





FOUR DIAMONDS CHILD **TEAGAN** conquering Hodgkin lymphoma

2021–2022 IMPACT REPORT

50 YEARS FOR THE KIDS®

50 Years For The Kids®



Fifty years ago, a young boy named Christopher Millard died of cancer. His parents, amid their grief, created Four Diamonds and have touched the lives of countless people, across generations, creating a ripple of energy that continues today. His spirit lives in all who are part of Four Diamonds.

Thanks to our community's continued support, Four Diamonds has been able to help every Four Diamonds patient over the past 50 years, ensuring every patient received superior care without facing a medical bill for their care.

As we pursue our mission to conquer childhood cancer, we continue to advance cancer care and research for children treated at Penn State Health Children's Hospital in the following ways:

- Survivorship Clinic: One of the only clinics of this type in the nation, providing a personalized plan of care for every child during one annual visit.
- **Genetic Testing and Counseling:** One of only 30 pediatric cancer genetic programs in the country, aiming to prevent cancer in those with a genetic predisposition.
- National Research Collaboration: Member of five elite national research consortia, bringing an even wider array of clinical trials and state-of-the-art care to patients.
- Pediatric Oncology Fellowship Program:
 An accredited pediatric hematology/ oncology fellowship program, helping to train the next generation of pediatric oncology specialists.

- Expanded Specialty Care Services include:
 - Art Therapy: Empowering patients to use art to help in their healing process.
 - "Life on Pause" Podcast: Helping adolescent and young adult patients find community, support and a safe space to process the changes that cancer has brought to their lives.
 - Parent Mentor Program and Bereaved Family Program: Guiding and supporting families during their cancer journey.

IN MEMORY OF CHARLES MILLARD

On November 4, 2021, Charles Millard, co-founder of Four Diamonds, died. His legacy continues to inspire the fight to conquer childhood cancer.





Four Diamonds families like Jaden's never see a medical bill.

With your help, Four Diamonds covers all medical expenses not paid for by insurance for children fighting cancer at Penn State Health Children's Hospital.

In January 2020, Jaden was a 12-year-old boy who enjoyed basketball, music, being outside and hanging out with friends. Jaden's mom, Lakisha, noticed him walking with a limp. Jaden later lost control of his right arm and was referred to Penn State Health Children's Hospital.

Jaden was diagnosed with a cancerous brain tumor. After a year of treatment, Jaden learned his tumor was no longer shrinking and that the fluid in his brain was not flowing properly. He endured surgery to relieve the pressure and began a new treatment plan. Jaden's mother remembers him crying for the first time since his diagnosis, wishing for his life back.

Jaden is now 14 years old and recently celebrated the end of his cancer treatment by "ringing the bell" at the Children's Hospital. Lakisha says Four Diamonds was a lifesaver for their family – financially and emotionally. They never received a bill for Jaden's care because Four Diamonds covers all medical expenses not paid for by insurance, which allowed Lakisha to focus on Jaden and their family.

They are also very thankful for the support of Four Diamonds, making possible the work of music and art therapists, social workers, Child Life specialists and so many more that were there for Jaden throughout his cancer journey.

Four Diamonds has helped 44,800+

families since 1972.





Scan to learn more about Jaden



This year, Penn State Health Children's Hospital and Penn State College of Medicine approved the creation of the Four Diamonds Childhood Cancer Innovation Initiative, an expansion of Four Diamonds' ongoing work to find a cure for all pediatric cancers.

The initiative will enhance Four Diamonds' work in three areas:



Patient care. Through advanced diagnostics and therapeutics, the initiative will strive to more precisely identify cancers, both in the early and established stages, and develop more personalized treatments that lead to better cure rates and survivorship.



Collaborative opportunities between the Division of Pediatric Hematology and Oncology and Penn State Cancer Institute. The two entities will strengthen their partnership to further learning for pediatric cancers and better the continuity of care.



Competitive research grants. The initiative will solicit research requests for proposals with collaborative partners within the health system and College of Medicine, the broader Penn State community and worldwide. The initiative may provide funding for collaborative projects led by College of Medicine investigators with other research institutions.



