



COMMUNITY

Benefit Report 2016



Dear Friends,

Beyond the \$423 million Cincinnati Children's contributed in benefit to the community in 2016 is the important story of people whose lives have been improved by some of the services these dollars provide.

This year, Cincinnati Children's contributed \$423 million in benefit to the community. Over the last five years, the total is more than \$2 billion. These are really big numbers, but they don't tell the whole story.

Beyond the dollar value is the important story of people whose lives are improved by the services these dollars provide.

In this year's community benefit report, you'll meet Jace, an infant whose early health and development is being nurtured by an innovative program at our Hopple Street Neighborhood Health Center. You'll also meet Corey, who can be more active in sports today, thanks to a telemedicine project at his school linking students who have asthma with specialists at Cincinnati Children's. You'll see preschoolers and high school students benefiting from our educational outreach programs. And you'll learn about a research project in collaboration with area high schools, which promises to give school psychologists a new, cutting-edge tool to improve their ability to recognize and help students who are at risk for suicide.

As we work to ensure the health and quality of life for our community's children, we are guided by a fundamental belief that 'we are all caregivers and making children well is everyone's business.' We are grateful to our employees and volunteers, who embrace this philosophy, to the families who partner with us in their child's care, and to the many community and non-profit organizations that work with us to make a difference in children's lives.

We are changing the outcome together.

Michael Fisher, *President and CEO*

Thomas G. Cody, *Chairman, Board of Trustees*



What is Community Benefit?

Community benefit encompasses programs or activities that provide treatment, or promote health and healing, in response to identified community needs.

While Cincinnati Children's has become a national and international leader in pediatrics, we remain deeply rooted in the community that has been our home since 1883. We are committed to providing community benefit, including services that are discounted or subsidized by Cincinnati Children's or other funding sources.

Total **\$423.1 million**

We demonstrate our commitment to children and families in Hamilton County and Greater Cincinnati by investing significant resources in programs and services that meet these community benefit objectives:

- Improve access to healthcare
- Enhance the health of the community
- Advance medical or healthcare knowledge
- Lessen the burden on government or other community efforts

\$225.1 million

Charitable Patient Care

Free or discounted services for those unable to pay and Medicaid shortfall.

\$139.5 million

Research

Laboratory science and applied research costs that are supported by internal or eligible grant funding.

\$2.3 million

Subsidized Health Services

Clinical services operated at a financial loss, including mental health and primary care.

\$5.5 million

Community Outreach

Programs that provide services or support directly to the community or to nonprofit organizations with similar missions of service, including health education, injury prevention and wellness initiatives.

\$50.7 million

Health Professionals Education

Cost of providing education to prospective physicians and healthcare professionals, less federal support of our graduate medical education program.



Providing Psychologists in a Primary Care Setting

Jace Luster is at the Hopple Street Neighborhood Health Center for his 1-month, well-child checkup. He's clearly growing and developing well, doing everything you'd expect a 1-month-old to do — and more.

In fact, when psychologist Rachel Herbst, PhD, asks his parents "What are your favorite things he's doing," they tell her Jace is already trying to lift his head.

Promoting Child Behavioral Health, Effective Parenting and Family Strengths

You may wonder: Why is a psychologist in the exam room for a newborn's 1-month checkup?

The answer is that Dr. Herbst is a member of an innovative team at the primary care center Cincinnati Children's operates in North Fairmount, a medically underserved neighborhood. Doctors and psychologists there collaborate to provide medical and behavioral health services during well-child visits for children from birth to age 5.

Dr. Herbst's focus is on how children are developing and how their families are functioning. She identifies and praises what parents are doing well, and coaches them on what to expect as their child moves to the next developmental stage.

If the family needs additional support, she can arrange follow-up counseling.

Problem-solving and Reassurance

Indiya Black tells Dr. Herbst that Jace sleeps when she's up and is awake when she needs to sleep. She's exhausted. Dr. Herbst talks about ways the family can try to reset Jace's sleep pattern.

They share another concern: Are they spoiling Jace by holding him too much when he cries? Dr. Herbst reassures them. She explains that Jace is too young to calm himself. That part of his brain isn't developed yet. Holding him is the right thing to do and will help him learn to soothe himself when he's a few months older.

