



# Catalytic Impact Foundation 2024 Impact Report

Accelerating Breakthroughs by Funding  
Extraordinary Innovations and Visionary Leaders

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## About the Catalytic Impact Foundation (CIF)

**CIF is a 501(c)(3) non-profit organization that supports the development of treatments for the world's most challenging health conditions.** We invest in outstanding teams working to commercialize cutting-edge science. CIF's mission is to accelerate innovations in life sciences and healthcare... technologies that will save lives, or dramatically improve them.

CIF does not give grants, but makes equity investments in exceptional companies. We invest early, helping to validate the technology and the team, catalyzing additional investment. This early investment helps companies overcome the “Valley of Death”, while achieving early milestones and building successful businesses.

CIF employs a unique evergreen (permanent) fund model. Investment returns following company exits are recycled to the fund and redeployed in a model we call “Regenerative Philanthropy”, utilizing perpetual capital to advance medical innovations for patients in critical need.

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# CIF's Unique Strategic Approach

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1

## **Addressing Critical Unmet Healthcare Needs**

CIF combines the discipline of venture capital with the mindset of philanthropy to invest in companies with transformative technologies.

2

## **Bridging the Valley of Death**

There is a funding gap between grants supporting research and for-profit investment in early-stage companies. CIF strategically deploys philanthropic capital to bridge this gap.

3

## **Catalytic Capital**

By investing early, CIF helps to de-risk the company and attract additional investment. These funds enable critical innovations to progress toward FDA approval and to the bedsides of patients in need.

4

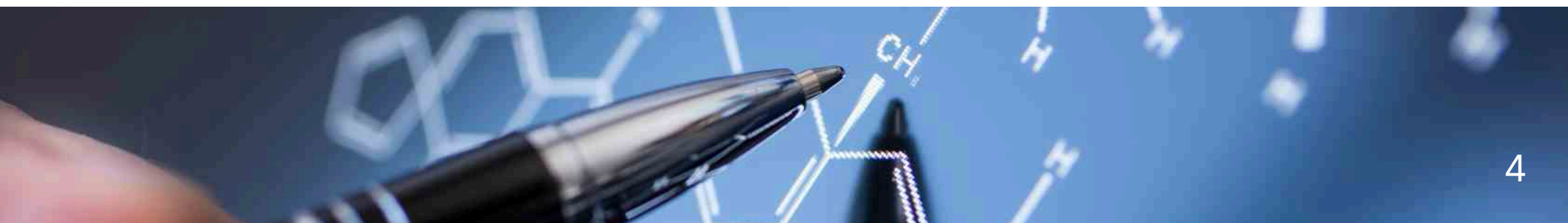
## **Six Investment Verticals**

CIF's investments are focused in areas where need is great but funding is weak, including Children's Health, Women's Health, Rare Disease, Brain/Mental Health, Health Equity, and Aging.

5

## **Investing in Diversity is Good Business**

CIF actively invests in diverse leadership, and diversity drives innovation. This includes companies run by women and other underrepresented leaders who are developing life-changing healthcare technologies.



# CIF's Metrics at a Glance

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**50**

Active Portfolio  
Companies

**5**

New Investments in 2024

**7**

Exits to Date  
(2 Companies Reaching  
Market Cap of >\$1 Billion)

**44%**

Increase in Value of  
Portfolio\*

**52%**

of Portfolio Companies  
Led by Women

**102**

Technologies  
in Development

**22**

Technologies  
Commercialized to Date

**>\$5B**

Total Portfolio Company  
Value

**1**

"Unicorn"  
(Private Company  
Valued at >\$1 Billion)