"We are thrilled to continue and expand on Four Diamonds' pursuit to find a cure for all pediatric cancers. We believe philanthropy can ultimately help accelerate the timeline for clinical research and help our investigators discover and get treatments to patients

faster. Everyone benefits from a higher level of collaboration, and we are grateful to the generous donors who make this life-saving work possible."

DR. YATIN VYAS, Chair of the Department of Pediatrics at Penn State Health Children's Hospital, whose leadership and vision helped make this initiative a reality





Scan to learn more about the initiative

Local Research. Global Impact.™

Four Diamonds' research gives hope to kids everywhere. Here's some of our research that's been recently published:

Four Diamonds researchers help uncover genetic 'bridge' to leukemia progression

Published in Molecular Cell

A complex network of structures must work together to produce DNA, the genetic materials needed for cells to function and thrive. Understanding how these structures form, and what happens when things go wrong, has been a focus in the lab of Four Diamonds Epigenetics Program researcher Suming Huang, professor of pediatrics. Scientists are studying how certain hard-to-treat subtypes of acute myeloid leukemia (AML) develop as a result of changes to cell structures.

Huang's team is investigating how a particular substance in a cell can affect the way genes function, including how they develop the building blocks of cell structures. If the cell structure doesn't form correctly, it can create an environment that allows leukemia to develop and grow.

"Imagine a suspension bridge," said Dr. Huang. "Without the 'anchors', the genetic 'bridge' cannot form. Understanding how the genome structure contributes to leukemia development might someday allow us to identify therapeutic targets and develop next-generation therapies."



Scan to learn more about these stories

'Guardian of the Genome' and the 'WASp' team up to repair DNA damage

Published in *Nature Communications*

DNA replication and repair happens thousands of times a day in the human body. Most of the time, people don't notice when things go wrong in replication thanks to the work of Replication protein A (RPA), the 'guardian of the genome.' Scientists previously believed this protein 'hero' that's responsible for repairing damaged DNA in human cells worked alone. A new study by Dr. Yatin Vyas showed that RPA works with an ally called the WAS protein (WASp) to 'save the day' and prevent potential cancers from developing.

In the future, Vyas and colleagues will continue to study how their findings about this RPA-WASp complex formation can be applied to treating cancer patients. Vyas said it is possible that gene therapy or stem cell therapy could restore WASp function and may prevent further tumor growth and spread. He also mentioned the possibility of using WASp dysfunction as a biomarker for identifying patients at risk for autoimmune diseases and cancers.

"This complex we've discovered plays a critical role in preventing the development of cancers during DNA replication," said Vyas. "Translating this discovery from bench to bedside could mean that someday we have another tool for predicting and treating cancers and autoimmune diseases."

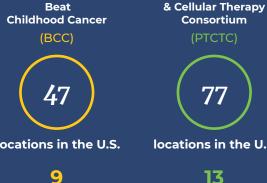


Four Diamonds drives the discovery of new and improved treatments and cures to benefit kids around the world. We support more than 90 pediatric cancer research professionals at Penn State Health Children's Hospital. All of the laboratories supported by Four Diamonds are making fundamental contributions to the ultimate goal of achieving a cure for all childhood cancers.

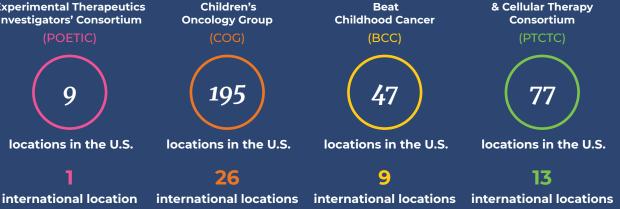
With membership in four leading national and international research consortiums, Penn State Health Children's Hospital offers hope to patients worldwide through state-of-the-art clinical trials for pediatric cancer patients who have relapsed or whose cancer isn't responding well to treatment.



locations in the U.S.



Pediatric Transplantation





"Building rapport is an important first step to a therapeutic relationship. You need to know what each patient is going through before diving into the music. Learning this completely changed the way I look at my job."