She says her goodbyes as pediatrician Sarah Schechter, MD, continues with the checkup. Dr. Herbst will see the family again at Jace's 2-month visit — and hopes baby and parents are all sleeping better by then.



Jace with his mother, Indiya Black.

Hopple Street Neighborhood Health Center Facts

6,800 Patients served by primary care center

Over 13,000 well-child and sick-child visits a year

1,500 children age 0-5 years received integrated medical and behavioral health services during well-child visits in 2016



90 percent have public insurance through Medicaid or CHIP



Rachel Herbst, PhD (right), and Sarah Schechter, MD, with Jace Luster at his 2-month visit.

A major goal of our strategic plan is to help Cincinnati's kids be the healthiest in the nation.

The program of combined medical and behavioral health care at the Hopple Street Neighborhood Health Center supports this goal by promoting:

- Healthy growth and nutrition
- Development of motor and language skills
- Social and emotional development
- Early literacy skills
- Positive parenting and family adjustments
- Strong parent-child relationships

Telehealth Visits Improve Outcomes for Students with Asthma

Corey Crawford is enjoying football practice this summer. Corey can run more easily this year because his asthma is under better control, thanks to a telehealth project at his school linking students who have asthma with specialists at Cincinnati Children's.

Nearly 300 students at Corey's school have asthma. Some suffer more than others with coughing, wheezing and shortness of breath. The telehealth project was designed to help them.

Consistent, School-based Visits

Cincinnati Children's offers a clinic for children with severe asthma, but families face barriers to keeping monthly appointments, including lack of transportation, and the burden of parents having to leave work and their children missing school.

Theresa Guilbert, MD, wanted to find another way to serve these patients besides the traditional office visit — and turned to technology.

She introduced a pilot study of telehealth visits at three Cincinnati Public Schools that serve neighborhoods with high rates of asthma. Students enrolled in the study can keep their appointments without leaving their school building.

Computer technology allows Dr. Guilbert to see patients remotely and listen to their lungs using a specially adapted stethoscope. With consistent

monitoring, she can see problems and improvements, and adjust medication regimens as needed.

Another piece of technology — a sensor attached to the students' inhalers and synched with their cell phones — tracks whether they take their medicine as prescribed and sends reminders when they miss doses.

The students also have regular visits with health psychologist Rachelle Ramsey, PhD, who works on improving their self-management skills.

For Corey, wanting to be active in sports was a big motivator for being more consistent taking his medicine. And consistency paid off.

At a recent appointment, Dr. Guilbert gave him good news: "Your lungs sound great." She'll monitor how he does with football and will adjust his medicine if necessary so he can keep playing the game he loves.



Asthma Center at Cincinnati Children's

5,500

Children with asthma served annually

200

Children followed with difficult-to-treat/severe asthma

Asthma in our community

- Cincinnati's asthma rate is more than twice the national average
- In some neighborhoods, the asthma hospitalization rate is 10 times the national average
- Our geography, with its low-lying hills that trap smog, contributes to the problem
- There are 35,000 children in Hamilton County who have asthma*

Telehealth visits from school

- Collaboration among Cincinnati Children's, Cincinnati Public Schools and Cincinnati Health Department school nurses
- 21 students enrolled at three schools: Withrow University High School, Roberts Academy, and Riverview East Academy
- Consistent monitoring, education and communication improved outcomes
- Reduced need for urgent care visits
- The team hopes to get additional funding in order to spread telehealth visits to other schools

*<https://www.odh.ohio.gov/-/media/ODH/ASSETS/Files/chss/asthma/Local-Profiles/hamilton.pdf?la=en>



Study coordinator Elizabeth Overberg and Corey Crawford talk with Theresa Guilbert, MD (page 7), via computer.

Top-notch care requires top-notch research.

Investigators at Cincinnati Children's are studying the genetic, biologic, and environmental causes of asthma, and are seeking new, improved treatments.

Studies include:

- Pilot study of a newly discovered drug for treating asthma
- Leading a statewide study of best practices for treating hospitalized patients
- Part of a national consortium working to improve understanding of difficult to treat asthma and to find new treatments



During her visit with preschoolers at Rockdale Academy, Trina Salter plays with Zyairra Hollis (left) and Dakauri Porter, and (page 10) reads a story to the class.

