Staff

Tracy Clark, MD
Lead Physician

Sylwia Jonassen
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Herman Sandhu
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Sarah Winfrey
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