KORRIN HENNEMAN, Four Diamonds music therapist

Support for families during every step of their cancer journey.

Four Diamonds funds the work of more than 30 specialty care providers to exclusively serve the physical, mental, emotional and spiritual needs of our childhood cancer patients and their families. The entire care team provides for these unique needs, in addition to providing expert treatment for childhood cancer. The team is comprised of:

- Music therapists
- Social workers
- Psychologist
- Pharmacist
- Chaplain
- Child Life specialists

- Art therapists
- Clinical nutritionist
- Genetic counselor
- Neuropsychologist
- Nurse specialists

Four Diamonds provides life-changing care for the whole family.

Heartfelt reminders: A young man's cancer battle inspires a new legacy gift for grieving families

Dylan, who was Ronald and Wendy Gilbert's only child, was diagnosed in October 2020 with a rare, cancerous mediastinal germ cell tumor.

When imaging showed a mass on his chest, Dylan began a 13-month fight that included four rounds of chemotherapy, two rounds of high-dose chemotherapy and three high-dose chemotherapy treatments with stem cell transplants. When he passed away, he left behind a gift that helps his parents through their grief – a project of his own that will help future families faced with the unthinkable.

Legacy gifts are given to families as a remembrance after a child dies, and the child often has a voice in deciding what it will be, said Alexis Lombardo, a board-certified art therapist at Penn State Health Children's Hospital. While making a casted handprint through the Child Life program, Dylan wondered if a similar print could be made of his heartbeat.

Alexis collaborated with colleagues at the Milton S. Hershey Medical Center and Penn State College of Medicine to use an image of Dylan's heartbeat and create a reverse, 3D print of the heartbeat, printed in silicone. Dylan's mom, Wendy, said, "Dylan came up with the idea of our three heartbeats – his, mine and his dad's – spray painted in different colors."

"It's his actual heartbeat, something they can hold in their hands, and something they will always have to remember him and the memories they cherish," said Alexis. The prototype of Dylan's heartbeat lives on, as he gave permission to use it as the model for a new legacy gift option for grieving families.



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Thanks to you, Four Diamonds helps hundreds of families every year.

Four Diamonds: Fiscal Year 2021–2022

Each spring, a robust grant process directs the use of every dollar raised that year by Four Diamonds for the coming fiscal year to further our goal to conquer childhood cancer. All requests are evaluated using the guidelines established in the original gift agreement by the co-founders of Four Diamonds.

Four Diamonds BY THE NUMBERS

\$22.9 million raised in FY2022

90¢
of every dollar
supports our mission

Tens of Thousands of volunteers each year

4,800+ families helped since 1972

100%

of medical bills covered*

30+ specialty care providers

90+ research professionals

*For eligible Four Diamonds families

Funding Priority 1:

To ensure every Four Diamonds child receives the highest quality of life-saving childhood cancer care at Penn State Health Children's Hospital without ever seeing a bill for that care. This compassionate process relieves both the financial pressures and the burden of billing paperwork for all Four Diamonds families.

Funding Priority 2:

To ensure Four Diamonds children and their families are wrapped in comprehensive services. This includes providing access to top-notch specialists proven to enhance positive treatment outcomes, combined with support services to meet their physical, emotional, mental and spiritual needs.

Funding Priority 3:

To ensure grants are made to a variety of innovative research projects that are searching for deeper understanding of why and how childhood cancer happens and new ways it can be treated. Funds are also invested in endowments. The interest earned on those endowments creates a secondary, permanent funding stream for our ongoing research efforts in pursuit of a cure for all childhood cancers.