\*Total portfolio value over total invested capital





## CIF's 2024 Investments

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### 5 New Investments

- 3 in Women's Health
- 1 in Mental Health
- 1 in Children's Health

### 2 Follow-on Investments

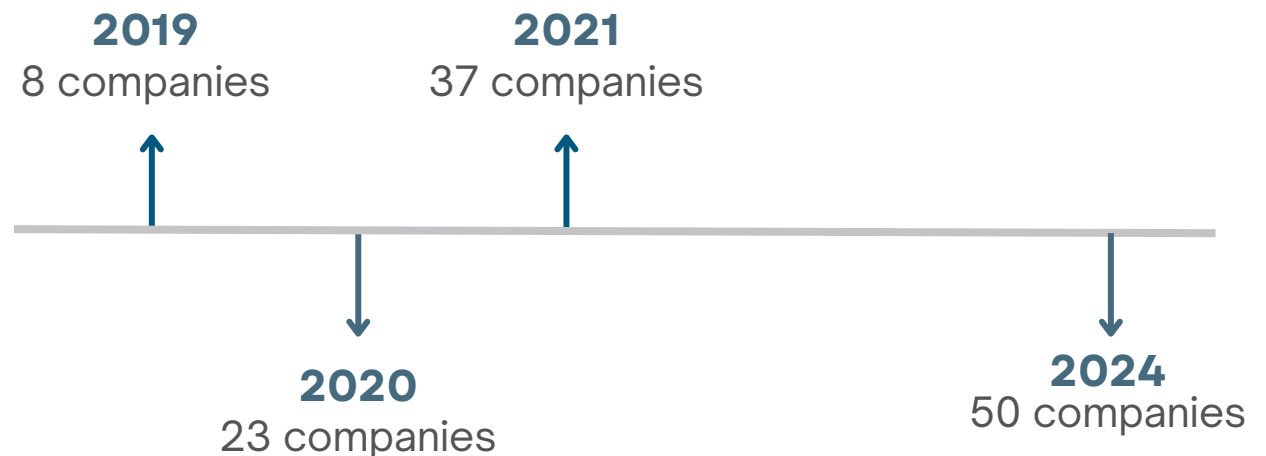
- 1 in Children's Health
- 1 in Oncology

**66% of 2024 Investments in Companies Led by Women**

## Funding Forward to Grow our Impact

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*Cumulative Investments Over Time*

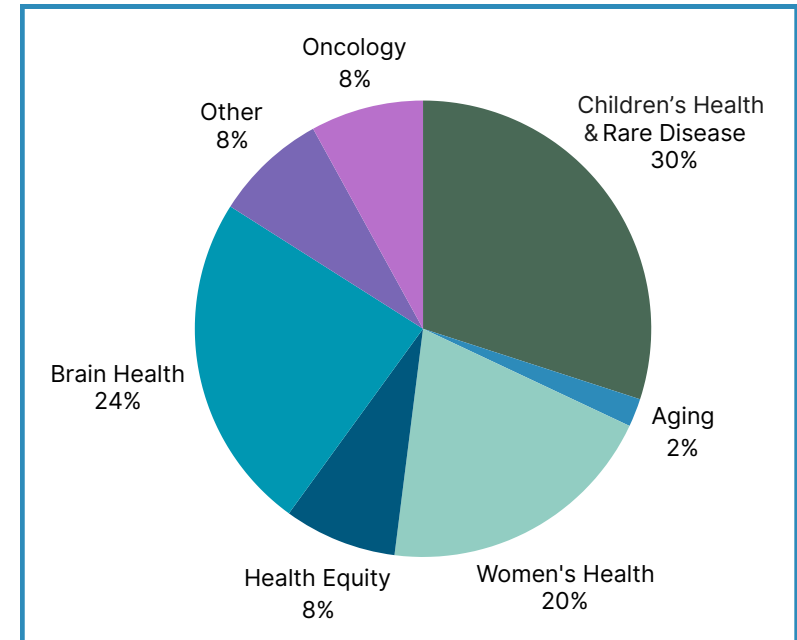


## Areas of Investment

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CIF invests primarily in 6 important health verticals where there is significant unmet need and a severe shortage of funding. We have invested in 50 portfolio companies across Children's Health, Women's Health, Brain Health, Rare Disease, Aging, and Health Equity.