Adopt-a-Class Volunteer Gives Back to Her Elementary School

The kids are excited. There's a visitor in their classroom. She's going to read them a story, play with them, give them a treat.

The visit is as gratifying for the visitor as it is for the kids.

Trina Salter sees herself in the faces of these Rockdale Academy preschoolers. She grew up in their neighborhood and went to Rockdale from preschool through sixth grade.

Now an orthopaedic technologist at Cincinnati Children's, Salter feels a personal connection to the Avondale community and wants to do something meaningful to help the neighborhood's children.

She found a way to help by participating in Adopt-a-Class.

Adopt-a-Class brings volunteers from the business community into schools as mentors and role models. The program serves neighborhoods with a high concentration of poverty.

Employees at Cincinnati Children's have adopted 18 classrooms in three schools — Rockdale Academy, South Avondale Elementary and Evanston Academy — making the hospital the largest adopter in the city.

After learning that the preschool class at Rockdale needed a sponsor, Salter approached her supervisor

about adopting the class, and formed a team within the Orthopaedics Department.

In addition to sponsoring classroom activities, one of the team's missions this year was to provide supplies teacher Brenda Hensley needed for her students. They collected clothing for school uniforms and bought underwear Hensley could keep on hand in case of a toileting accident. They provided paper, folders, crayons and books, and at an end-of-the-year party gave each child a book bag and book to take home for the summer.

As these preschoolers move on to kindergarten, the Orthopaedics team is already planning for next year. It's a blessing, Salter says, to be able to give back to the neighborhood of her childhood.



Cincinnati Children's Partnerships and Investments in Avondale

Cincinnati Children's has committed \$11.5M over 5 years to improving child and community health in Avondale in the following ways:

- **\$10M** in housing and projects that support community and economic development
- **\$1.5M in capacity building grants** to date to non-profits, including quality childcare, child reading, financial literacy, and employment/workforce programs.
- In addition, Cincinnati Children's collaborates and partners with **more than 30** programs, initiatives, schools and non-profit organizations to **serve more than 3000 children and adults**

Suicide Prevention Research Yields a Useful Tool

A school psychologist senses that a student is depressed. The student says that some days he just doesn't want to get out of bed. He feels alone, and sometimes feels there's no hope for his future.

Clearly the student needs help, but is he suicidal?

Preventing a Tragic Outcome

Someone in the US commits suicide every 14 minutes — making it one of our most common killers.

Scientist John Pestian, PhD, a professor of Biomedical Informatics and Psychiatry at Cincinnati Children's, has spent nearly a decade developing computer technology to help mental health professionals identify people at risk of suicide sooner and prevent their deaths.

His technology has been successfully tested in emergency rooms. Now he is working with school psychologists to bring this tool to Cincinnati schools to save students' lives.

Dr. Pestian began his research by collecting 1,500 notes left behind by people who died by suicide. He mined the letters for cues computers

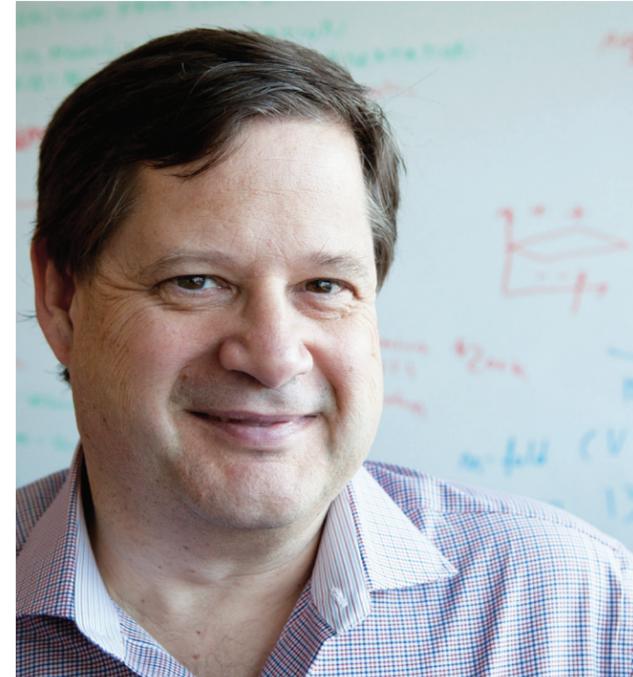
can recognize and interpret — words, clusters of words, patterns in sentence structure. He later added cues from tone of voice, silences and facial expressions.