FOUR DIAMONDS FINANCIALS: 2021–2022

July 1, 2021 - June 30, 2022

Sources of Funds

| THON™ | \$13,856,726.97 |
|------------------------|-----------------|
| Mini-THON [®] | \$5,778,903.93 |
| Memorial Gifts | \$97,246.55 |
| Honorary Gifts | \$16,810.18 |
| Bequests | \$2,150,010.61 |
| Other | \$1,094,862.87 |
| SUBTOTAL | \$22,994,561.11 |
| | |

Investment Income \$5,122,976.53

TOTAL \$28,117,537.64

Uses of Funds

Patient Care & Family Support

| Patient Care | \$4,014,018.71 |
|----------------|----------------|
| Family Support | \$753,090.41 |

Research

| Research Grants | \$203,554.55 |
|-----------------------|-----------------|
| Research Support | \$7,231,641.49 |
| Four Diamonds | |
| Childhood Cancer | |
| Innovation Initiative | \$20,853,648.58 |
| | |

Investments in Endowments

| Donor restricted | \$2.126.244.70 |
|------------------|----------------|
| Donor restricted | JZ.1Z0.Z44.70 |

Administrative

| Development, Marketing | |
|------------------------|----------------|
| and Administration | \$2,997,885.82 |
| Finance and Pediatrics | |
| Administrative Support | \$251,995.33 |

TOTAL \$38,432,079.59

FOUR DIAMONDS CHILD **DYLAN** conquering bilateral optic glioma

Our Partners In The Fight™

We are grateful for the continued commitment of the multitude of volunteers and supporters who power our fight to conquer childhood cancer.



During fiscal year 2021-2022, tens of thousands of volunteers



contributed **5 million+**volunteer hours,



and they raised \$22,994,561.11



Penn State Dance Marathon

Penn State THON volunteer now fights his own cancer battle

Jesse King participated in THON 2021 as a healthy, active student volunteer. Days later, his life changed.

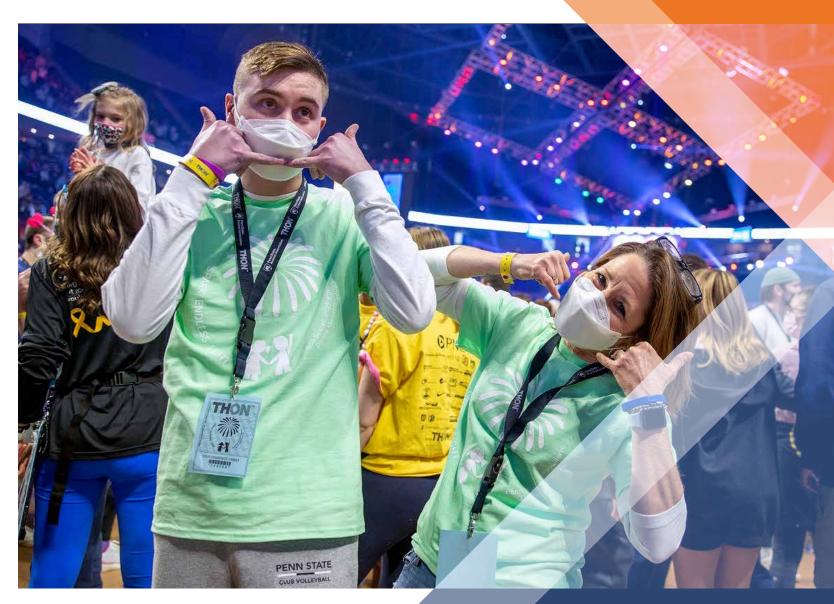
In the week following THON 2021, while doctors performed a routine procedure, they discovered the 21-year-old had non-Hodgkin lymphoma. As the doctors were removing a tube during the procedure, Jesse's heart stopped. They managed to restart his heart and then Jesse was flown to Penn State Health Milton S. Hershey Medical Center and was put on life support. He was in a coma, spent weeks in intensive care and had to learn to walk again. Doctors tell him it's a miracle he survived.

Amazingly, Jesse was back at THON 2022, elbowing his way into a spot on the floor among 16,000 fellow Penn Staters for one of his great passions — the annual event where his classmates spend 46 hours on their feet to help defeat childhood cancer.

Jesse couldn't quite manage the dance moves this year, so now his friends and family dance for him. Every day they watch him come back a little more. Sometimes the steps are so small only they notice. Sometimes he startles everyone by leaping to his feet and trying to dance. It's a race of inches for now. Those who love him are in it for the marathon.