This year we invested in five new companies, three in Women's Health, one in Children's Health and another in Brain/Mental Health.



## Leadership Diversity of CIF's Portfolio Companies

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**52%**

are led by  
Women

**42%**

are led by  
Persons of Color





# CIF's Maternal Health Initiative: Reducing the Maternal Mortality Rate

## PROBLEM

The U.S. is ranked the 29th in maternal mortality among 38 developed nations, according to the World Health Organization. With a maternal mortality ratio of 22 maternal deaths per 100,000 live births, this is double the average of 10.9 deaths among this group of nations. According to the CDC, 80% of these deaths are preventable.

## GOALS OF CIF'S INITIATIVE

CIF aims to help decrease the US maternal mortality rate by accelerating the development of innovative technologies critical to improving maternal healthcare in the U.S. We are investing in technologies that address maternal mortality by **improving the early detection of risk factors, prioritizing prevention, prioritizing accessibility, and enabling effective and timely interventions** throughout the continuum of maternal care.

## INITIAL AREAS OF FOCUS

1. **Reduce the high rate of unnecessary C-sections** that lead to dangerous complications;
2. **Improve the safety of C-sections** for all segments of the U.S. population; and
3. **Reduce the high rate of suicides from postpartum depression** by addressing the related mental health challenges.

### Reducing Unnecessary C-Sections

Half a million unnecessary C-sections are performed in the US each year. The risk of maternal death from C-sections is 3.6 times higher than that of vaginal births (even when controlling for risk factors that increase the likelihood of C-sections, such as obesity), making unnecessary C-sections a contributing factor to the high US maternal mortality rate.

First Investment: **Raydiant Oximetry**

### Increasing the Safety of C-Sections

The higher mortality rates related to C-sections (vs vaginal birth) result from various complications, including postpartum hemorrhage, infection and blood clots.

First Investment: **NUA Surgical**

### Reducing Suicides from Postpartum Depression

Suicide is responsible for up to 20 percent of maternal deaths that occur within one year of giving birth, in large part due to postpartum depression.

First Investment: **Dionysus Digital Health**

*See the following page for more information about each of these innovative companies.*





## CIF's Maternal Health Initiative: Investments to Date

### Raydiant Oximetry

Since the introduction in the 1970s of the fetal heart-rate monitor, there has been a five-fold increase in C-section deliveries in the US. Yet there has been little or no reduction in neonatal injury. Providers still find it challenging to accurately assess fetal distress, which leads to unnecessary C-sections with their associated complications, including infections, hemorrhage, and blood clots. This contributes to the high maternal mortality rates in the US.

Raydiant Oximetry's Lumerah(R) is a non-invasive fetal pulse oximeter that measures the fetus' blood oxygen saturation during labor and delivery. Having achieved FDA Breakthrough Device status, this technology stands to revolutionize the current standard of care for fetal monitoring during delivery. Used in conjunction with fetal heart-rate monitoring, Lumerah is expected to reduce unnecessary emergency C-sections, reducing postpartum complications that can lead to maternal mortality.

### NUA Surgical

Roughly two thirds of women who have C-sections in the U.S., and one third in Europe, are obese. C-sections are more difficult to perform and often take longer in obese women, leading to an increase in postpartum complications. Up to 30% of obese C-section patients acquire a surgical site infection (SSI) following the procedure. These women are also at higher risk for blood clots and hemorrhage.

NUA Surgical is developing an innovative disposable retractor to improve visualization, access, and ergonomics during difficult and high-risk C-section procedures, especially in patients with a high body mass index (BMI). The SteriCISION retractor aims to improve upon current methods for managing the pannus (belly fat) during surgery, including outdated metal retractors. NUA's innovation will allow C-sections to be done more efficiently and accurately, leading to a lower risk of complications and lower rates of maternal illness and death.

### Dionysus Digital Health

Suicide due to postpartum depression (PPD) remains a leading cause of maternal mortality, accounting for up to 20% of maternal deaths in the year following childbirth. To address this devastating problem, efforts must focus on early diagnosis and treatment for PPD.