From this he built a massive database based on actual conversations with suicidal adolescents and adults, and developed algorithms to teach computers how to recognize thought markers for suicide.

The computer "listens" to a patient's conversation and reports: This does or does not sound like the conversation of a suicidal person. The innovative technology developed at Cincinnati Children's is a new resource to assist mental health professionals.

To make the technology more widely available, Dr. Pestian converted it to a mobile phone app, which is being tested in 10 local schools and clinics. The school psychologist can turn on the app, which listens, compares what the student says with the database, and gives the psychologist a real-time report.

Ron Miller, MEd, psychologist at Dater High School, is optimistic it will "allow me to more effectively identify kids who are at risk."



John Pestian, PhD, has developed innovative technology to help mental health professionals identify people at risk of suicide.

"Look at all the technology in the intensive care unit. We need to get to the point where we can use advanced technology to help people with mental illness."

— John Pestian, PhD

According to the CDC, in 2014 suicide was the 2nd leading cause of death in children and young adults aged 15-24.

https://www.cdc.gov/injury/images/lc-charts/leading-causes_of_death_age_group_2014_1050w760h.gif



Ron Miller, MEd, is a psychologist at Dater High School, one of 10 local schools and clinics testing Dr. Pestian's technology.

14 minutes

Someone in the US dies of suicide every 14 minutes

1,500

Notes left behind became the basis for a massive database

Science Student Symposium Informs and Inspires



The excited visitors arrive at Cincinnati Children's in groups of three: two students and their science teacher.

Hospital employees in patient care and research roles stand ready to offer them a day filled with information and inspiration.

The Science Student Symposium — now in its 25th year — gives high school juniors and seniors with a strong interest in science the opportunity to learn about careers in biomedical sciences from professional staff at Cincinnati Children's.

Symposium accommodates

47 high schools annually

- **1,405** attendees in the last 10 years
- Tours to **16** departments and labs
- **15** presentation and discussion topics

Introduction to careers in
14 clinical and **6** research
disciplines

100% of student attendees say they gained insight and knowledge about career opportunities in healthcare and biomedical research.

Student responses to the question:

What did you like best?

- How much I learned about different careers
- Being face-to-face with real careers instead of just hearing about them
- Real docs/researchers showing us what they do
- Eating lunch with employees and learning more about their jobs
- Reassured me the medical field is what I want to do
- Advice on schooling and the best path to take

Exploring Career Options in the Health Sciences

Cindy Bachurski, PhD, and Iris Sageser, RDH, MS, co-direct the program. When the Science Student Symposium began, Dr. Bachurski says, it focused on career paths for physicians. Today, the program's scope has expanded to include a wide range of career options in the health sciences. Many departments volunteer professional staff time to make the symposium a valuable experience for students nearing their college years.

Students gain insight into educational requirements, career paths and salary potential from biomedical professionals who work in many disciplines.

They meet physicians, dentists, nurses, radiology technologists, pharmacists, occupational and physical therapists, respiratory therapists, speech pathologists, audiologists, psychologists, genetic counselors, cytogeneticists and biomedical researchers.

They also get to go behind the scenes into the pharmacy, radiology department, clinical and research laboratories and operating rooms for a firsthand look at the work environment. And at lunchtime, they have the chance for informal conversations with specialists in the field they're interested in.

Elizabeth Ludwig, biology teacher at Oak Hills High School, brings two students from her advanced placement biology class annually. Over the years, she has brought students who've set their sights on careers in medicine, physical therapy and psychology.

"It's such a great program," she says, because the students "actually talk to professionals and see what they're doing. They don't often have that experience. It's really valuable for them."



The Science Student Symposium takes high school students behind the scene to explore careers in health sciences. On page 7, Isabella Sanchez looks at specimens under a microscope. Above, Amani Caldwell (left) and Anaya Stiffend talk to a hospital employee.



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