THON 2022 raised a record \$13,856,726.97

to benefit Four Diamonds during its 50th dance marathon.



FOUR DIAMONDS YOUNG ADULT **JESSE** conquering non-Hodgkin lymphoma



Scan to learn more about Jesse

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Dollars raised through THON directly benefit Four Diamonds.

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Four Diamonds survivor joins thousands of students saving lives

When Jere and Peg Chapman's daughter Gabrielle was diagnosed with medulloblastoma, a rare, fast-growing brain tumor, doctors scheduled her for surgery just days later. Following surgery, Gabrielle endured six rounds of chemotherapy and a stem cell transplant, which included 100 days of isolation. Gabrielle conquered her cancer and recently celebrated 16 years cancer free!

This year, she served as vice president for Lampeter-Strasburg High School Mini-THON, joining thousands of students to raise money for pediatric cancer research and care to support other Four Diamonds families.

"We are so grateful that we get to see our daughters grow up together, happy and healthy." said Peg.

During the 2021-22 school year, student leaders and volunteers from 208 schools in Pennsylvania, Delaware, Maryland, New Jersey and Virginia mobilized to plan Mini-THON fundraising events that raised

\$5.7 million

For The Kids.

Dollars raised through Mini-THON directly benefit Four Diamonds.



"Four Diamonds is one of the biggest reasons for my survival and why I have my life today."

FOUR DIAMONDS TEEN GABRIELLE conquering medulloblastoma



Scan to see this year's Mini-THON highlights

One Community, FTK®

Four Diamonds' community supporters unite to conquer childhood cancer

One Community, FTK is a Four Diamonds fundraising initiative that unites supporters in the quest to conquer childhood cancer. Through One Community, FTK, the collective efforts of individuals, students, families, community members and corporate partners make an incredible impact to help kids here and around the world.

Throughout the year, countless community fundraisers (including Play For The Kids events) are held, and gifts in honor or in memory of a loved one are received. Every gift gives hope to families fighting childhood cancer.

This year, passionate supporters and grateful patient families contributed more than

\$3 million

to families fighting childhood cancer.

Honoring the memory of Four Diamonds teen Nick

Nick passed away in 2013 following a threeyear battle with a rare and aggressive form of cancer. Throughout his life, he was known for his optimism, caring heart and encouraging spirit. With dreams of one day managing an amusement park, Hersheypark honored their former employee by making him the voice of his favorite rides and building a memorial to honor him.

Nick inspired everyone around him, lived life to the fullest and left a legacy of hope for us all to follow. When asked about his childhood cancer fight, Nick replied,
"I don't want to survive. I want to live."

Each year, Nick's family hosts a golf outing to benefit Four Diamonds. This year, more than 100+ golfers and volunteers helped raise \$15,500! We are so grateful for the Pantalone Family and our entire community for continuing to support our work so that one day all children will survive cancer and thrive.

PHOTO: FOUR DIAMONDS TEEN **NICK**, who passed away from cancer in 2013, with his family.





Four Diamonds launches Play For The Kids™

Four Diamonds launched Play For The Kids, our newest signature fundraising activity that unites Four Diamonds supporters nationwide to conquer childhood cancer. Play For The Kids embraces the essence of childhood, being young at heart and offering support to kids who often miss out on many childhood activities because of their battle with cancer.

Each September, during Childhood Cancer Awareness Month, the Four Diamonds community unites to play like kids, hosting a variety of events – from food eating contests to fitness challenges – to raise funds for life-saving cancer care, support and research. Play For The Kids allows members from the Four Diamonds community to create fundraising teams like Summer's Army, which was formed in honor of Summer, an energetic and inquisitive Four Diamonds child conquering leukemia.

Thanks to families like Summer's and a generous match from our presenting sponsor, MI Windows and Doors, Play For The Kids raised more than \$114,000 to help kids fighting pediatric cancer.

Play For The Kids mobilized more than

800

community members in its first year to help children fighting pediatric cancer.



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