Dionysus Digital Health is developing a quantitative, biomarker-based blood test, which would be administered in the third trimester of pregnancy to determine which women are at risk for PPD. This would facilitate close monitoring of at-risk moms, and timely treatment. By providing an accurate, science-based diagnostic, the Dionysus test would empower mothers to seek mental health support sooner, facilitate follow-up care, and potentially reduce the shame and isolation women often feel when struggling with PPD.

# CIF Attendance at the White House Conference on Women's Health Research

CIF President, Rachel Butler, and CIF Advisor, Audrey Sheppard, were delighted to be invited to the White House Conference on Women's Health Research, hosted in December by Dr. Jill Biden and President Joe Biden. This historic event shone a spotlight on the critical gaps in women's health research and innovation. Given that women spend 25% more of their lives in poor health than men, the conference explored some of contributors to this problem, highlighting areas where more research and solutions are needed.

The conference brought together an inspiring group of leaders, including researchers, investors, founders of companies and nonprofits, thought leaders, and government officials. Their collective expertise and passion provide hope for a future where women's health is a central focus of scientific inquiry and innovation.

At the Catalytic Impact Foundation, we are steadfast in our commitment to address the disparities in funding for women's health. It's alarming to note that women's health received just 2% of the \$41.2 billion of venture capital funding allocated to health innovation last year. This is a call to action—we must and will do better.





# CIF 2024 Event Highlights

## CIF Summer Gathering in New York

The CIF team gathered on a rooftop at Lincoln Center during a beautiful summer evening. It was wonderful to have (most of) our team together for an evening to reflect and celebrate our achievements over cocktails and appetizers.

From left: Rick Lipkin (Founder), Rachel Butler (President), Michael Paas (Investment Team), David Danar, MD (Investment Team), Rob Wolk (Board Chair and Investment Team), Sruti Temukalla (Summer Intern), Leilani Tiara (Associate). Missing: Ellen Itzkovitz (Investment Team), Jon Luff (Investment Team), and Susana Frazao Pinhiero (Board Member and Investment Team)



## New York Event: The Entrepreneur's Journey

*Hosted by CIF, SOSV/IndieBio, and Orrick, Herrington, Sutcliffe LLP*

We were honored to co-host a panel on the “The Entrepreneur’s Journey” alongside SOSV/IndieBio and Orrick, Herrington & Sutcliffe LLP. The panel featured Ellington West of Sonavi Labs, Ajay Vishwakarma of Cell BioEngines, and Emily Stern, MD, of Ceretype Neuromedicine. The panel was moderated by Stephen Thau of Orrick.

Attended by life science entrepreneurs, investors, key opinion leaders, and other members of the CIF, IndieBio and Orrick communities, the evening was inspirational and informative, and a wonderful opportunity for networking.





# The Current Environment for Early-Stage Biotech Funding

Venture capital (VC) funding is the life blood of the early-stage biotech industry. In the last several years, this environment has been challenging with a scarcity of funding. Many startups have had to raise funding at lower valuations, if they were able to raise at all. 2024 saw the beginning of a return to stability, but VC investments in biotech have not regained the momentum of the pre-pandemic years.

## A Shift in Investment Patterns

One critical trend is a decline in funding for pre-clinical projects, reflecting the industry's aversion to risk (especially in the critical early years). This downturn has also redefined the so-called "Valley of Death," extending it from between pre-seed and series A funding rounds, to now including through Series B. As a whole, the lower number of VC deals has been counterbalanced by outsized deals, driving up deal value in 2024. So, fewer companies are being funded, but investors are piling into a smaller number of lower-risk companies. Thus, only 9% of biotech startups that raised Series A funding in Q3 2022 secured Series B funding within two years.

This is down from 2018, when 28% successfully did so within two years

## Importance of Staying Lean

The scarcity of capital is forcing companies to adopt leaner operating models, as they need to anticipate longer fundraising cycles. Also, capital-intensive projects are struggling to attract investment. These challenges are reflected in the increasing failure rate of startups. In Q1 2024, the closures of venture-backed startups in the U.S. increased by 58%.

## VC Funds Struggling to Raise Money

Compounding the problem, VC firms also are facing difficulties raising new funds from their limited partners (LPs). Data from PitchBook shows that 2024 saw the fewest new fund launches since 2015. This downturn affects the entire startup ecosystem, but it particularly affects vulnerable sectors, such as women-led venture funds. The average women-led fund is already smaller than VC funds led by men (\$41 million vs. \$241 million), so this compounds an existing problem.

Given that women-led funds often champion female entrepreneurs, women are increasingly struggling to raise capital. In 2023, the percent of VC funding that went to women-led companies declined to a dismal 2%.

## Looking Ahead

While the biotech VC industry shows signs of improvement, **persistent funding gaps, particularly for high-risk projects and underrepresented groups, highlight the need for risk-tolerant catalytic capital, such as that deployed by CIF.** For biotech startups to thrive, the ecosystem must adapt, and innovative funding models are an important contributor to ensure that new and life-saving treatments reach the patients in need.



# Investment Spotlight: Melio (Children's Health)

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## The Problem

Traditional culture-based methods for identifying blood-borne infections can take up to 72 hours to receive results, during which time patients are often administered broad-spectrum antibiotics as a precautionary measure. This practice is especially problematic for newborns in the NICU, where more than 60% of admissions involve antibiotic use, yet only 1 in 150 babies treated actually needs it. Unnecessary antibiotic exposure not only disrupts the gut microbiome of newborns, but also adds to a \$1.6 billion market burden in extended hospital stays and healthcare costs. For the newborns, this also can lead to long-term health consequences.

## The Impact

**Melio** is pioneering the future of infectious-disease diagnostics with a cutting-edge blood testing platform that promises to revolutionize patient care. Focusing first in the NICU, their platform is designed to deliver rapid and precise results, reducing the identification time for pathogens to just 3 hours. This enables healthcare providers to quickly administer targeted antibiotic treatments. By offering a quicker and more reliable method for pathogen detection,

Melio aims to reduce unnecessary antibiotic use and the associated healthcare burdens, aligning with global efforts to improve patient care and reduce antimicrobial resistance (AMR), one of the top global public health threats.

Melio's technology has the potential to dramatically reshape the standard of care for infectious diseases, addressing critical delays in current diagnostic workflows, decreasing unnecessary antibiotic use and improving patient outcomes.







# Investment Spotlight: Egal “Pads on a Roll” (Women’s Health)

## Overview

**Egal** is dedicated to making period products as accessible as toilet paper, right where they’re needed most—inside restroom stalls. Founded with a mission to normalize and simplify access to menstrual care, Egal provides “Pads on a Roll” through convenient dispensers in schools, workplaces, and other public spaces. With their user-friendly and affordable approach, Egal tackles the logistical challenges around menstrual hygiene, ensuring that everyone can manage their periods with dignity and respect. Currently, a small number of restrooms have vending machines, but they’re difficult to fill, prone to jamming and require costly maintenance. As a result, they are often empty. Furthermore, they are not in the stalls where the products are needed.

## The Problem

The demand for period products in public restrooms is underscored by a global need, with roughly 26% of the population being of reproductive age. The average cost of menstrual products in the US is \$20 per cycle, which is unaffordable for many women and young girls. An estimated 62% of girls who menstruate have missed school or workdays due to their period.

## The Solution

Egal taps into a growing wave of legislative momentum across various U.S. states that require period products to be available in public facilities.

Egal’s approach of free pads on a roll in every stall not only reduces a woman’s cost burden of menstruating, but also is a substantial improvement over conventional vending machines. This makes Egal a pivotal player in addressing period poverty on a broad scale. By establishing period products as a standard public amenity, Egal contributes to equitable access for all, ensuring that menstrual needs are met universally, affordably, and sustainably.



**Awarded the Mass Innovation  
Health Tech Award 2024**

**Currently in over 1,700  
schools and universities**

**Coming soon to more airports,  
stadiums, zoos, museums,  
in the US, UK, UAE, and Canada**



# Investment Spotlight: Dionysus Digital Health (Women's Health)

## Overview

**Dionysus Digital Health** is working to redefine maternal mental healthcare by incorporating postpartum depression (PPD) screening into third-trimester care. Dionysus aims to make early intervention standard practice, ultimately improving quality of life for mothers and families alike, and saving mothers' lives.

## The Problem

Postpartum depression often goes undetected due to symptoms being misattributed to the normal stress and fatigue of newborn care, leading to delays in treatment and increased risk. Dionysus is tackling critical drivers of maternal mental health concerns, such as suicide, self-harm, and overdose, which are top contributors to maternal deaths in the first year after giving birth. Women also may feel shame about their symptoms, and feel inadequate as mothers, preventing them from seeking timely medical care.

**Postpartum depression  
is known to have a genetic  
component**

**Suicide accounts for up to 20%  
of postpartum deaths  
(Chir et al, 2024)**

## The Solution

Dionysus is addressing this problem by combining predictive diagnostics (using proprietary biomarkers) with data-driven insights, to identify risk factors for PPD in the third trimester. Early PPD detection and intervention yield benefits that extend beyond the mother to include improved developmental outcomes for children, healthier family dynamics, and support for maternal wellness in future pregnancies.

## Critical Impact

Dionysus uses biological and psychological data to identify individuals at high risk for PPD, giving healthcare providers actionable insights that facilitate earlier, more targeted intervention and care. Dionysus also standardizes communication around PPD risks, equipping mothers and their families with essential information to recognize symptoms early and seek help promptly.

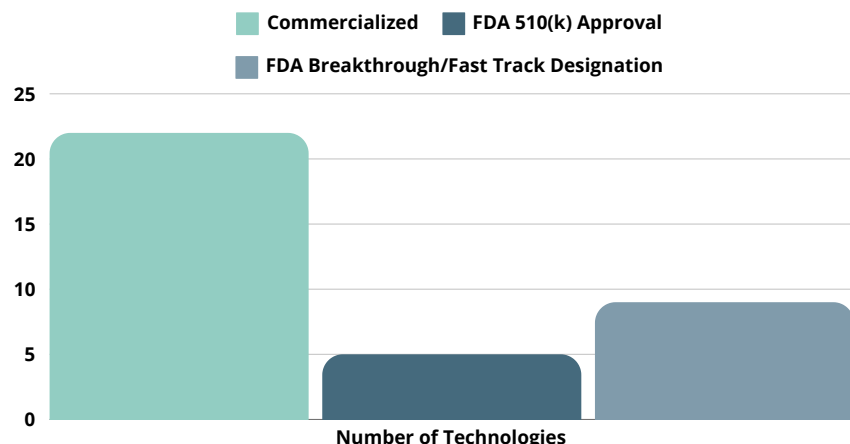
[Read the Washington Post exclusive on Dionysus' AI-powered blood test to diagnose postpartum depression](#)



# Impact of CIF's Portfolio

## Portfolio Company Innovations: Progress toward Commercialization

CIF's 50 portfolio companies currently have a combined 102 technologies in development.



- **22** of these technologies have been successfully commercialized and are now making an impact in patients' lives.
- **5** have received FDA 510(k) approval.
- **9** have received FDA "Breakthrough Status" or "Fast-Track Designation", where the FDA has determined the innovation addresses a serious unmet need and/or promises to be a significant improvement over standard of care.

## Potential Number of Lives Saved or Improved

With CIF's focus on children's health and rare diseases, some innovations will address very small patient populations, which are too often ignored by traditional for-profit funders. However, across CIF's entire portfolio, the innovations being developed will affect a large number and broad array of patients in need.

**If all technologies under development are successfully commercialized:**

**>2.7M**  
Potential Lives  
Saved

**>148M**  
Potential Lives  
Improved



# Portfolio Company News

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## X-Therma

**Received FDA approval for their drugs XT-ViVo and TimeSeal and raised \$22.4 million in Series B funding to scale global commercial operations, advance clinical trials, and support the development of key products (March 2024)**

*X-Therma is developing breakthrough technology for the long-term sub-zero storage of cells and organs, maintaining their functionality and viability. This innovation will advance the field of transplantation, increasing the availability of safe and reliable organs, engineered tissues, and cell therapies for patients in need.*

## Lucy Therapeutics

**Raised \$12.5 million in new funding, bringing their total raised to more than \$36 million (May 2024)**

*This fresh capital will further Lucy Therapeutics' research programs for Alzheimer's and Parkinson's Diseases and continue its development of a novel drug target for Rett Syndrome. "To make meaningful progress in developing treatments for complex diseases, we need to embrace non-traditional methods," said Amy Ripka, PhD, Founder and CEO of Lucy Therapeutics. "LucyTx is doing just that, identifying new drug targets based on a deep understanding of the chemical and biological interplay at work in disease, and ultimately linking neurodegenerative disease to dysfunctional mitochondria."*

## Bloomer Tech

**Received a \$1.9 million grant from the NIH for a clinical study on women's heart health (March 2024)**

*BloomerTech is creating cardiac monitors designed to be comfortably worn by women in the everyday bra, capturing multi-lead ECG, temperature, respiratory rate, and activity data. This technology aims to enhance the early detection and treatment of cardiovascular conditions in women.*

## Terran Biosciences

**Terran Biosciences' lead product, NM-101, is the first FDA-cleared software for neuromelanin MRI analysis, enhancing diagnoses of neurological disorders (April 2024)**

*Terran Biosciences is a biotech platform company developing therapeutics (including psychedelic compounds) and drug-design technologies for patients with neuropsychiatric illnesses, including schizophrenia. (Note: neuromelanin is a molecule associated with dopamine and norepinephrine neurons in the brain. Over the last two decades, researchers have identified its possible role as a biomarker for neurological and psychiatric disorders.)*

## Bicara Therapeutics

**Successful IPO (June 2024)**

*Bicara Therapeutics is a clinical-stage company developing dual-action biologics for head and neck cancer designed to deliver an immunomodulatory payload directly to the tumor to ramp up immune cell activity, with the potential to offer long-lasting efficacy.*



# A Successful 2024! Thank you to our donors, team, and advisors!


As you see from the amazing stories and statistics in this year's impact report, 2024 was an extraordinary year for CIF. It has been a year of exciting progress, with a highlight being the growth of our Women's Health Initiative, launched in early Fall of 2023. Our timing was ideal, as we had the honor of participating, coordinating, collaborating or partnering with a number of esteemed organizations focused on improving the health of women. These included the White House, ARPA-H, The Cure, and others, and the work continues for all of us. We must raise awareness and funding to address the significant disparities in the understanding of sex-based differences in health, which will drive research and innovation focused on diseases and conditions that affect women exclusively, predominantly or differently. It is unacceptable that women spend 25 percent more of their lives in poor health than men, and that our maternal mortality rate is worse than most other developed nations.

CIF also continues our important work accelerating innovation in other areas of high unmet medical need, including in children's health, rare disease, brain and mental health, aging, and health equity. Founders from our portfolio companies are working to bring new discoveries from bench to bedside for patients with few options and critical needs.

Because of the hard work of our team, the Catalytic Impact Foundation has been able to catalyze and accelerate transformative discoveries. Thank you! We also appreciate the incredible dedication and expertise of our large and talented group of advisors.

Finally, huge appreciation to our generous donors! You have helped us launch crucial initiatives and have provided us the capacity to invest in bold ideas. Together, with your continued support, we can carry on with this important work. Together, we make innovation possible. Thank you for supporting lifesaving discoveries.

Rachel Butler and Richard Lipkin

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